



# 2017 PERIODIC REVIEW REPORT

**FRANCZYK PARK SITE**  
**550-564 Babcock Street**  
**Buffalo, New York**  
**NYSDEC ID: B00174**

**17-039-1144**

*Prepared for:*



**City of Buffalo**  
Office of Strategic Planning  
Division of Environmental Affairs

*Prepared by:*



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December 20, 2017

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## Table of Contents

|              |  |          |
|--------------|--|----------|
| <b>1.0</b>   | <b>Introduction.....</b>   | <b>1</b> |
| <b>1.1</b>   | <b>Background Information.....</b>   | <b>1</b> |
| <b>1.2</b>   | <b>Regulatory History.....</b>   | <b>1</b> |
| <b>2.0</b>   | <b>Site Overview.....</b>  | <b>3</b> |
| <b>3.0</b>   | <b>Site Management.....</b>  | <b>4</b> |
| <b>3.1</b>   | <b>Monitoring and Maintenance Program .....</b>                                | <b>4</b> |
| <b>3.1.1</b> | <b>Site Inspection and Certification .....</b>                                 | <b>4</b> |
| <b>3.1.2</b> | <b>Groundwater Monitoring.....</b>   | <b>5</b> |
| <b>3.2</b>   | <b>Engineering and Institutional Control Requirements and Compliance .....</b> | <b>6</b> |
| <b>4.0</b>   | <b>Conclusions and Recommendations .....</b>                                   | <b>7</b> |

## List of Figures

|                 |                      |
|-----------------|----------------------|
| <b>Figure 1</b> | <b>Site Location</b> |
| <b>Figure 2</b> | <b>Site Plan</b>     |

## List of Tables

|                |   |
|----------------|---|
| <b>Table 1</b> | <b>Summary of Groundwater Elevations</b>                                      |
| <b>Table 2</b> | <b>Summary of Groundwater Field Parameters</b>                                |
| <b>Table 3</b> | <b>Summary of Groundwater Semi-Volatile Organic Compounds (SVOCs) Results</b> |
| <b>Table 4</b> | <b>Summary of Groundwater Target Analyte List (TAL) Metals Results</b>        |

## List of Appendices

|                   |  |
|-------------------|--|
| <b>Appendix A</b> | <b>PRR Certification Form</b>                                  |
| <b>Appendix B</b> | <b>Site Inspection Form</b>                                    |
| <b>Appendix C</b> | <b>Site Photographic Log</b>                                   |
| <b>Appendix D</b> | <b>Monitoring Well Purge and Sample Logs</b>                   |
| <b>Appendix E</b> | <b>Laboratory Analytical Reports – Included on Attached CD</b> |

## 1.0 Introduction

LiRo Engineers, Inc. (LiRo) has prepared this Periodic Review Report (PRR) on behalf of the City of Buffalo (COB) to summarize the post remedial status of the New York State Department of Environmental Conservation (NYSDEC) State Assistance Contract (SAC) Site No. B00174, located at 550 and 564 Babcock Street in the City of Buffalo, Erie County, New York (the “Site”; see Figure 1).

This PRR has been prepared for the Franczyk Park Site in accordance with NYSDEC Division of Environmental Remediation (DER)-10 *Technical Guidance for Site Investigation and Remediation*. The NYSDEC Institutional and Engineering Controls (IC/EC) Certification Form has been completed for the Site (Appendix A). This PRR and associated inspection form have been completed for the post-remedial activities at the Site for the reporting period from May 11, 2016 to September 30, 2017.

### 1.1 Background Information

The Franczyk Park Site (Site) is located at 550 and 564 Babcock Street in the City of Buffalo, Erie County, New York (Figure 1).

The Site is a public park composed of two adjoining parcels totaling an approximately 16.5-acre area bounded by Lyman Street to the north, Fleming Street to the south, New Babcock Street to the east, and Lewis Street to the west. The Site is generally rectangular in shape and is in an area that is zoned for industrial use. Land use in the vicinity of the Site is characterized as a mixture of commercial, industrial, and residential. Residential properties are located on the south side of Fleming Street and on the west side of Lewis Street.

The Site was first developed by Buffalo Fertilizing Chemical Works, (L.L. Crocker) as an agricultural fertilizer manufacturing facility. These manufacturing operations lasted almost a century while the facility underwent a number of name changes during its tenure as a fertilizer manufacturing facility. The parcel adjoining the northwest corner of the Site was sold to the Thaddeus Joseph Dulski Community Center, Inc. in 1975. The following year, the remainder of the Site was sold to the Industrial Refining Corporation and then to Car Salvage World in 1977. The Site was used as an automobile junk yard in the final years until Car Salvage World went bankrupt in 1981. The Brondy Real Estate Co. acquired the Site and later sold it to the City of Buffalo in 1984. The City of Buffalo redeveloped the Site into a park in 1987.

### 1.2 Regulatory History

The City of Buffalo entered into a SAC with the NYSDEC to complete a Site Investigation/Remedial Alternatives Report (SI/RAR) for the Site. The Site investigation, performed in the fall of 2003 and the spring of 2004, identified contaminated subsurface soil/fill throughout the Site as well as a minor amount of contaminated surface soil/fill in some high traffic areas.

Following the completion of the SI, an SI/RAR was prepared to describe the approach and results of the investigation, and provided an assessment of the risks posed by the contaminants encountered. The report also described the process used to develop and evaluate alternatives for addressing the contaminated media at the Site. Based on the SI/RAR, a Proposed Remedial Action Plan (PRAP) was prepared. The PRAP

was finalized in the March 2005 Record of Decision (ROD) following receipt of public input. The ROD presents the remedies that were selected by NYSDEC and the New York State Department of Health (NYSDOH) to address the identified contamination.

A Remedial Action Work Plan (RAWP) was prepared in March 2006 to describe the specific remedial activities that were proposed for the Site. In December 2006, the City of Buffalo entered into an agreement with a contractor to implement the RAWP.

On June 15, 2016, a Certificate of Completion was issued by NYSDEC indicating approval of the Final Engineering Report and satisfactory completion of the remediation phase of the environmental restoration project.



## **2.0 Site Overview**

The Franczyk Park Site is an approximately 16.5 acre public park located at 550 and 564 Babcock Street in the City of Buffalo, Erie County, New York (Figure 1). The environmental restoration of the park was completed in 2016 and the Site Management Plan (SMP) prepared by KHEOPS Architecture, Engineering, & Survey, DPC (KHEOPS) was implemented in 2016 by the City of Buffalo.

## 3.0 Site Management

### 3.1 Monitoring and Maintenance Program

#### 3.1.1 Site Inspection and Certification

In accordance with NYSDEC DER-10 6.3(a)(4), this PRR is to provide the information necessary to document the basis for the IC/EC certification. The certification primarily consists of a Site inspection to complete the NYSDEC's IC/EC Certification Form in order to confirm:

- That the IC/ECs are in place, performing properly, and remain effective;
- that nothing has occurred that would impair the ability of the controls to protect the public health and environment;
- that nothing has occurred that would constitute a violation or failure to comply with any operation and maintenance plan for such controls; and,
- that access is available to the Site to evaluate continued maintenance of such controls.

An initial Site inspection of the property was conducted on October 17, 2017 by a LiRo employee who meets the requirements of a Qualified Environmental Professional (QEP) and the NYSDEC project manager. The initial Site inspection included the following components:

- inspection of the Site Soil cover system;
- inspection of the groundwater containment system (interceptor trenches);
- inspection of the site access and security systems; and,
- locating Site monitoring wells (MW-3, MW-5, MW-7, and MW-8) shown on Figure 2.

The Site soil cover system included a complete walk of the entire Site area. During the inspection of the soil cover system, maintenance activities at the Site were observed, including lawn mowing, trimming, and trash removal. Distressed vegetation was observed in the center portion of the southern soccer field. The southern soccer field vegetative cover was found to be damaged in approximately 10 to 15 percent of the soccer field area. Evidence of erosion, vehicle ruts, ponding water, tree and brush growth, and protruding objects were not observed within the Site area.

During the initial Site inspection none of the four Site monitoring wells were found.

LiRo returned to the Site on October 20, 2017 with a metal detector and was able to locate three of the four Site monitoring wells including, MW-3, MW-7 and MW-8. Each of the identified monitoring wells was completed with an at-grade protective surface casing and at each location, the Site vegetative cover had grown over the protective cover lids making it difficult to locate the wells.

Prior to sampling the monitoring wells on October 24, 2017, LiRo made an additional attempt to locate monitoring well MW-5 with the use of the metal detector. A surface casing lid was found in the mapped vicinity of MW-5 and the area was hand excavated to a depth of approximately 2 feet. No evidence of a monitoring well was found. It is presumed that at some point, the lid was knocked off of the protective casing (possibly during mowing) and the well has become buried.

The inspection of the groundwater containment system including inspection of interceptor trench cleanouts and sewer tie-ins. No obstructions were observed within the interceptor trench system.

The Site monitoring wells were found to be in generally good condition; however, vegetative creep is occurring over the protective casings at the monitoring wells. Despite the vegetative creep, three of the four Site monitoring wells were located. The locations of the located Site monitoring wells were surveyed with a handheld GPS unit to aid in identifying these locations in the future.

At the time of the inspection, the Site was in compliance with the IC/ECs. Appendix A includes the completed IC/ECs Certification form and Appendix B contains the completed Site inspection form. Appendix C provides a photographic log showing the current conditions of the Site at the time of the inspections.

### **3.1.2 Groundwater Monitoring**

The SMP specifies that groundwater sampling would be performed at four down-gradient monitoring wells (MW-3, MW-5, MW-7, and MW-8) on an annual basis and would include analysis of Target Compound List (TCL) Semi-Volatile Organic Compounds (SVOCs) and Target Analyte List (TAL) metals. Sampling of the monitoring wells is to be conducted using low-flow sampling procedures.

As previously discussed, one groundwater monitoring well (MW-5) was not located. As a result, MW-5 was not sampled during this groundwater monitoring event.

The following groundwater monitoring activities were performed during this first PRR reporting period to assess Site conditions:

- groundwater sample collection from monitoring wells MW-3, MW-7, and MW-8 using low-flow sampling techniques;
- analysis of field parameters (pH, oxidation-reduction potential, temperature, turbidity, and specific conductivity) at each monitoring well during the low-flow sampling procedure;
- analysis of the collected samples for TCL SVOCs and TAL Metals by a New York State Department of Health (NYSDEC) environmental laboratory approval program (ELAP)-certified laboratory;
- inspection and documentation of the structural integrity of the monitoring wells;
- global Positioning System (GPS) survey of monitoring well locations; and,

- collection of groundwater elevation data from the sampled monitoring wells (MW-03, MW-07, and MW-08).

Groundwater level monitoring and sampling was performed on October 24, 2017. Table 1 provides a summary of the groundwater elevation data for the Site monitoring wells.

Monitoring wells were purged and sampled using standard low-flow techniques. A “blind” duplicate sample (MW-D) was collected from monitoring well MW-3 as a quality assurance/quality control (QA/QC) check.

Field measured turbidity was found in exceedance of 50 nephelometric turbidity units (NTU) at monitoring wells MW-3 and MW-8. An additional field filtered sample was collected for analysis of TAL metals at these two locations.

Purged groundwater was collected and contained in 5-gallon plastic buckets until the completion of sampling. The collected groundwater was discharged to the interceptor trench collection system after sample collection.

Field parameters measured at each of the sampled monitoring wells are summarized in Table 2. TCL SVOC analytical results are presented in Table 3. TAL metals analytical results are presented in Table 4. Monitoring well purge and sample logs are provided in Appendix D. Laboratory analytical reports are provided in Appendix E.

### 3.2 Institutional and Engineering Control Requirements and Compliance

The following engineering and institutional controls (IC/ECs) are to be maintained as a requirement of the SAC for the Site:

- **Engineering Controls:** Engineering controls (ECs) for the Site consist of a soil cover system and a groundwater containment system.

The Site soil cover system and Site groundwater containment system are operating as designed and are being maintained and monitored as required.

- **Institutional Controls:** Institutional controls (ICs) for the Site consist of a groundwater use restriction, an IC/EC plan, a land use restriction, a monitoring plan, a SMP, and a soil management plan.

The monitoring and maintenance activities are being conducted.

## 4.0 Conclusions and Recommendations

Conclusions from the monitoring, maintenance, and inspection activities performed during the current PRR reporting period are as follows.

- At the time of the Site inspection, the Site was in compliance with the ECs/ICs including: groundwater monitoring, inspection, and maintenance of the groundwater monitoring wells; inspection and maintenance of the groundwater containment system; and, inspection and maintenance of the Site soil cover system.
- TCL SVOC analytical results obtained from monitoring wells MW-3 and MW-7 during October 2017 indicate that no detectable concentrations of SVOCs are present in either of these wells.
- TCL SVOC analytical results obtained from monitoring well MW-8 during October 2017 indicate that that SVOCs benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, fluoranthene, indeno(1,2,3-cd)pyrene, phenanthrene, and pyrene were present at detectable concentrations. With the exception of benzo(g,h,i)perylene, which does not have an ambient water quality standard or guidance value (AWQSGV), the detected concentrations of these SVOCs exceed their respective AWQSGVs.
- TAL metals analytical results obtained from monitoring wells MW-3, MW-7, and MW-8 during October 2017 indicate detectable concentrations of metals in each of the monitoring wells sampled. Arsenic, barium, beryllium, cadmium, chromium, copper, iron, magnesium, manganese, sodium, lead, selenium, and/or mercury were found at concentrations exceeding the Class “GA” AWQSGVs in each of the monitoring wells sampled.
- Based on visual inspection, the groundwater monitoring wells were observed to be structurally sound with the following exceptions:
  - MW-3 is missing the J-plug;
  - MW-5 could not be located and has likely incurred some type of damage;
  - MW-8 was observed to have standing water present within the curb box. and,
- Based on physical inspection, the groundwater monitoring wells were found to be free of obstructions and a minimal amount of silt accumulation was observed in each of the inspected wells.

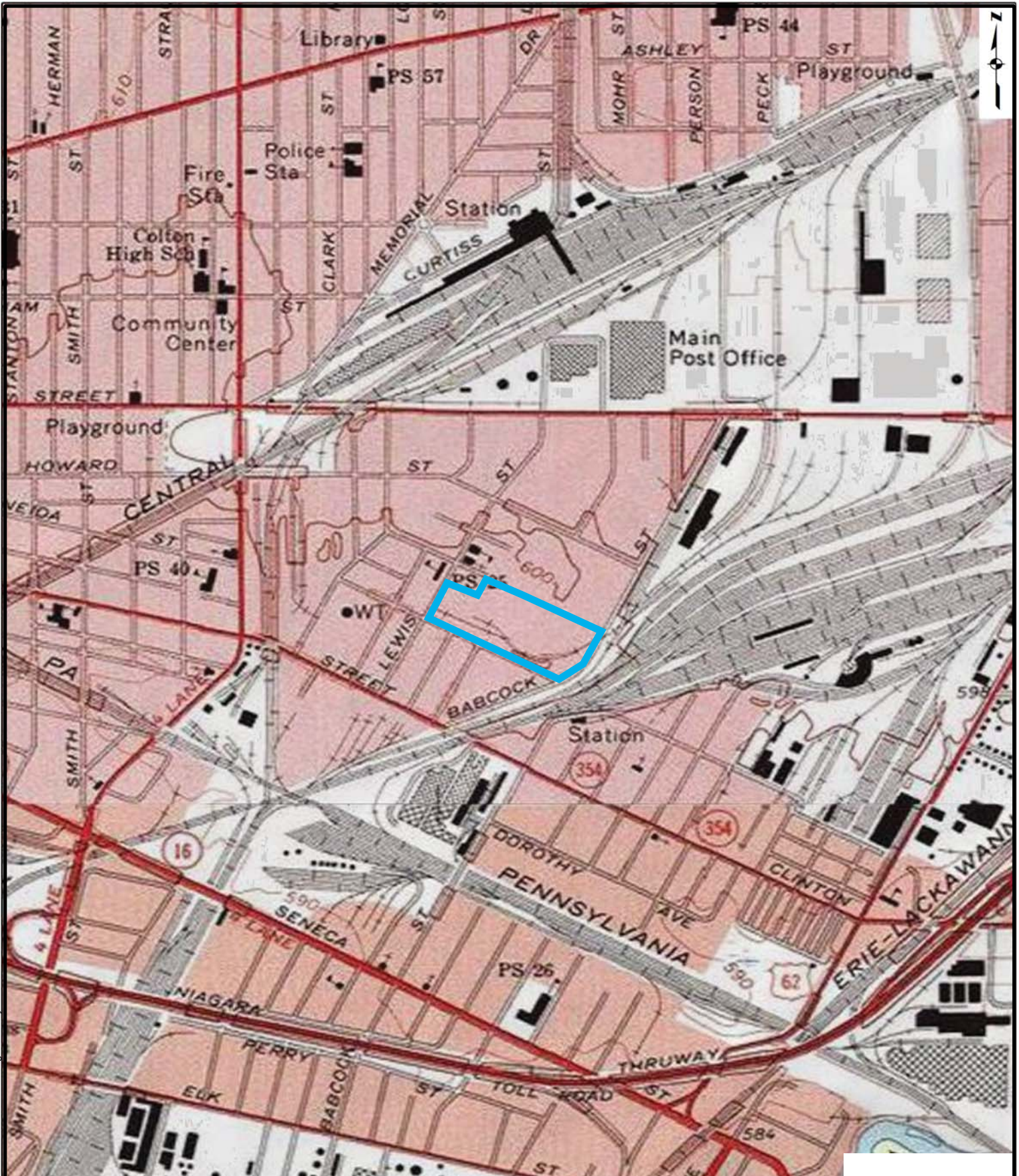
Based on the conclusions presented above, the Site has been in operation and in compliance with the SMP since the Certificate of Completion was issued by NYSDEC on June 15, 2016. LiRo recommends the following with regards to the operation, maintenance, and monitoring at the Site.

- Monitoring well MW-5 should be replaced prior to the next Site inspection and groundwater monitoring event.
- A “weep hole” should be installed in the bottom of the curb box at monitoring well MW-8 to prevent the accumulation of water within the curb box.



- A J-plug should be installed at MW-3 to prevent water from entering the well in the event that the curb box becomes flooded.
- Site inspections should continue to be performed annually.
- Groundwater monitoring should continue to be performed annually. and,
- Areas of the southern soccer field should be re-seeded after the ground thaws next spring.

## **Figures**



Reference:  
 UNITED STATES GEOLOGIC SURVEY 42078-H7 1968 BUFFALO NE QUAD, NY  
 Copyright © 2013 National Geographic Society ~ SCALE: 1:2,000

Legend:  
— Site Area

Copyright © 2013 National Ge

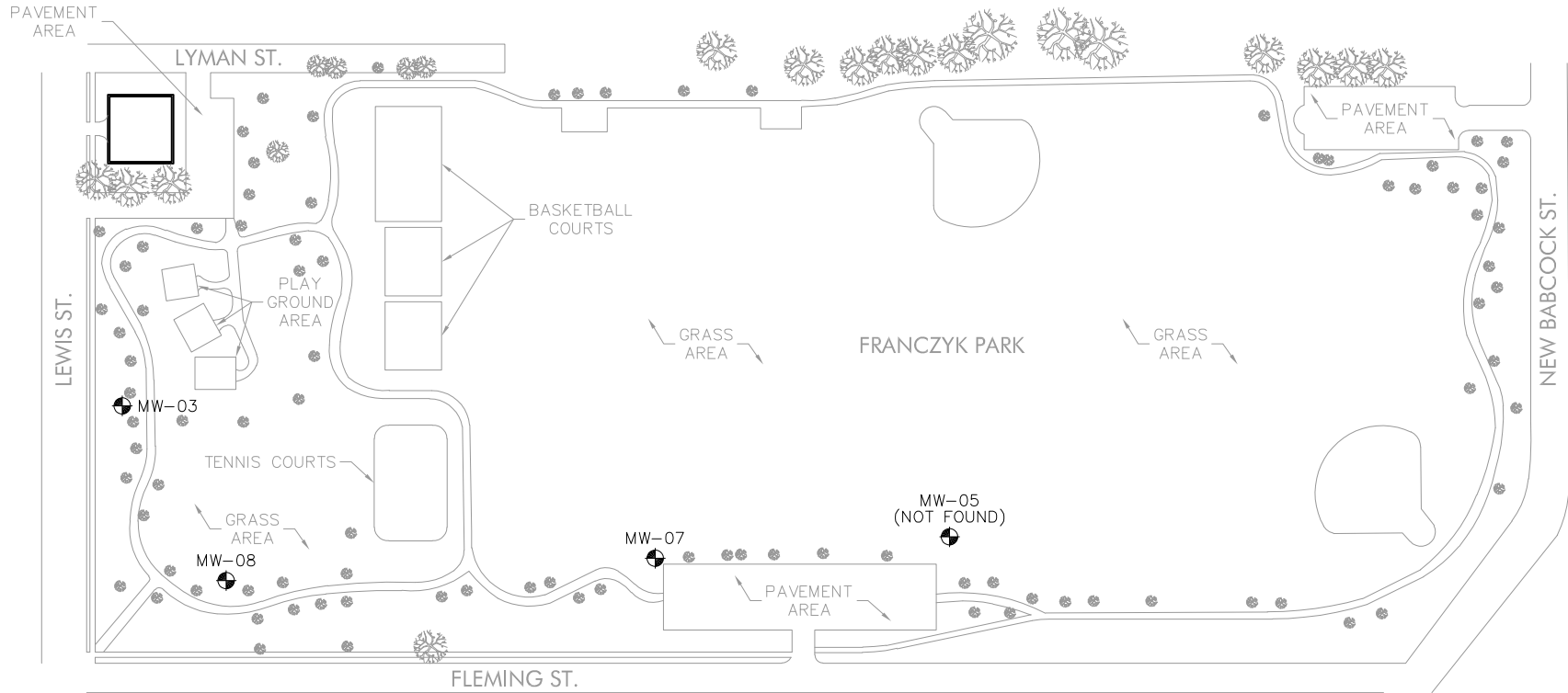


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# FRANCZYK PARK SITE TOPOGRAPHIC LOCATION MAP

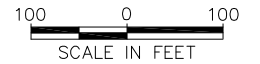
FIGURE NO.

1



**LEGEND**

☉ MONITORING WELL



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**FRANCZYK PARK  
SITE PLAN**

FIGURE NO.

**2**

## **Tables**



**TABLE 1**

**SUMMARY OF GROUNDWATER ELEVATIONS  
OCTOBER 2017 MONITORING EVENT**

**Franczyk Park Site (B00174)  
City of Buffalo, New York**

| <b>Well ID</b> | <b>Top of Casing<br/>Elevation<sup>1</sup></b> | <b>10/24/17<br/>Depth to Water<br/>(ft. BTOC)</b> | <b>Groundwater<br/>Elevation<sup>1</sup></b> |
|----------------|--|---|--|
| MW-03          | 21.86  | 5.23  | 16.63  |
| MW-05          | 23.11  | NM  | NA   |
| MW-07          | 19.7   | 2.82  | 16.88  |
| MW-08          | 21.34  | 5.16  | 16.18  |

Notes:

1 - City of Buffalo Datum

ft. BTOC - feet below top of casing.

NM - Not measured

NA - Not available

**TABLE 2**

**SUMMARY OF GROUNDWATER FIELD PARAMETERS  
OCTOBER 2017 MONITORING EVENT  
FRANCZYK PARK SITE (B00174)  
CITY OF BUFFALO, NEW YORK**

| PARAMETER                    | Class "GA"<br>AWQSGVs <sup>1</sup> | Monitoring Location |       |             |            |
|------------------------------|------------------------------------|---------------------|-------|-------------|------------|
|                              |                                    | MW-03               | MW-05 | MW-07       | MW-08      |
| <i>Field Measurements</i>    |                                    |                     |       |             |            |
| pH (standard units)          | 6.5 - 8.5                          | <b>4.19</b>         | NM    | <b>6.45</b> | 6.89       |
| Temperature (°C)             | NS                                 | 14.1                | NM    | 15.11       | 16.21      |
| Specific Conductance (mS/cm) | NS                                 | 7.99                | NM    | 2.58        | 3.98       |
| Turbidity (NTU)              | 5                                  | <b>574</b>          | NM    | <b>35.2</b> | <b>653</b> |
| ORP (mV)                     | NS                                 | 112                 | NM    | -12         | -64        |
| Dissolved Oxygen (mg/L)      | NS                                 | 2.8                 | NM    | 3.65        | 4.29       |
| Appearance (visual)          | NS                                 | Turbid              | NM    | Clear       | Turbid     |
| Odor (olfactory)             | NS                                 | None                | NM    | None        | Sulfurous  |

Notes:

1 - NYSDEC Class "GA" Ambient Groundwater Quality Standards/Guidance Values (AWQSGVs) as per 6 NYCRR Part 703.3

**Bold - Concentration exceeds NYS Technical and Operational Guidance Series (TOGS 1.1.1) Ambient Water Quality Standards/Guidance Values - Class GA Waters**

NM - Not measured.

NS - No Standard; an AWQSGV has not been established for this parameter.

TABLE 3

**TCL SVOC ANALYTICAL RESULTS  
OCTOBER 2017 MONITORING EVENT  
FRANCZYK PARK SITE (B00174)  
BUFFALO, NEW YORK**

| TCL SVOC                        | Class "GA"<br>AWQSGVs <sup>1</sup> | Well ID, Sample ID, & Date Collected |                    |                    |
|---------------------------------|------------------------------------|--------------------------------------|--------------------|--------------------|
|                                 |                                    | MW-3 <sup>2</sup>                    | MW-7               | MW-8               |
|                                 |                                    | MW-3<br>10/24/2017                   | MW-7<br>10/24/2017 | MW-8<br>10/25/2017 |
| 1,2,4-Trichlorobenzene          | 5                                  | 9.4 U                                | 9.4 U              | 19 U               |
| 1,2-Dichlorobenzene             | 3                                  | 9.4 U                                | 9.4 U              | 19 U               |
| 1,3-Dichlorobenzene             | 3                                  | 9.4 U                                | 9.4 U              | 19 U               |
| 1,4-Dichlorobenzene             | 3                                  | 9.4 U                                | 9.4 U              | 19 U               |
| 2,4,5-Trichlorophenol           | NS                                 | 9.4 U                                | 9.4 U              | 19 U               |
| 2,4,6-Trichlorophenol           | NS                                 | 9.4 U                                | 9.4 U              | 19 U               |
| 2,4-Dichlorophenol              | 5                                  | 9.4 U                                | 9.4 U              | 19 U               |
| 2,4-Dimethylphenol              | 50                                 | 9.4 U                                | 9.4 U              | 19 U               |
| 2,4-Dinitrophenol               | 10                                 | 47 U                                 | 47 U               | 94 U               |
| 2,4-Dinitrotoluene              | 5                                  | 9.4 U                                | 9.4 U              | 19 U               |
| 2,6-Dinitrotoluene              | 5                                  | 9.4 U                                | 9.4 U              | 19 U               |
| 2-Chloronaphthalene             | 10                                 | 9.4 U                                | 9.4 U              | 19 U               |
| 2-Chlorophenol                  | NS                                 | 9.4 U                                | 9.4 U              | 19 U               |
| 2-Methylnaphthalene             | NS                                 | 9.4 U                                | 9.4 U              | 19 U               |
| 2-Methylphenol                  | NS                                 | 9.4 U                                | 9.4 U              | 19 U               |
| 2-Nitroaniline                  | 5                                  | 47 U                                 | 47 U               | 94 U               |
| 2-Nitrophenol                   | NS                                 | 9.4 U                                | 9.4 U              | 19 U               |
| 3,3'-Dichlorobenzidine          | 5                                  | 9.4 U                                | 9.4 U              | 19 U               |
| 3- and 4-Methylphenol Coelution | NS                                 | 9.4 U                                | 9.4 U              | 19 U               |
| 3-Nitroaniline                  | 5                                  | 47 U                                 | 47 U               | 94 U               |
| 4,6-Dinitro-2-methylphenol      | NS                                 | 47 U                                 | 47 U               | 94 U               |
| 4-Bromophenyl Phenyl Ether      | NS                                 | 9.4 U                                | 9.4 U              | 19 U               |
| 4-Chloro-3-methylphenol         | NS                                 | 9.4 U                                | 9.4 U              | 19 U               |
| 4-Chloroaniline                 | 5                                  | 9.4 U                                | 9.4 U              | 19 U               |
| 4-Chlorophenyl Phenyl Ether     | NS                                 | 9.4 U                                | 9.4 U              | 19 U               |
| 4-Nitroaniline                  | 5                                  | 47 U                                 | 47 U               | 94 U               |
| 4-Nitrophenol                   | NS                                 | 47 U                                 | 47 U               | 94 U               |
| Acenaphthene                    | 20                                 | 9.4 U                                | 9.4 U              | 19 U               |
| Acenaphthylene                  | NS                                 | 9.4 U                                | 9.4 U              | 19 U               |
| Anthracene                      | 50                                 | 9.4 U                                | 9.4 U              | 19 U               |
| Benz(a)anthracene               | 0.002                              | 9.4 U                                | 9.4 U              | <b>60</b>          |
| Benzo(a)pyrene                  | ND                                 | 9.4 U                                | 9.4 U              | <b>80</b>          |
| Benzo(b)fluoranthene            | 0.002                              | 9.4 U                                | 9.4 U              | <b>97</b>          |
| Benzo(g,h,i)perylene            | NS                                 | 9.4 U                                | 9.4 U              | 66                 |
| Benzo(k)fluoranthene            | 0.002                              | 9.4 U                                | 9.4 U              | <b>36</b>          |
| Benzyl Alcohol                  | NS                                 | 9.4 U                                | 9.4 U              | 19 U               |
| 2,2'-Oxybis(1-chloropropane)    | NS                                 | 9.4 U                                | 9.4 U              | 19 U               |
| Bis(2-chloroethoxy)methane      | NS                                 | 9.4 U                                | 9.4 U              | 19 U               |
| Bis(2-chloroethyl) Ether        | 1                                  | 9.4 U                                | 9.4 U              | 19 U               |
| Bis(2-ethylhexyl) Phthalate     | 5                                  | 9.4 U                                | 9.4 U              | 19 U               |
| Butyl Benzyl Phthalate          | 50                                 | 9.4 U                                | 9.4 U              | 19 U               |
| Carbazole                       | NS                                 | 9.4 U                                | 9.4 U              | 19 U               |
| Chrysene                        | 0.002                              | 9.4 U                                | 9.4 U              | <b>65</b>          |
| Di-n-butyl Phthalate            | NS                                 | 9.4 U                                | 9.4 U              | 19 U               |
| Di-n-octyl Phthalate            | 50                                 | 9.4 U                                | 9.4 U              | 19 U               |
| Dibenz(a,h)anthracene           | NS                                 | 9.4 U                                | 9.4 U              | 19 U               |
| Dibenzofuran                    | NS                                 | 9.4 U                                | 9.4 U              | 19 U               |

TABLE 3

**TCL SVOC ANALYTICAL RESULTS  
OCTOBER 2017 MONITORING EVENT  
FRANCZYK PARK SITE (B00174)  
BUFFALO, NEW YORK**

| TCL SVOC                  | Class "GA"<br>AWQSGVs <sup>1</sup> | Well ID, Sample ID, & Date Collected |                    |                    |
|---------------------------|------------------------------------|--------------------------------------|--------------------|--------------------|
|                           |                                    | MW-3 <sup>2</sup>                    | MW-7               | MW-8               |
|                           |                                    | MW-3<br>10/24/2017                   | MW-7<br>10/24/2017 | MW-8<br>10/25/2017 |
| Diethyl Phthalate         | 50                                 | 9.4 U                                | 9.4 U              | 19 U               |
| Dimethyl Phthalate        | 50                                 | 9.4 U                                | 9.4 U              | 19 U               |
| Fluoranthene              | 50                                 | 9.4 U                                | 9.4 U              | <b>120</b>         |
| Fluorene                  | 50                                 | 9.4 U                                | 9.4 U              | 19 U               |
| Hexachlorobenzene         | 0.04                               | 9.4 U                                | 9.4 U              | 19 U               |
| Hexachlorobutadiene       | 0.5                                | 9.4 U                                | 9.4 U              | 19 U               |
| Hexachlorocyclopentadiene | 5                                  | 9.4 U                                | 9.4 U              | 19 U               |
| Hexachloroethane          | 5                                  | 9.4 U                                | 9.4 U              | 19 U               |
| Indeno(1,2,3-cd)pyrene    | 0.002                              | 9.4 U                                | 9.4 U              | <b>62</b>          |
| Isophorone                | 50                                 | 9.4 U                                | 9.4 U              | 19 U               |
| N-Nitrosodi-n-propylamine | NS                                 | 9.4 U                                | 9.4 U              | 19 U               |
| N-Nitrosodimethylamine    | NS                                 | 9.4 U                                | 9.4 U              | 19 U               |
| N-Nitrosodiphenylamine    | 50                                 | 9.4 U                                | 9.4 U              | 19 U               |
| Naphthalene               | 10                                 | 9.4 U                                | 9.4 U              | 19 U               |
| Nitrobenzene              | 0.4                                | 9.4 U                                | 9.4 U              | 19 U               |
| Pentachlorophenol (PCP)   | 1                                  | 47 U                                 | 47 U               | 94 U               |
| Phenanthrene              | 50                                 | 9.4 U                                | 9.4 U              | <b>52</b>          |
| Phenol                    | 1                                  | 9.4 U                                | 9.4 U              | 19 U               |
| Pyrene                    | 50                                 | 9.4 U                                | 9.4 U              | <b>100</b>         |
| Total SVOCs               | NS                                 | ND                                   | ND                 | 738                |

## Notes:

1 - NYS Ambient Water Quality Standards/Guidance Values (AWQSGVs) for Class GA Waterbody

2 - Reported values represent the average value of sample and duplicate sample results.

All concentrations are reported in parts per billion (ppb or µg/L)

U - Compound not detected above the associated reporting limit

**Bold - Concentration exceeds NYS Technical and Operational Guidance Series (TOGS 1.1.1) Ambient Water Quality Standards/Guidance Values - Class GA Waters**

NS - No Standard; an AWQSGV has not been established for this parameter.

**TABLE 4**

**TAL METALS ANALYTICAL RESULTS  
OCTOBER 2017 MONITORING EVENT  
FRANCZYK PARK SITE (B00174)  
CITY OF BUFFALO, NEW YORK**

| TAL Metal       | Class "GA"<br>AWQSGVs <sup>1</sup> | Well ID, Sample ID, & Date Collected |               |                |
|-----------------|------------------------------------|--------------------------------------|---------------|----------------|
|                 |                                    | MW-3 <sup>2</sup>                    | MW-7          | MW-8           |
|                 |                                    | MW-3 Dissolved                       | MW-7          | MW-8 Dissolved |
|                 |                                    | 10/24/2017                           | 10/24/2017    | 10/25/2017     |
| Silver          | 50                                 | 10 U                                 | 10 U          | 10 U           |
| Aluminum        | NS                                 | 195,000                              | 1,120         | 89,000         |
| Arsenic         | 25                                 | 10 U                                 | 10 U          | <b>347</b>     |
| Barium          | 1,000                              | 50                                   | 24            | <b>1,970</b>   |
| Beryllium       | 3                                  | <b>12</b>                            | 3.0 U         | 3.0            |
| Calcium Metal   | NS                                 | 426,500                              | 392,000       | 916,000        |
| Cadmium         | 5                                  | <b>11.7</b>                          | 5.0 U         | 5.0 U          |
| Cobalt          | NS                                 | 50 U                                 | 50 U          | 50 U           |
| Chromium, total | 50                                 | 17                                   | 10 U          | <b>163</b>     |
| Copper          | 200                                | 20 U                                 | 20 U          | <b>487</b>     |
| Iron            | 300                                | <b>1,235,000</b>                     | <b>4,110</b>  | <b>106,000</b> |
| Potassium       | NS                                 | 131,000                              | 18,700        | 89,300         |
| Magnesium       | 35,000                             | <b>474,000</b>                       | <b>77,700</b> | <b>210,000</b> |
| Manganese       | 300                                | <b>17,850</b>                        | <b>2,950</b>  | <b>2,020</b>   |
| Sodium          | 20,000                             | <b>93,150</b>                        | <b>35,100</b> | <b>39,200</b>  |
| Nickel          | 100                                | 40 U                                 | 40 U          | 78             |
| Lead            | 25                                 | 50 U                                 | 50 U          | <b>12,900</b>  |
| Antimony        | 3                                  | 60 U                                 | 60 U          | 60 U           |
| Selenium        | 10                                 | <b>24</b>                            | 10 U          | 10 U           |
| Thallium        | 0.5                                | 100 U                                | 100 U         | <b>26</b>      |
| Vanadium        | NS                                 | 70                                   | 50 U          | 181            |
| Zinc            | 2,000                              | 245                                  | 20 U          | 1,440          |
| Mercury         | 0.7                                | 0.2 U                                | 0.2 U         | <b>8.14</b>    |

Notes:

1 - NYS Ambient Water Quality Standards/Guidance Values for Class GA Waterbody

2 - Reported values represent the average value of sample and duplicate sample results.

All concentrations are reported in parts per billion (ppb or µg/L)

U - Compound not detected above the associated reporting limit

**Bold - Concentration exceeds NYS Technical and Operational Guidance Series (TOGS 1.1.1) Ambient Water Quality Standards/Guidance Values - Class GA Waters**

NS - No Standard; an AWQSGV has not been established for this parameter.



**Appendix A**  
**PRR Certification Form**



Enclosure 2  
**NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION**  
**Site Management Periodic Review Report Notice**  
**Institutional and Engineering Controls Certification Form**



|  | Site Details  | Box 1  |
|--|---------------|--|
| <b>Site No.</b>  | <b>B00174</b> |  |
| <b>Site Name</b> Franczyk Park Investigation   |               |  |
| Site Address: 550 and 564 New Babcock Street    Zip Code: 14206-   |               |  |
| City/Town: Buffalo (C)   |               |  |
| County: Erie   |               |  |
| Site Acreage: 15.5   |               |  |
| Reporting Period: June 15, 2016 to September 15, 2017  |               |  |
|  |               | YES    NO  |
| 1. Is the information above correct?   |               | <input checked="" type="checkbox"/> <input type="checkbox"/> |
| If NO, include handwritten above or on a separate sheet.   |               |  |
| 2. Has some or all of the site property been sold, subdivided, merged, or undergone a tax map amendment during this Reporting Period?                              |               | <input type="checkbox"/> <input checked="" type="checkbox"/> |
| 3. Has there been any change of use at the site during this Reporting Period (see 6NYCRR 375-1.11(d))?   |               | <input type="checkbox"/> <input checked="" type="checkbox"/> |
| 4. Have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property during this Reporting Period?                      |               | <input type="checkbox"/> <input checked="" type="checkbox"/> |
| <b>If you answered YES to questions 2 thru 4, include documentation or evidence that documentation has been previously submitted with this certification form.</b> |               |  |
| 5. Is the site currently undergoing development?   |               | <input type="checkbox"/> <input checked="" type="checkbox"/> |
|  |               | <b>Box 2</b>   |
|  |               | YES    NO  |
| 6. Is the current site use consistent with the use(s) listed below?<br>Restricted-Residential, Commercial, and Industrial  |               | <input checked="" type="checkbox"/> <input type="checkbox"/> |
| 7. Are all ICs/ECs in place and functioning as designed?   |               | <input checked="" type="checkbox"/> <input type="checkbox"/> |
| <b>IF THE ANSWER TO EITHER QUESTION 6 OR 7 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.</b>                           |               |  |
| <b>A Corrective Measures Work Plan must be submitted along with this form to address these issues.</b>   |               |  |
| _____<br>Signature of Owner, Remedial Party or Designated Representative   |               | _____<br>Date  |

**Description of Institutional Controls**

| <u>Parcel</u> | <u>Owner</u>    | <u>Institutional Control</u>  |
|---------------|-----------------|---|
| 112.17-1-10   | City of Buffalo | Ground Water Use Restriction<br>Landuse Restriction<br>Site Management Plan<br><br>Ground Water Use Restriction<br>Soil Management Plan<br>Landuse Restriction<br>Monitoring Plan<br>Site Management Plan<br>IC/EC Plan<br><br>O&M Plan |
| 112.17-1-11   | City of Buffalo | O&M Plan<br>Ground Water Use Restriction<br>Soil Management Plan<br>Landuse Restriction<br>Monitoring Plan<br>Site Management Plan<br>IC/EC Plan  |

**Description of Engineering Controls**

| <u>Parcel</u> | <u>Engineering Control</u>                              |
|---------------|---|
| 112.17-1-10   | Cover System<br>Cover System<br>Groundwater Containment |
| 112.17-1-11   | Cover System  |

**Periodic Review Report (PRR) Certification Statements**

1. I certify by checking "YES" below that:

a) the Periodic Review report and all attachments were prepared under the direction of, and reviewed by, the party making the certification;

b) to the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and the information presented is accurate and complete.

YES NO

2. If this site has an IC/EC Plan (or equivalent as required in the Decision Document), for each Institutional or Engineering control listed in Boxes 3 and/or 4, I certify by checking "YES" below that all of the following statements are true:

(a) the Institutional Control and/or Engineering Control(s) employed at this site is unchanged since the date that the Control was put in-place, or was last approved by the Department;

(b) nothing has occurred that would impair the ability of such Control, to protect public health and the environment;

(c) access to the site will continue to be provided to the Department, to evaluate the remedy, including access to evaluate the continued maintenance of this Control;

(d) nothing has occurred that would constitute a violation or failure to comply with the Site Management Plan for this Control; and

(e) if a financial assurance mechanism is required by the oversight document for the site, the mechanism remains valid and sufficient for its intended purpose established in the document.

YES NO

**IF THE ANSWER TO QUESTION 2 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.**

**A Corrective Measures Work Plan must be submitted along with this form to address these issues.**

\_\_\_\_\_  
Signature of Owner, Remedial Party or Designated Representative

\_\_\_\_\_  
Date

IC CERTIFICATIONS  
SITE NO. B00174

Box 6

**SITE OWNER OR DESIGNATED REPRESENTATIVE SIGNATURE**

I certify that all information and statements in Boxes 1, 2, and 3 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I Jon Williams at 690 Delaware Avenue, Buffalo, NY 14209  
print name print business address

am certifying as Remedial Party (Owner or Remedial Party)

for the Site named in the Site Details Section of this form.

  
Signature of Owner, Remedial Party, or Designated Representative  
Rendering Certification

12/20/2017  
Date



IC/EC CERTIFICATIONS

Box 7

Qualified Environmental Professional Signature

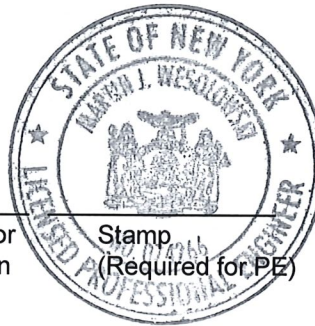
I certify that all information in Boxes 4 and 5 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I Martin Wesalowski at 690 Delaware Ave, Buffalo NY 14209,  
print name print business address

am certifying as a Qualified Environmental Professional for the City of Buffalo  
(Owner or Remedial Party)



Signature of Qualified Environmental Professional, for  
the Owner or Remedial Party, Rendering Certification



Stamp  
(Required for PE)

12/20/2017

Date

**Appendix B**  
**Site Inspection Form**

# SITE INSPECTION FORM

## FRANCZYK PARK

Property Name: Franczyk Park Inspection Date:  
Property Address: 564 Babcock Street  
City: Buffalo State: NY Zip Code: 14206  
Property ID: (Tax Assessment Map)  
Section: 112.17 Block: 1 Lot(s): 10 and 11  
Total Acreage: 16.5 acres

Weather (during inspection): Temperature: 65° Conditions: partly cloudy.

**SIGNATURE:**

The findings of this inspection were discussed with appropriate personnel, corrective actions were identified and implementation was mutually agreed upon:

Inspector: Don Williams Date: 10/17/17  
 Next Scheduled Inspection Date: September 2018

### COVER & VEGETATION

- |  |          |     |          |
|--|----------|-----|----------|
| 4. Final cover in acceptable condition?  | <u>X</u> |     |          |
| Is there evidence of sloughing, erosion, ponding or settlement?  | ---      | --- | <u>X</u> |
| Is there evidence of unintended traffic; rutting?  | ---      | --- | <u>X</u> |
| Is there evidence of distressed vegetation/turf?   | <u>X</u> | --- | ---      |
| <i>Some vegetative stress in southern soccer field area. see attached sketch.</i>                        |          | Yes | No       |
| 5. Final cover sufficiently covers soil/fill material?   | <u>X</u> |     |          |
| Are there cracks visible in the soil or pavement?  | ---      | --- | <u>X</u> |
| Is there evidence of erosion in the stormwater channels or swales?                                       | ---      | --- | <u>X</u> |
| Is the synthetic erosion control fabric visible or damaged in the playground and/or athletic field area? | ---      | --- | <u>X</u> |

### INTERCEPTOR TRENCH AND MONITORING WELLS

- |  |          |     |          |
|--|----------|-----|----------|
|  | Yes      |     | No       |
| 6. Interceptor trench in acceptable condition?   |          |     |          |
| Are the cleanout caps secured and not buried?  | <u>X</u> | --- | ---      |
| Are the interceptor pipes obstructed (check the manholes where the interceptor trench connects to the sanitary sewer)? | ---      | --- | <u>X</u> |

What is the condition of the monitoring wells?

MW-3 missing j-plug, MW-7 good, MW-8 standing water in curb box. All wells difficult to find due to vegetation, MW-5 not located (lid found) well presumed to be buried or destroyed.

ACTIVITY ON SITE

|  | Yes  | No |
|--|------|----|
| 7. Any activity on site that disturbed the soil cover? | ---- | X  |

ACCESS CONTROLS

|   | Yes  | No   |
|---|------|------|
| 1. Is access controlled by barriers (i.e. fencing, boulders, etc?)  | X    | ---- |
| Are there sections of the access controls damaged or missing?   | ---- | X    |
| 2. Is there evidence of the operation of vehicles on the site?  | ---- | X    |
| Is there evidence of damage to the cover or access controls resulting from vehicle use on the project site? | ---- | X    |

ADDITIONAL FACILITY INFORMATION

Has there been any any development on or near the site? (Specify size and type: e.g., residential, 40 acres, well and septic)

COMMENTS

Item #

No development on or near the site

---

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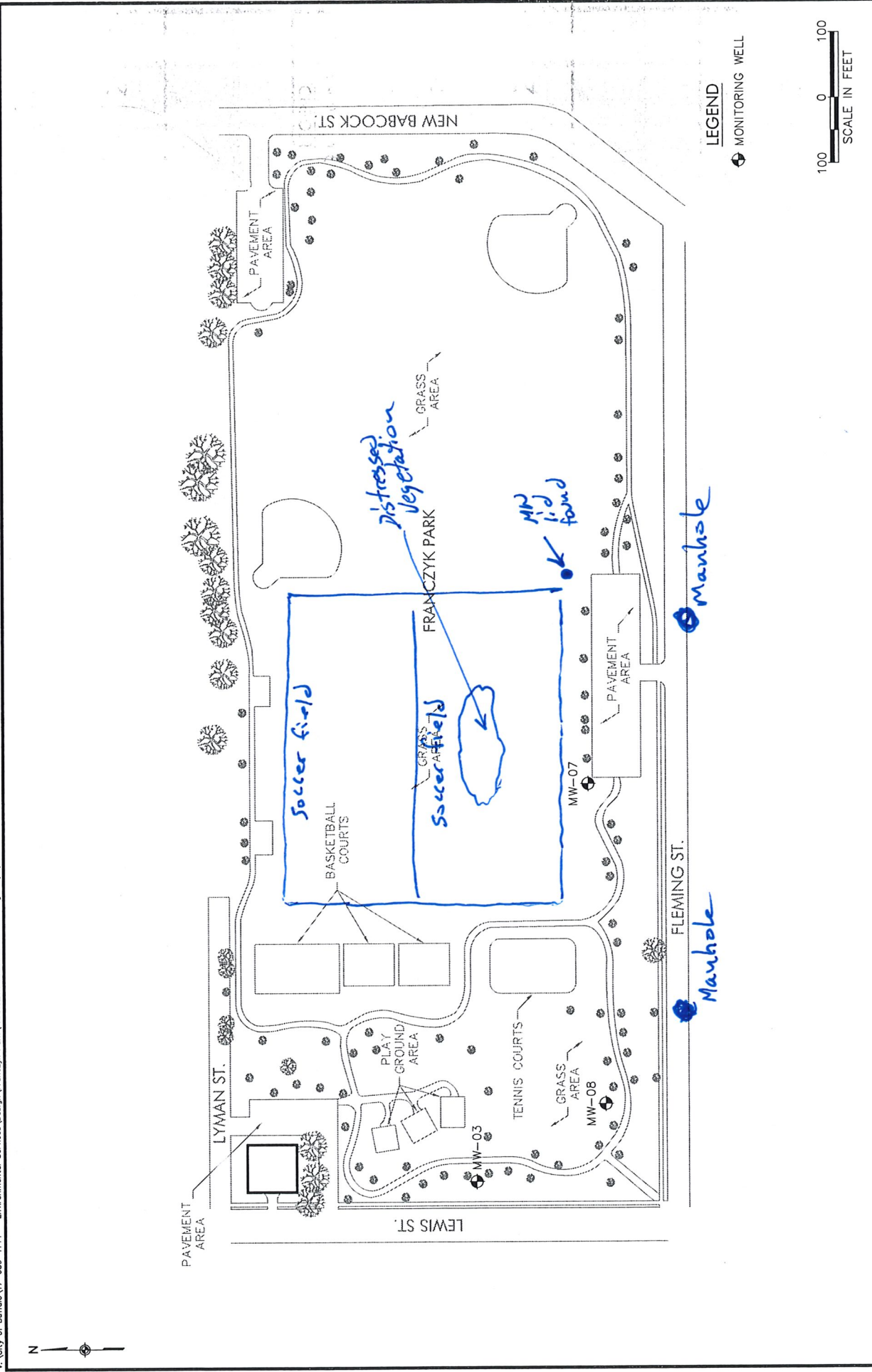
---

ATTACHMENTS

1. Site Sketch
2. Photographs
3. Laboratory Report(s)

N:\2003.0125.01 Franczyk Remedial Design\Engineering\10Deliverables\Final SMP\SMP Attachments\Appendix H Site Insp.Form.doc





**LEGEND**  
 MONITORING WELL

100 0 100  
 SCALE IN FEET

FIGURE NO.

FRANCZYK PARK Site Inspection  
10/17 and 10/24, 2017

FRANCZYK PARK  
SITE PLAN

LiRo Engineers, Inc.  
 690 Delaware Avenue  
 Buffalo, New York

**Appendix C**  
**Site Photographs**

**Site Photos**



View of Site facing northwest.



View of Site facing southeast.



**Site Photos**



Distressed vegetative cover in southern soccer field.



Monitoring Well MW-3.



**Site Photos**



Monitoring Well MW-3 (water in curb box and missing j-plug).



Monitoring Well MW-5 lid.



**Site Photos**



Monitoring Well MW-5 location, no well found.



Monitoring Well MW-7.



**Site Photos**



Monitoring Well MW-8.



Monitoring Well MW-8 (water in curb box).

**Appendix D**  
**Monitoring Well Purge and Stabilization Logs**

# WELL PURGE LOG

*LiRo Engineers, Inc.*

Project Title: City of Buffalo - Franczyk Park

Well Number: **MW-3**

Site Name: Franczyk Park

Date: 10/24/17

Staff: Andrew Koons

|  |        |         |                 |
|--|--------|---------|-----------------|
| A). Total casing and screen length in feet:  | 13.42  | Well ID | Volume (gal/ft) |
|  |        | 1"      | 0.04            |
| B). Water level below top of casing in feet: | 5.23   | 2"      | 0.17            |
|  |        | 3"      | 0.38            |
| C). Number of feet standing water [A-B]:     | 8.19   | 4"      | 0.66            |
|  |        | 5"      | 1.04            |
| D). Volume of water/foot of casing (gal.):   | 0.17   | 6"      | 1.50            |
|  |        | 8"      | 2.60            |
| E). Volume of water in casing (gal. [Cx D]): | 1.3923 |         |                 |
| F). Volume of water to remove (gal.) [Ex 5]: | 4.1769 |         |                 |
| G). Volume of water actually removed (gal.): | 3.50   |         |                 |

## PURGE DATA

| Time  | Temperature (°C) | pH (SU) | ORP (mV) | Conductivity (ms/cm) | Turbidity (NTU) | Dissolved Oxygen (mg/L) | Salinity | Appearance |
|-------|------------------|---------|----------|----------------------|-----------------|-------------------------|----------|------------|
| 13:11 | 14.14            | 4.11    | 115      | 10.100               | >800            | 3.80                    | NR       | turbid     |
| 13:14 | 14.01            | 4.09    | 122      | 9.750                | >800            | 3.13                    | NR       | turbid     |
| 13:20 | 13.94            | 4.01    | 120      | 10.300               | >800            | 2.60                    | NR       | turbid     |
| 13:23 | 14.07            | 4.12    | 115      | 8.910                | >800            | 2.37                    | NR       | turbid     |
| 13:26 | 14.18            | 4.19    | 111      | 8.040                | >800            | 2.65                    | NR       | turbid     |
| 13:29 | 14.10            | 4.19    | 115      | 7.990                | 574.0           | 2.80                    | NR       | turbid     |
|       |                  |         |          |                      |                 |                         |          |            |
|       |                  |         |          |                      |                 |                         |          |            |
|       |                  |         |          |                      |                 |                         |          |            |
|       |                  |         |          |                      |                 |                         |          |            |

**Comments:** Sample MW-3 @ 13:30  
 Duplicate sample MW-D  
 Additional samples field filtered for TAL metals

42° 52' 49.0759" N  
 78° 49' 58.6074" W

# WELL PURGE LOG

*LiRo Engineers, Inc.*

Project Title: City of Buffalo - Franczyk Park

Well Number: **MW-7**

Site Name: Franczyk Park

Date: 10/24/17

Staff: Andrew Koons

|  |        |         |                 |
|--|--------|---------|-----------------|
| A). Total casing and screen length in feet:  | 7.85   | Well ID | Volume (gal/ft) |
|  |        | 1"      | 0.04            |
| B). Water level below top of casing in feet: | 2.82   | 2"      | 0.17            |
|  |        | 3"      | 0.38            |
| C). Number of feet standing water [A-B]:     | 5.03   | 4"      | 0.66            |
|  |        | 5"      | 1.04            |
| D). Volume of water/foot of casing (gal.):   | 0.17   | 6"      | 1.50            |
|  |        | 8"      | 2.60            |
| E). Volume of water in casing (gal. [Cx D]): | 0.8551 |         |                 |
| F). Volume of water to remove (gal.) [Ex 5]: | 2.5653 |         |                 |
| G). Volume of water actually removed (gal.): | 3.00   |         |                 |

## PURGE DATA

| Time  | Temperature (°C) | pH (SU) | ORP (mV) | Conductivity (ms/cm) | Turbidity (NTU) | Dissolved Oxygen (mg/L) | Salinity | Appearance      |
|-------|------------------|---------|----------|----------------------|-----------------|-------------------------|----------|-----------------|
| 10:35 | 16.04            | 6.59    | 20       | 1.91                 | 292.0           | 4.55                    | NR       | clear           |
| 10:38 | 15.58            | 6.59    | 13       | 1.58                 | 0.0             | 4.10                    | NR       | clear           |
| 10:41 | 15.56            | 6.54    | 21       | 1.58                 | 0.0             | 4.02                    | NR       | clear           |
| 10:45 | 15.43            | 6.47    | 13       | 1.77                 | 0.0             | 3.75                    | NR       | clear           |
| 10:48 | 15.18            | 6.44    | 0        | 2.09                 | 0.0             | 3.40                    | NR       | clear           |
| 10:52 | 15.10            | 6.46    | -16      | 2.58                 | 8.2             | 4.09                    | NR       | clear           |
| 10:57 | 15.11            | 6.45    | -12      | 2.58                 | 35.2            | 3.65                    | NR       | slightly cloudy |
|       |                  |         |          |                      |                 |                         |          |                 |
|       |                  |         |          |                      |                 |                         |          |                 |
|       |                  |         |          |                      |                 |                         |          |                 |

**Comments:** Sample MW-7 @ 11:05

42° 52' 45.7094" N  
78° 49' 53.6758" W

# WELL PURGE LOG

*LiRo Engineers, Inc.*

Project Title: City of Buffalo - Franczyk Park

Well Number: **MW-8**

Site Name: Franczyk Park

Date: 10/24/17

Staff: Andrew Koons

|  |        |         |                 |
|--|--------|---------|-----------------|
| A). Total casing and screen length in feet:  | 7.67   | Well ID | Volume (gal/ft) |
|  |        | 1"      | 0.04            |
| B). Water level below top of casing in feet: | 5.16   | 2"      | 0.17            |
|  |        | 3"      | 0.38            |
| C). Number of feet standing water [A-B]:     | 2.51   | 4"      | 0.66            |
|  |        | 5"      | 1.04            |
| D). Volume of water/foot of casing (gal.):   | 0.17   | 6"      | 1.50            |
|  |        | 8"      | 2.60            |
| E). Volume of water in casing (gal. [Cx D]): | 0.4267 |         |                 |
| F). Volume of water to remove (gal.) [Ex5]:  | 1.2801 |         |                 |
| G). Volume of water actually removed (gal.): | 1.00   |         |                 |

## PURGE DATA

| Time                                       | Temperature (°C) | pH (SU) | ORP (mV) | Conductivity (ms/cm) | Turbidity (NTU) | Dissolved Oxygen (mg/L) | Salinity | Appearance |
|--|------------------|---------|----------|----------------------|-----------------|-------------------------|----------|------------|
| 12:21                                      | 17.00            | 6.81    | -42      | 3.450                | >800            | 4.50                    | NR       | turbid     |
| 12:29                                      | 16.21            | 6.89    | -64      | 3.980                | 653.0           | 4.29                    | NR       | turbid     |
| Purged to dry, sample recovery on 10/25/17 |                  |         |          |                      |                 |                         |          |            |
|  |                  |         |          |                      |                 |                         |          |            |
|  |                  |         |          |                      |                 |                         |          |            |
|  |                  |         |          |                      |                 |                         |          |            |
|  |                  |         |          |                      |                 |                         |          |            |
|  |                  |         |          |                      |                 |                         |          |            |
|  |                  |         |          |                      |                 |                         |          |            |
|  |                  |         |          |                      |                 |                         |          |            |
|  |                  |         |          |                      |                 |                         |          |            |

**Comments:** Sample MW-8 @ 9:00 on 10/25/17  
Additional samples field filtered for TAL metals

42° 52' 47.1216" N  
78° 49' 58.4237" W



**Appendix E**  
**Laboratory Analytical Reports**  
(Included on Attached CD)



November 15, 2017

Service Request No:R1710113

Mr. Jon Williams  
The LiRo Group  
690 Delaware Ave.  
Buffalo, NY 14209

**Laboratory Results for: City of Buffalo - Franczyk Park Site**

Dear Mr. Williams,

Enclosed are the results of the sample(s) submitted to our laboratory October 25, 2017  
For your reference, these analyses have been assigned our service request number **R1710113**.

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAP standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and ALS Environmental is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report. The measurement uncertainty of the results included in this report is within that expected when using the prescribed method(s) for analysis of these samples, and represented by Laboratory Control Sample control limits. Any events, such as QC failures, which may add to the uncertainty are explained in the report narrative.

Please contact me if you have any questions. My extension is 7475. You may also contact me via email at [Lisa.Reyes@alsglobal.com](mailto:Lisa.Reyes@alsglobal.com).

Respectfully submitted,

**ALS Group USA, Corp. dba ALS Environmental**

Lisa Reyes  
Project Manager

**ADDRESS** 1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623  
**PHONE** +1 585 288 5380 | **FAX** +1 585 288 8475  
ALS Group USA, Corp.  
dba ALS Environmental



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## Table of Contents

|   |    |
|---|----|
| CoverLetter                                     | 1  |
| Table of Contents                               | 2  |
| Narrative Documents                             | 5  |
| Narrative Documents                             | 6  |
| Sample Receipt Information                      | 7  |
| Sample Cross-Reference                          | 8  |
| Chain Of Custody                                | 9  |
| Internal Chain of Custody                       | 11 |
| Miscellaneous Forms                             | 15 |
| Qualifiers                                      | 16 |
| Acronyms  | 17 |
| Analyst Summary                                 | 18 |
| Prep Method Inorganic                           | 20 |
| Sample Results                                  | 21 |
| Semivolatile Organic Compounds by GCMS          | 22 |
| 8270D - Semivolatile Organic Compounds by GC/MS |    |
| MW-7 - Semivoa GCMS                             | 23 |
| MW-3 - Semivoa GCMS                             | 25 |
| MW-D - Semivoa GCMS                             | 27 |
| MW-8 - Semivoa GCMS                             | 29 |
| Metals  | 31 |
| Sample Results                                  | 32 |

## Table of Contents (continued)

|   |     |
|---|-----|
| QC Summary Forms                                | 39  |
| Semivolatile Organic Compounds by GCMS          | 40  |
| 8270D - Semivolatile Organic Compounds by GC/MS |     |
| Semivoa GCMS Surrogate Summary                  | 41  |
| MB Summary Semivoa GCMS                         | 43  |
| Method Blank - Semivoa GCMS                     | 44  |
| LCS Summary Semivoa GCMS                        | 46  |
| RQ1711100-03 - DLCS Semivoa GCMS                | 47  |
| Tune Summary 8270D                              | 49  |
| IS Summary Semivoa GCMS                         | 51  |
| Metals  | 55  |
| Initial and Continuing Calibration Verification | 56  |
| CRDL Standard for AA & ICP                      | 63  |
| Blank Summary                                   | 66  |
| Interference Check Sample                       | 71  |
| Laboratory Control Sample Summary               | 73  |
| Serial Dilution Sample Summary                  | 74  |
| Method Detection Limits                         | 75  |
| Linear Ranges                                   | 77  |
| Analysis Run Log                                | 78  |
| Raw Data  | 87  |
| Semivolatile Organic Compounds by GCMS          | 88  |
| 8270D - SVO                                     |     |
| Form 1s   |     |
| MW-7 - Semivoa GCMS                             | 89  |
| MW-3 - Semivoa GCMS                             | 91  |
| MW-D - Semivoa GCMS                             | 93  |
| MW-8 - Semivoa GCMS                             | 95  |
| Raw Data  | 97  |
| ICAL Summary                                    | 250 |
| ICV Summary                                     | 261 |
| RQ1711211-02 - CCV Semivoa GCMS                 | 264 |

## Table of Contents (continued)

|   |     |
|---|-----|
| RQ1711335-02 - CCV Semivoa GCMS                 | 266 |
| Run Log   | 268 |
| Run Log Sheets                                  | 272 |
| Prep Summary Semivoa GCMS                       | 275 |
| Prep Sheets                                     | 276 |
| Metals  | 278 |
| Sample Results                                  | 279 |
| 568345  | 286 |
| 568461  | 438 |
| 568758  | 611 |
| Initial and Continuing Calibration Verification | 631 |
| Blank Summary                                   | 638 |
| Analysis Run Log                                | 643 |
| Sample Preparation Summary                      | 652 |



# Narrative Documents

**ALS Environmental—Rochester Laboratory**  
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623  
Phone (585) 288-5380 Fax (585) 288-8475  
[www.alsglobal.com](http://www.alsglobal.com)



**Client:** The LiRo Group  
**Project:** City of Buffalo - Franczyk Park Site/17-039-1144  
**Sample Matrix:** Water

**Service Request:**R1710113  
**Date Received:**10/25/17

**CASE NARRATIVE**

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier IV, validation deliverables including all summary forms and associated raw data. Analytical procedures performed by the lab are validated in accordance with NELAC standards. Any parameters that are not included in the lab’s NELAC accreditation are identified on a “Non-Certified Analytes” report in the Miscellaneous Forms Section of this report. Individual analytical results requiring further explanation are flagged with qualifiers and/or discussed below. The flags are explained in the Report Qualifiers and Definitions page in the Miscellaneous Forms section of this report.

Sample Receipt

Seven Water samples were received for analysis at ALS Environmental on 10/25/2017. Any discrepancies noted upon initial sample inspection are noted on the cooler receipt and preservation form included in this data package. The samples were received in good condition and consistent with the accompanying chain of custody form. Samples are refrigerated at ≤6°C upon receipt at the lab except for aqueous samples designated for metals analyses, which are stored at room temperature.

**Semi-Volatile Organic Analyses:**

Method 8270D, 10/30/17: The lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.

Method 8270D, 10/30/17: The lower control limit for the spike recovery of the Laboratory Control Sample (LCS) was exceeded for one or more analyte. Precision was also exceeded for one or more analytes. There were no detections of the analyte(s) in the associated field samples. The Laboratory Control Sample (LCS) and batch Matrix Spike/Matrix Spike Duplicate (MS/MSD) were within limits for all analytes. The analytes affected are flagged in the LCS Summary.

**Metals Analyses:**

Method 6010C, R1710113-001, 002, 003, 004, and 005: The Method Reporting Limit (MRL) was elevated due to matrix of sample.

Approved by  Date 11/15/2017



## Sample Receipt Information

**ALS Environmental—Rochester Laboratory**  
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Phone (585) 288-5380 Fax (585) 288-8475  
[www.alsglobal.com](http://www.alsglobal.com)



**Client:** The LiRo Group  
**Project:** City of Buffalo - Franczyk Park Site/17-039-1144

**Service Request:**R1710113

**SAMPLE CROSS-REFERENCE**

| <u>SAMPLE #</u> | <u>CLIENT SAMPLE ID</u> | <u>DATE</u> | <u>TIME</u> |
|-----------------|-------------------------|-------------|-------------|
| R1710113-001    | MW-7                    | 10/24/2017  | 1105        |
| R1710113-002    | MW-3                    | 10/24/2017  | 1330        |
| R1710113-003    | MW-3 Diss               | 10/24/2017  | 1330        |
| R1710113-004    | MW-D                    | 10/24/2017  |             |
| R1710113-005    | MW-D Diss               | 10/24/2017  |             |
| R1710113-006    | MW-8                    | 10/25/2017  | 0900        |
| R1710113-007    | MW-8 Diss               | 10/25/2017  | 0900        |



# CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

47760

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PAGE 1 OF 1

| Project Name<br><b>City of Buffalo - Franczyk Park Site</b>                                     |                            | Project Number<br><b>17-039-1144</b>       |             | ANALYSIS REQUESTED (Include Method Number and Container Preservative) |  |                                     |                             |                            |                      |  |   |                                   |  |                    |   |                    |  |                    |  |                    |  |  |  |  |
|---|----------------------------|--|-------------|---|--|-------------------------------------|-----------------------------|----------------------------|----------------------|--|---|-----------------------------------|--|--------------------|---|--------------------|--|--------------------|--|--------------------|--|--|--|--|
| Project Manager<br><b>Jon Williams</b>  |                            | Report CC                                  |             | PRESERVATIVE<br><b>0</b> <b>22</b>                                    |  |                                     |                             |                            |                      |  |   |                                   |  |                    |   |                    |  |                    |  |                    |  |  |  |  |
| Company/Address<br><b>LIRo Engineers</b><br><b>690 Delaware Ave</b><br><b>Buffalo, NY 14209</b> |                            | Email<br><b>williamsj@lir.com</b>          |             | NUMBER OF CONTAINERS  | GC/MS VOAs<br>• 8260 • 624 • CLP   | GC/MS SVOCs<br>• 8270 • 625         | GC VOAs<br>• 8021 • 601/602 | PESTICIDES<br>• 8081 • 608 | PCBs<br>• 8082 • 608 | METALS, TOTAL<br>(List in comments below)  | METALS, DISSOLVED<br>(List in comments below) | REMARKS/<br>ALTERNATE DESCRIPTION | Preservative Key<br>0. NONE<br>1. HCL<br>2. HNO <sub>3</sub><br>3. H <sub>2</sub> SO <sub>4</sub><br>4. NaOH<br>5. Zn. Acetate<br>6. MeOH<br>7. NaHSO <sub>4</sub><br>8. Other _____ |                    |   |                    |  |                    |  |                    |  |  |  |  |
| Phone #<br><b>716.882.5476</b>  |                            | Sampler's Signature<br><b>Andrew Koons</b> |             |   |  |                                     |                             |                            |                      |  |   |                                   | Sampler's Printed Name<br><b>Andrew Koons</b>  |                    |   |                    |  |                    |  |                    |  |  |  |  |
| CLIENT SAMPLE ID  | FOR OFFICE USE ONLY LAB ID | SAMPLING DATE TIME                         |             | MATRIX  |  |                                     |                             |                            |                      |  |   |                                   |  |                    |   |                    |  |                    |  |                    |  |  |  |  |
| <b>MW-7</b>   |                            | <b>10/24</b>                               | <b>1105</b> | <b>H<sub>2</sub>O</b>   | <b>4</b>   | <b>2</b>                            |                             |                            |                      | <b>2</b>   |   |                                   |  |                    |   |                    |  |                    |  |                    |  |  |  |  |
| <b>MW-3</b>   |                            | <b>10/24</b>                               | <b>1330</b> | <b>H<sub>2</sub>O</b>   | <b>4</b>   | <b>2</b>                            |                             |                            |                      | <b>1</b>   | <b>1</b>                                      |                                   |  |                    |   |                    |  |                    |  |                    |  |  |  |  |
| <b>MW-D</b>   |                            | <b>10/24</b>                               | <b>---</b>  | <b>H<sub>2</sub>O</b>   | <b>4</b>   | <b>2</b>                            |                             |                            |                      | <b>1</b>   | <b>1</b>                                      |                                   |  |                    |   |                    |  |                    |  |                    |  |  |  |  |
| <b>MW-8</b>   |                            | <b>10/25</b>                               | <b>0900</b> | <b>H<sub>2</sub>O</b>   | <b>4</b>   | <b>2</b>                            |                             |                            |                      | <b>1</b>   | <b>1</b>                                      |                                   |  |                    |   |                    |  |                    |  |                    |  |  |  |  |
| SPECIAL INSTRUCTIONS/COMMENTS<br><b>Metals</b>  |                            |  |             |   | TURNAROUND REQUIREMENTS<br>RUSH (SURCHARGES APPLY)<br>1 day 2 day 3 day<br>4 day 5 day<br><b>Standard</b><br>REQUESTED REPORT DATE |                                     |                             |                            |                      | REPORT REQUIREMENTS<br>I. Results Only<br>II. Results + QC Summaries (LCS, DUP, MS/MSD as required)<br>III. Results + QC and Calibration Summaries<br>IV. Data Validation Report with Raw Data<br><b>ASP-B + NYSDEC EDD</b><br>Edata <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |   |                                   |  |                    | INVOICE INFORMATION<br>PO #<br>BILL TO: |                    |  |                    |  |                    |  |  |  |  |
| STATE WHERE SAMPLES WERE COLLECTED<br><b>NY</b>   |                            |  |             |   | RELINQUISHED BY  |                                     |                             |                            |                      | RECEIVED BY  |   |                                   |  |                    | RELINQUISHED BY                         |                    |  |                    |  | RECEIVED BY        |  |  |  |  |
| Signature<br><b>Andrew Koons</b>  |                            | Signature<br><b>Gary Bohan</b>             |             | Signature<br><b>Gary Bohan</b>  |  | Signature<br><b>Daniel White</b>    |                             | Signature                  |                      | Signature  |   | Signature                         |  | Signature          |   | Signature          |  | Signature          |  | Signature          |  |  |  |  |
| Printed Name<br><b>Andrew Koons</b>   |                            | Printed Name<br><b>Gary Bohan</b>          |             | Printed Name<br><b>Gary Bohan</b>                                     |  | Printed Name<br><b>Daniel White</b> |                             | Printed Name               |                      | Printed Name   |   | Printed Name                      |  | Printed Name       |   | Printed Name       |  | Printed Name       |  | Printed Name       |  |  |  |  |
| Firm<br><b>LIRo Engineers</b>   |                            | Firm<br><b>ALS</b>                         |             | Firm<br><b>ALS</b>  |  | Firm<br><b>ALS</b>                  |                             | Firm<br><b>ALS</b>         |                      | Firm<br><b>ALS</b>   |   | Firm<br><b>ALS</b>                |  | Firm<br><b>ALS</b> |   | Firm<br><b>ALS</b> |  | Firm<br><b>ALS</b> |  | Firm<br><b>ALS</b> |  |  |  |  |
| Date/Time<br><b>10/25/17 1105</b>   |                            | Date/Time<br><b>10/25/17 1105</b>          |             | Date/Time<br><b>10/25/17 1235</b>                                     |  | Date/Time<br><b>10/25/17 1235</b>   |                             | Date/Time                  |                      | Date/Time  |   | Date/Time                         |  | Date/Time          |   | Date/Time          |  | Date/Time          |  | Date/Time          |  |  |  |  |

**R1710113 5**  
 The LIRo Group  
 City of Buffalo - Franczyk Park Site  




# Cooler Receipt and Preservation Check Form

**R1710113** **5**  
 The LiRo Group  
 City of Buffalo - Franczyk Park Site

Project/Client LiRo Eng Folder Number \_\_\_\_\_

Cooler received on 10/25/17 by: dlw COURIER: ALS UPS FEDEX VELOCITY CLIENT

|   |   |   |
|---|---|---|
| 1 | Were Custody seals on outside of cooler?              | Y <input checked="" type="checkbox"/> N |
| 2 | Custody papers properly completed (ink, signed)?      | <input checked="" type="checkbox"/> N   |
| 3 | Did all bottles arrive in good condition (unbroken)?  | <input checked="" type="checkbox"/> N   |
| 4 | Circle: <del>Wet Ice</del> Dry Ice Gel packs present? | <input checked="" type="checkbox"/> N   |

|    |   |  |
|----|---|--|
| 5a | Perchlorate samples have required headspace?      | Y N <input checked="" type="checkbox"/> NA |
| 5b | Did VOA vials, Alk, or Sulfide have sig* bubbles? | Y N <input checked="" type="checkbox"/> NA |
| 6  | Where did the bottles originate?                  | <u>ALS/ROC</u> CLIENT                      |
| 7  | Soil VOA received as: Bulk Encore 5035set         | <input checked="" type="checkbox"/> NA     |

8. Temperature Readings Date: 10/25/17 Time: 1300 ID: IR#7 IR#9 From: Temp Blank Sample Bottle

|                               |                                       |     |     |     |     |     |     |
|-------------------------------|---------------------------------------|-----|-----|-----|-----|-----|-----|
| Observed Temp (°C)            | <u>2.5</u>                            |     |     |     |     |     |     |
| Correction Factor (°C)        | <u>0.0</u>                            |     |     |     |     |     |     |
| Corrected Temp (°C)           | <u>2.5</u>                            |     |     |     |     |     |     |
| Temp from: Type of bottle     |                                       |     |     |     |     |     |     |
| Within 0-6°C?                 | <input checked="" type="checkbox"/> N | Y N | Y N | Y N | Y N | Y N | Y N |
| If <0°C, were samples frozen? | Y N                                   | Y N | Y N | Y N | Y N | Y N | Y N |

If out of Temperature, note packing/ice condition: \_\_\_\_\_ Ice melted Poorly Packed (described below) Same Day Rule  
 & Client Approval to Run Samples: \_\_\_\_\_ Standing Approval Client aware at drop-off Client notified by: \_\_\_\_\_

All samples held in storage location: Rooz by dlw on 10/25/17 at 1300  
 5035 samples placed in storage location: \_\_\_\_\_ by \_\_\_\_\_ on \_\_\_\_\_ at \_\_\_\_\_

Cooler Breakdown: Date: 10/26/17 Time: 1029 by: @

- 9. Were all bottle labels complete (i.e. analysis, preservation, etc.)?  YES NO
- 10. Did all bottle labels and tags agree with custody papers?  YES NO
- 11. Were correct containers used for the tests indicated?  YES NO
- 12. Were 5035 vials acceptable (no extra labels, not leaking)? YES NO
- 13. Air Samples: Cassettes / Tubes Intact Canisters Pressurized Tedlar® Bags Inflated  N/A

| pH                    | Lot of test paper | Reagent                                       | Preserved?                          |    | Lot Received   | Exp         | Sample ID | Vol. Added | Lot Added | Final pH |
|-----------------------|-------------------|---|-------------------------------------|----|--|-------------|-----------|------------|-----------|----------|
|                       |                   |   | Yes                                 | No |  |             |           |            |           |          |
| ≥12                   |                   | NaOH  |                                     |    |  |             |           |            |           |          |
| ≤2                    | <u>239/6</u>      | HNO <sub>3</sub>                              | <input checked="" type="checkbox"/> |    | <u>100820159E</u>  | <u>9/18</u> |           |            |           |          |
| ≤2                    |                   | H <sub>2</sub> SO <sub>4</sub>                |                                     |    |  |             |           |            |           |          |
| <4                    |                   | NaHSO <sub>4</sub>                            |                                     |    |  |             |           |            |           |          |
| Residual Chlorine (-) |                   | For CN Phenol and 522                         |                                     |    | If +, contact PM to add Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> (CN), ascorbic (phenol). |             |           |            |           |          |
|                       |                   | Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> | -                                   | -  |  |             |           |            |           |          |
|                       |                   | Zn Acetate                                    | -                                   | -  |  |             |           |            |           |          |
|                       |                   | HCl   | **                                  | ** |  |             |           |            |           |          |

\*\*Not to be tested before analysis – pH tested and recorded by VOAs on a separate worksheet

Bottle lot numbers: 060317-12E, 071017-2AAW  
 Explain all Discrepancies/ Other Comments: \_\_\_\_\_

|       |        |
|-------|--------|
| CLRES | BULK   |
| DO    | FLDT   |
| HPROD | HGFB   |
| HTR   | LL3541 |
| PH    | SUB    |
| SO3   | MARRS  |
| ALS   | REV    |

Labels secondary reviewed by: @  
 PC Secondary Review: dlw

\*significant air bubbles: VOA > 5-6 mm : WC > 1 in. diameter

ALS Group USA, Corp.  
dba ALS Environmental

Internal Chain of Custody Report

**Client:** The LiRo Group  
**Project:** City of Buffalo - Franczyk Park Site/17-039-1144

**Service Request:** R1710113

| Bottle ID              | Methods   | Date       | Time | Sample Location / User | Disposed On |
|------------------------|---|------------|------|------------------------|-------------|
| <b>R1710113-001.01</b> |   |            |      |                        |             |
|                        |   | 10/26/2017 | 1029 | SMO / DWARD            |             |
|                        |   | 10/26/2017 | 1031 | R-002 / DWARD          |             |
| <b>R1710113-001.02</b> |   |            |      |                        |             |
|                        | 6010C,6010C |            |      |                        |             |
|                        |   | 10/26/2017 | 1029 | SMO / DWARD            |             |
|                        |   | 10/26/2017 | 1031 | R-A01 / DWARD          |             |
|                        |   | 10/30/2017 | 1609 | In Lab / KMCLAEN       |             |
|                        |   | 10/31/2017 | 1130 | R-A01 / KMCLAEN        |             |
| <b>R1710113-001.03</b> |   |            |      |                        |             |
|                        | 7470A   |            |      |                        |             |
|                        |   | 10/26/2017 | 1030 | SMO / DWARD            |             |
|                        |   | 10/26/2017 | 1031 | R-002 / DWARD          |             |
|                        |   | 11/2/2017  | 1040 | In Lab / KMCLAEN       |             |
|                        |   | 11/2/2017  | 1155 | R-A01 / KMCLAEN        |             |
| <b>R1710113-001.04</b> |   |            |      |                        |             |
|                        | 8270D   |            |      |                        |             |
|                        |   | 10/26/2017 | 1031 | SMO / DWARD            |             |
|                        |   | 10/26/2017 | 1031 | R-002 / DWARD          |             |
|                        |   | 10/26/2017 | 1124 | In Lab / DMURPHY       |             |
| <b>R1710113-002.01</b> |   |            |      |                        |             |
|                        | 8270D   |            |      |                        |             |
|                        |   | 10/26/2017 | 1029 | SMO / DWARD            |             |
|                        |   | 10/26/2017 | 1031 | R-002 / DWARD          |             |
|                        |   | 10/26/2017 | 1124 | In Lab / DMURPHY       |             |
| <b>R1710113-002.02</b> |   |            |      |                        |             |
|                        | 6010C,6010C |            |      |                        |             |
|                        |   | 10/26/2017 | 1029 | SMO / DWARD            |             |
|                        |   | 10/26/2017 | 1031 | R-A01 / DWARD          |             |
|                        |   | 10/30/2017 | 1609 | In Lab / KMCLAEN       |             |
|                        |   | 10/31/2017 | 1130 | R-A01 / KMCLAEN        |             |
| <b>R1710113-002.03</b> |   |            |      |                        |             |
|                        | 7470A   |            |      |                        |             |
|                        |   | 10/26/2017 | 1030 | SMO / DWARD            |             |
|                        |   | 10/26/2017 | 1031 | R-002 / DWARD          |             |
|                        |   | 11/2/2017  | 1041 | In Lab / KMCLAEN       |             |
|                        |   | 11/2/2017  | 1155 | R-A01 / KMCLAEN        |             |
| <b>R1710113-002.04</b> |   |            |      |                        |             |





ALS Group USA, Corp.  
dba ALS Environmental

Internal Chain of Custody Report

**Client:** The LiRo Group

**Service Request:** R1710113

**Project:** City of Buffalo - Franczyk Park Site/17-039-1144

| <b>Bottle ID</b> | <b>Methods</b> | <b>Date</b> | <b>Time</b> | <b>Sample Location / User</b> | <b>Disposed On</b> |
|------------------|----------------|-------------|-------------|-------------------------------|--------------------|
|                  | 7470A          |             |             |                               |                    |
|                  |                | 10/26/2017  | 1030        | SMO / DWARD                   |                    |
|                  |                | 10/26/2017  | 1031        | R-002 / DWARD                 |                    |
|                  |                | 11/2/2017   | 1040        | In Lab / KMCLAEN              |                    |
|                  |                | 11/2/2017   | 1156        | R-A01 / KMCLAEN               |                    |



# Miscellaneous Forms

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## REPORT QUALIFIERS AND DEFINITIONS

|   |   |
|---|---|
| <p><b>U</b> Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.</p> <p><b>J</b> Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration &gt;40% difference between two GC columns (pesticides/Aroclors).</p> <p><b>B</b> Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.</p> <p><b>E</b> Inorganics- Concentration is estimated due to the serial dilution was outside control limits.</p> <p><b>E</b> Organics- Concentration has exceeded the calibration range for that specific analysis.</p> <p><b>D</b> Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed.</p> <p><b>*</b> Indicates that a quality control parameter has exceeded laboratory limits. Under the "Notes" column of the Form I, this qualifier denotes analysis was performed out of Holding Time.</p> <p><b>H</b> Analysis was performed out of hold time for tests that have an "immediate" hold time criteria.</p> <p><b>#</b> Spike was diluted out.</p> | <p><b>+</b> Correlation coefficient for MSA is &lt;0.995.</p> <p><b>N</b> Inorganics- Matrix spike recovery was outside laboratory limits.</p> <p><b>N</b> Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.</p> <p><b>S</b> Concentration has been determined using Method of Standard Additions (MSA).</p> <p><b>W</b> Post-Digestion Spike recovery is outside control limits and the sample absorbance is &lt;50% of the spike absorbance.</p> <p><b>P</b> Concentration &gt;40% (25% for CLP) difference between the two GC columns.</p> <p><b>C</b> Confirmed by GC/MS</p> <p><b>Q</b> DoD reports: indicates a pesticide/Aroclor is not confirmed (&gt;100% Difference between two GC columns).</p> <p><b>X</b> See Case Narrative for discussion.</p> <p><b>MRL</b> Method Reporting Limit. Also known as:</p> <p><b>LOQ</b> Limit of Quantitation (LOQ)<br/>The lowest concentration at which the method analyte may be reliably quantified under the method conditions.</p> <p><b>MDL</b> Method Detection Limit. A statistical value derived from a study designed to provide the lowest concentration that will be detected 99% of the time. Values between the MDL and MRL are estimated (see J qualifier).</p> <p><b>LOD</b> Limit of Detection. A value at or above the MDL which has been verified to be detectable.</p> <p><b>ND</b> Non-Detect. Analyte was not detected at the concentration listed. Same as U qualifier.</p> |
|---|---|



### Rochester Lab ID # for State Certifications<sup>1</sup>

|                         |                       |                         |
|-------------------------|-----------------------|-------------------------|
| Connecticut ID # PH0556 | Maine ID #NY0032      | New Hampshire ID #      |
| Delaware Accredited     | Nebraska Accredited   | 294100 A/B              |
| DoD ELAP #65817         | New Jersey ID # NY004 | Pennsylvania ID# 68-786 |
| Florida ID # E87674     | New York ID # 10145   | Rhode Island ID # 158   |
| Illinois ID #200047     | North Carolina #676   | Virginia #460167        |

<sup>1</sup> Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state or agency requirements. The test results meet requirements of the current NELAP/TNI standards or state or agency requirements, where applicable, except as noted in the case narrative. Since not all analyte/method/matrix combinations are offered for state/NELAC accreditation, this report may contain results which are not accredited. For a specific list of accredited analytes, contact the laboratory or go to <http://www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads/North-America-Downloads>

# ALS Laboratory Group

---

## Acronyms

|            |  |
|------------|--|
| ASTM       | American Society for Testing and Materials   |
| A2LA       | American Association for Laboratory Accreditation  |
| CARB       | California Air Resources Board   |
| CAS Number | Chemical Abstract Service registry Number  |
| CFC        | Chlorofluorocarbon   |
| CFU        | Colony-Forming Unit  |
| DEC        | Department of Environmental Conservation   |
| DEQ        | Department of Environmental Quality  |
| DHS        | Department of Health Services  |
| DOE        | Department of Ecology  |
| DOH        | Department of Health   |
| EPA        | U. S. Environmental Protection Agency  |
| ELAP       | Environmental Laboratory Accreditation Program   |
| GC         | Gas Chromatography   |
| GC/MS      | Gas Chromatography/Mass Spectrometry   |
| LUFT       | Leaking Underground Fuel Tank  |
| M          | Modified   |
| MCL        | Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA. |
| MDL        | Method Detection Limit   |
| MPN        | Most Probable Number   |
| MRL        | Method Reporting Limit   |
| NA         | Not Applicable   |
| NC         | Not Calculated   |
| NCASI      | National Council of the Paper Industry for Air and Stream Improvement  |
| ND         | Not Detected   |
| NIOSH      | National Institute for Occupational Safety and Health  |
| PQL        | Practical Quantitation Limit   |
| RCRA       | Resource Conservation and Recovery Act   |
| SIM        | Selected Ion Monitoring  |
| TPH        | Total Petroleum Hydrocarbons   |
| tr         | Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.                           |

ALS Group USA, Corp.  
dba ALS Environmental

Analyst Summary report

**Client:** The LiRo Group  
**Project:** City of Buffalo - Franczyk Park Site/17-039-1144

**Service Request:** R1710113

**Sample Name:** MW-7  
**Lab Code:** R1710113-001  
**Sample Matrix:** Water

**Date Collected:** 10/24/17  
**Date Received:** 10/25/17

**Analysis Method**

6010C  
7470A  
8270D

**Extracted/Digested By**

KMCLAEN  
KMCLAEN  
DMURPHY

**Analyzed By**

NMANSEN  
KMCLAEN  
JMISIUREWICZ

**Sample Name:** MW-3  
**Lab Code:** R1710113-002  
**Sample Matrix:** Water

**Date Collected:** 10/24/17  
**Date Received:** 10/25/17

**Analysis Method**

6010C  
7470A  
8270D

**Extracted/Digested By**

KMCLAEN  
KMCLAEN  
DMURPHY

**Analyzed By**

NMANSEN  
KMCLAEN  
JMISIUREWICZ

**Sample Name:** MW-3 Diss  
**Lab Code:** R1710113-003  
**Sample Matrix:** Water

**Date Collected:** 10/24/17  
**Date Received:** 10/25/17

**Analysis Method**

6010C  
7470A

**Extracted/Digested By**

KMCLAEN  
KMCLAEN

**Analyzed By**

NMANSEN  
KMCLAEN

**Sample Name:** MW-D  
**Lab Code:** R1710113-004  
**Sample Matrix:** Water

**Date Collected:** 10/24/17  
**Date Received:** 10/25/17

**Analysis Method**

6010C  
7470A  
8270D

**Extracted/Digested By**

KMCLAEN  
KMCLAEN  
DMURPHY

**Analyzed By**

NMANSEN  
KMCLAEN  
JMISIUREWICZ

ALS Group USA, Corp.  
dba ALS Environmental

Analyst Summary report

**Client:** The LiRo Group  
**Project:** City of Buffalo - Franczyk Park Site/17-039-1144

**Service Request:** R1710113

**Sample Name:** MW-D Diss  
**Lab Code:** R1710113-005  
**Sample Matrix:** Water

**Date Collected:** 10/24/17  
**Date Received:** 10/25/17

**Analysis Method**  
6010C  
7470A

**Extracted/Digested By**  
KMCLAEN  
KMCLAEN

**Analyzed By**  
NMANSEN  
KMCLAEN

**Sample Name:** MW-8  
**Lab Code:** R1710113-006  
**Sample Matrix:** Water

**Date Collected:** 10/25/17  
**Date Received:** 10/25/17

**Analysis Method**  
6010C  
7470A  
8270D

**Extracted/Digested By**  
KMCLAEN  
KMCLAEN  
DMURPHY

**Analyzed By**  
NMANSEN  
KMCLAEN  
JMISIUREWICZ

**Sample Name:** MW-8 Diss  
**Lab Code:** R1710113-007  
**Sample Matrix:** Water

**Date Collected:** 10/25/17  
**Date Received:** 10/25/17

**Analysis Method**  
6010C  
7470A

**Extracted/Digested By**  
KMCLAEN  
KMCLAEN

**Analyzed By**  
NMANSEN  
KMCLAEN



## INORGANIC PREPARATION METHODS

The preparation methods associated with this report are found in these tables unless discussed in the case narrative.

### Water/Liquid Matrix

| Analytical Method             | Preparation Method |
|-------------------------------|--------------------|
| 200.7                         | 200.2              |
| 200.8                         | 200.2              |
| 6010C                         | 3005A/3010A        |
| 6020A                         | ILM05.3            |
| 9014 Cyanide Reactivity       | SW846 Ch7, 7.3.4.2 |
| 9034 Sulfide Reactivity       | SW846 Ch7, 7.3.4.2 |
| 9034 Sulfide Acid Soluble     | 9030B              |
| 9056A Bomb (Halogens)         | 5050A              |
| 9066 Manual Distillation      | 9065               |
| SM 4500-CN-E Residual Cyanide | SM 4500-CN-G       |
| SM 4500-CN-E WAD Cyanide      | SM 4500-CN-I       |

### Solid/Soil/Non-Aqueous Matrix

| Analytical Method  | Preparation Method |
|--|--------------------|
| 6010C  | 3050B              |
| 6020A  | 3050B              |
| 6010C TCLP (1311) extract                                    | 3005A/3010A        |
| 6010 SPLP (1312) extract                                     | 3005A/3010A        |
| 7196A  | 3060A              |
| 7199   | 3060A              |
| 9056A Halogens/Halides                                       | 5050               |
| 300.0 Anions/ 350.1/ 353.2/ SM 2320B/ SM 5210B/ 9056A Anions | DI extraction      |

For analytical methods not listed, the preparation method is the same as the analytical method reference.



# Sample Results

**ALS Environmental—Rochester Laboratory**  
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623  
Phone (585) 288-5380 Fax (585) 288-8475  
[www.alsglobal.com](http://www.alsglobal.com)



## Semivolatile Organic Compounds by GC/MS

**ALS Environmental—Rochester Laboratory**  
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623  
Phone (585) 288-5380 Fax (585) 288-8475  
[www.alsglobal.com](http://www.alsglobal.com)

**ALS Group USA, Corp.**  
dba ALS Environmental

Analytical Report

**Client:** The LiRo Group  
**Project:** City of Buffalo - Franczyk Park Site/17-039-1144  
**Sample Matrix:** Water

**Service Request:** R1710113  
**Date Collected:** 10/24/17 11:05  
**Date Received:** 10/25/17 12:35

**Sample Name:** MW-7  
**Lab Code:** R1710113-001

**Units:** ug/L  
**Basis:** NA

**Semivolatile Organic Compounds by GC/MS**

**Analysis Method:** 8270D  
**Prep Method:** EPA 3510C

| Analyte Name                    | Result | MRL | Dil. | Date Analyzed  | Date Extracted | Q |
|---------------------------------|--------|-----|------|----------------|----------------|---|
| 1,2,4-Trichlorobenzene          | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| 1,2-Dichlorobenzene             | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| 1,3-Dichlorobenzene             | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| 1,4-Dichlorobenzene             | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| 2,4,5-Trichlorophenol           | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| 2,4,6-Trichlorophenol           | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| 2,4-Dichlorophenol              | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| 2,4-Dimethylphenol              | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| 2,4-Dinitrophenol               | 47 U   | 47  | 1    | 10/30/17 16:09 | 10/26/17       |   |
| 2,4-Dinitrotoluene              | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| 2,6-Dinitrotoluene              | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| 2-Chloronaphthalene             | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| 2-Chlorophenol                  | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| 2-Methylnaphthalene             | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| 2-Methylphenol                  | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| 2-Nitroaniline                  | 47 U   | 47  | 1    | 10/30/17 16:09 | 10/26/17       |   |
| 2-Nitrophenol                   | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| 3,3'-Dichlorobenzidine          | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| 3- and 4-Methylphenol Coelution | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| 3-Nitroaniline                  | 47 U   | 47  | 1    | 10/30/17 16:09 | 10/26/17       |   |
| 4,6-Dinitro-2-methylphenol      | 47 U   | 47  | 1    | 10/30/17 16:09 | 10/26/17       |   |
| 4-Bromophenyl Phenyl Ether      | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| 4-Chloro-3-methylphenol         | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| 4-Chloroaniline                 | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| 4-Chlorophenyl Phenyl Ether     | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| 4-Nitroaniline                  | 47 U   | 47  | 1    | 10/30/17 16:09 | 10/26/17       |   |
| 4-Nitrophenol                   | 47 U   | 47  | 1    | 10/30/17 16:09 | 10/26/17       |   |
| Acenaphthene                    | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| Acenaphthylene                  | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| Anthracene                      | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| Benz(a)anthracene               | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| Benzo(a)pyrene                  | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| Benzo(b)fluoranthene            | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| Benzo(g,h,i)perylene            | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| Benzo(k)fluoranthene            | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| Benzyl Alcohol                  | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| 2,2'-Oxybis(1-chloropropane)    | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| Bis(2-chloroethoxy)methane      | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| Bis(2-chloroethyl) Ether        | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| Bis(2-ethylhexyl) Phthalate     | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| Butyl Benzyl Phthalate          | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| Carbazole                       | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| Chrysene                        | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |



**ALS Group USA, Corp.**  
dba ALS Environmental

Analytical Report

**Client:** The LiRo Group  
**Project:** City of Buffalo - Franczyk Park Site/17-039-1144  
**Sample Matrix:** Water

**Service Request:** R1710113  
**Date Collected:** 10/24/17 11:05  
**Date Received:** 10/25/17 12:35

**Sample Name:** MW-7  
**Lab Code:** R1710113-001

**Units:** ug/L  
**Basis:** NA

**Semivolatile Organic Compounds by GC/MS**

**Analysis Method:** 8270D  
**Prep Method:** EPA 3510C

| Analyte Name              | Result | MRL | Dil. | Date Analyzed  | Date Extracted | Q |
|---------------------------|--------|-----|------|----------------|----------------|---|
| Di-n-butyl Phthalate      | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| Di-n-octyl Phthalate      | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| Dibenz(a,h)anthracene     | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| Dibenzofuran              | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| Diethyl Phthalate         | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| Dimethyl Phthalate        | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| Fluoranthene              | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| Fluorene                  | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| Hexachlorobenzene         | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| Hexachlorobutadiene       | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| Hexachlorocyclopentadiene | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| Hexachloroethane          | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| Indeno(1,2,3-cd)pyrene    | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| Isophorone                | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| N-Nitrosodi-n-propylamine | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| N-Nitrosodimethylamine    | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| N-Nitrosodiphenylamine    | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| Naphthalene               | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| Nitrobenzene              | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| Pentachlorophenol (PCP)   | 47 U   | 47  | 1    | 10/30/17 16:09 | 10/26/17       |   |
| Phenanthrene              | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| Phenol                    | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| Pyrene                    | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |

| Surrogate Name       | % Rec | Control Limits | Date Analyzed  | Q |
|----------------------|-------|----------------|----------------|---|
| 2,4,6-Tribromophenol | 75    | 35 - 141       | 10/30/17 16:09 |   |
| 2-Fluorobiphenyl     | 72    | 31 - 118       | 10/30/17 16:09 |   |
| 2-Fluorophenol       | 37    | 10 - 105       | 10/30/17 16:09 |   |
| Nitrobenzene-d5      | 72    | 31 - 110       | 10/30/17 16:09 |   |
| Phenol-d6            | 25    | 10 - 107       | 10/30/17 16:09 |   |
| p-Terphenyl-d14      | 77    | 30 - 133       | 10/30/17 16:09 |   |

**ALS Group USA, Corp.**  
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Analytical Report

**Client:** The LiRo Group  
**Project:** City of Buffalo - Franczyk Park Site/17-039-1144  
**Sample Matrix:** Water

**Service Request:** R1710113  
**Date Collected:** 10/24/17 13:30  
**Date Received:** 10/25/17 12:35

**Sample Name:** MW-3  
**Lab Code:** R1710113-002

**Units:** ug/L  
**Basis:** NA

**Semivolatile Organic Compounds by GC/MS**

**Analysis Method:** 8270D  
**Prep Method:** EPA 3510C

| Analyte Name                    | Result | MRL | Dil. | Date Analyzed  | Date Extracted | Q |
|---------------------------------|--------|-----|------|----------------|----------------|---|
| 1,2,4-Trichlorobenzene          | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| 1,2-Dichlorobenzene             | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| 1,3-Dichlorobenzene             | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| 1,4-Dichlorobenzene             | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| 2,4,5-Trichlorophenol           | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| 2,4,6-Trichlorophenol           | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| 2,4-Dichlorophenol              | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| 2,4-Dimethylphenol              | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| 2,4-Dinitrophenol               | 47 U   | 47  | 1    | 10/30/17 16:37 | 10/26/17       |   |
| 2,4-Dinitrotoluene              | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| 2,6-Dinitrotoluene              | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| 2-Chloronaphthalene             | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| 2-Chlorophenol                  | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| 2-Methylnaphthalene             | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| 2-Methylphenol                  | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| 2-Nitroaniline                  | 47 U   | 47  | 1    | 10/30/17 16:37 | 10/26/17       |   |
| 2-Nitrophenol                   | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| 3,3'-Dichlorobenzidine          | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| 3- and 4-Methylphenol Coelution | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| 3-Nitroaniline                  | 47 U   | 47  | 1    | 10/30/17 16:37 | 10/26/17       |   |
| 4,6-Dinitro-2-methylphenol      | 47 U   | 47  | 1    | 10/30/17 16:37 | 10/26/17       |   |
| 4-Bromophenyl Phenyl Ether      | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| 4-Chloro-3-methylphenol         | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| 4-Chloroaniline                 | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| 4-Chlorophenyl Phenyl Ether     | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| 4-Nitroaniline                  | 47 U   | 47  | 1    | 10/30/17 16:37 | 10/26/17       |   |
| 4-Nitrophenol                   | 47 U   | 47  | 1    | 10/30/17 16:37 | 10/26/17       |   |
| Acenaphthene                    | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| Acenaphthylene                  | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| Anthracene                      | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| Benz(a)anthracene               | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| Benzo(a)pyrene                  | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| Benzo(b)fluoranthene            | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| Benzo(g,h,i)perylene            | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| Benzo(k)fluoranthene            | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| Benzyl Alcohol                  | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| 2,2'-Oxybis(1-chloropropane)    | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| Bis(2-chloroethoxy)methane      | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| Bis(2-chloroethyl) Ether        | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| Bis(2-ethylhexyl) Phthalate     | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| Butyl Benzyl Phthalate          | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| Carbazole                       | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| Chrysene                        | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |

**ALS Group USA, Corp.**  
dba ALS Environmental

Analytical Report

**Client:** The LiRo Group  
**Project:** City of Buffalo - Franczyk Park Site/17-039-1144  
**Sample Matrix:** Water

**Service Request:** R1710113  
**Date Collected:** 10/24/17 13:30  
**Date Received:** 10/25/17 12:35

**Sample Name:** MW-3  
**Lab Code:** R1710113-002

**Units:** ug/L  
**Basis:** NA

**Semivolatile Organic Compounds by GC/MS**

**Analysis Method:** 8270D  
**Prep Method:** EPA 3510C

| Analyte Name              | Result | MRL | Dil. | Date Analyzed  | Date Extracted | Q |
|---------------------------|--------|-----|------|----------------|----------------|---|
| Di-n-butyl Phthalate      | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| Di-n-octyl Phthalate      | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| Dibenz(a,h)anthracene     | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| Dibenzofuran              | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| Diethyl Phthalate         | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| Dimethyl Phthalate        | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| Fluoranthene              | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| Fluorene                  | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| Hexachlorobenzene         | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| Hexachlorobutadiene       | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| Hexachlorocyclopentadiene | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| Hexachloroethane          | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| Indeno(1,2,3-cd)pyrene    | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| Isophorone                | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| N-Nitrosodi-n-propylamine | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| N-Nitrosodimethylamine    | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| N-Nitrosodiphenylamine    | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| Naphthalene               | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| Nitrobenzene              | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| Pentachlorophenol (PCP)   | 47 U   | 47  | 1    | 10/30/17 16:37 | 10/26/17       |   |
| Phenanthrene              | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| Phenol                    | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| Pyrene                    | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |

| Surrogate Name       | % Rec | Control Limits | Date Analyzed  | Q |
|----------------------|-------|----------------|----------------|---|
| 2,4,6-Tribromophenol | 48    | 35 - 141       | 10/30/17 16:37 |   |
| 2-Fluorobiphenyl     | 43    | 31 - 118       | 10/30/17 16:37 |   |
| 2-Fluorophenol       | 22    | 10 - 105       | 10/30/17 16:37 |   |
| Nitrobenzene-d5      | 44    | 31 - 110       | 10/30/17 16:37 |   |
| Phenol-d6            | 14    | 10 - 107       | 10/30/17 16:37 |   |
| p-Terphenyl-d14      | 47    | 30 - 133       | 10/30/17 16:37 |   |

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Analytical Report

**Client:** The LiRo Group  
**Project:** City of Buffalo - Franczyk Park Site/17-039-1144  
**Sample Matrix:** Water  
**Sample Name:** MW-D  
**Lab Code:** R1710113-004

**Service Request:** R1710113  
**Date Collected:** 10/24/17  
**Date Received:** 10/25/17 12:35

**Units:** ug/L  
**Basis:** NA

**Semivolatile Organic Compounds by GC/MS**

**Analysis Method:** 8270D  
**Prep Method:** EPA 3510C

| Analyte Name                    | Result | MRL | Dil. | Date Analyzed  | Date Extracted | Q |
|---------------------------------|--------|-----|------|----------------|----------------|---|
| 1,2,4-Trichlorobenzene          | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| 1,2-Dichlorobenzene             | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| 1,3-Dichlorobenzene             | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| 1,4-Dichlorobenzene             | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| 2,4,5-Trichlorophenol           | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| 2,4,6-Trichlorophenol           | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| 2,4-Dichlorophenol              | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| 2,4-Dimethylphenol              | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| 2,4-Dinitrophenol               | 47 U   | 47  | 1    | 10/30/17 17:05 | 10/26/17       |   |
| 2,4-Dinitrotoluene              | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| 2,6-Dinitrotoluene              | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| 2-Chloronaphthalene             | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| 2-Chlorophenol                  | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| 2-Methylnaphthalene             | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| 2-Methylphenol                  | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| 2-Nitroaniline                  | 47 U   | 47  | 1    | 10/30/17 17:05 | 10/26/17       |   |
| 2-Nitrophenol                   | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| 3,3'-Dichlorobenzidine          | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| 3- and 4-Methylphenol Coelution | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| 3-Nitroaniline                  | 47 U   | 47  | 1    | 10/30/17 17:05 | 10/26/17       |   |
| 4,6-Dinitro-2-methylphenol      | 47 U   | 47  | 1    | 10/30/17 17:05 | 10/26/17       |   |
| 4-Bromophenyl Phenyl Ether      | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| 4-Chloro-3-methylphenol         | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| 4-Chloroaniline                 | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| 4-Chlorophenyl Phenyl Ether     | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| 4-Nitroaniline                  | 47 U   | 47  | 1    | 10/30/17 17:05 | 10/26/17       |   |
| 4-Nitrophenol                   | 47 U   | 47  | 1    | 10/30/17 17:05 | 10/26/17       |   |
| Acenaphthene                    | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| Acenaphthylene                  | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| Anthracene                      | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| Benz(a)anthracene               | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| Benzo(a)pyrene                  | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| Benzo(b)fluoranthene            | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| Benzo(g,h,i)perylene            | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| Benzo(k)fluoranthene            | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| Benzyl Alcohol                  | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| 2,2'-Oxybis(1-chloropropane)    | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| Bis(2-chloroethoxy)methane      | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| Bis(2-chloroethyl) Ether        | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| Bis(2-ethylhexyl) Phthalate     | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| Butyl Benzyl Phthalate          | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| Carbazole                       | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| Chrysene                        | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |

ALS Group USA, Corp.  
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Analytical Report

**Client:** The LiRo Group  
**Project:** City of Buffalo - Franczyk Park Site/17-039-1144  
**Sample Matrix:** Water

**Service Request:** R1710113  
**Date Collected:** 10/24/17  
**Date Received:** 10/25/17 12:35

**Sample Name:** MW-D  
**Lab Code:** R1710113-004

**Units:** ug/L  
**Basis:** NA

Semivolatile Organic Compounds by GC/MS

**Analysis Method:** 8270D  
**Prep Method:** EPA 3510C

| Analyte Name              | Result | MRL | Dil. | Date Analyzed  | Date Extracted | Q |
|---------------------------|--------|-----|------|----------------|----------------|---|
| Di-n-butyl Phthalate      | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| Di-n-octyl Phthalate      | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| Dibenz(a,h)anthracene     | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| Dibenzofuran              | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| Diethyl Phthalate         | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| Dimethyl Phthalate        | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| Fluoranthene              | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| Fluorene                  | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| Hexachlorobenzene         | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| Hexachlorobutadiene       | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| Hexachlorocyclopentadiene | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| Hexachloroethane          | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| Indeno(1,2,3-cd)pyrene    | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| Isophorone                | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| N-Nitrosodi-n-propylamine | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| N-Nitrosodimethylamine    | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| N-Nitrosodiphenylamine    | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| Naphthalene               | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| Nitrobenzene              | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| Pentachlorophenol (PCP)   | 47 U   | 47  | 1    | 10/30/17 17:05 | 10/26/17       |   |
| Phenanthrene              | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| Phenol                    | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| Pyrene                    | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |

| Surrogate Name       | % Rec | Control Limits | Date Analyzed  | Q |
|----------------------|-------|----------------|----------------|---|
| 2,4,6-Tribromophenol | 77    | 35 - 141       | 10/30/17 17:05 |   |
| 2-Fluorobiphenyl     | 71    | 31 - 118       | 10/30/17 17:05 |   |
| 2-Fluorophenol       | 39    | 10 - 105       | 10/30/17 17:05 |   |
| Nitrobenzene-d5      | 71    | 31 - 110       | 10/30/17 17:05 |   |
| Phenol-d6            | 27    | 10 - 107       | 10/30/17 17:05 |   |
| p-Terphenyl-d14      | 71    | 30 - 133       | 10/30/17 17:05 |   |

ALS Group USA, Corp.  
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Analytical Report

**Client:** The LiRo Group  
**Project:** City of Buffalo - Franczyk Park Site/17-039-1144  
**Sample Matrix:** Water  
**Sample Name:** MW-8  
**Lab Code:** R1710113-006

**Service Request:** R1710113  
**Date Collected:** 10/25/17 09:00  
**Date Received:** 10/25/17 12:35

**Units:** ug/L  
**Basis:** NA

Semivolatile Organic Compounds by GC/MS

**Analysis Method:** 8270D  
**Prep Method:** EPA 3510C

| Analyte Name                    | Result | MRL | Dil. | Date Analyzed  | Date Extracted | Q |
|---------------------------------|--------|-----|------|----------------|----------------|---|
| 1,2,4-Trichlorobenzene          | 19 U   | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| 1,2-Dichlorobenzene             | 19 U   | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| 1,3-Dichlorobenzene             | 19 U   | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| 1,4-Dichlorobenzene             | 19 U   | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| 2,4,5-Trichlorophenol           | 19 U   | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| 2,4,6-Trichlorophenol           | 19 U   | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| 2,4-Dichlorophenol              | 19 U   | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| 2,4-Dimethylphenol              | 19 U   | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| 2,4-Dinitrophenol               | 94 U   | 94  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| 2,4-Dinitrotoluene              | 19 U   | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| 2,6-Dinitrotoluene              | 19 U   | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| 2-Chloronaphthalene             | 19 U   | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| 2-Chlorophenol                  | 19 U   | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| 2-Methylnaphthalene             | 19 U   | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| 2-Methylphenol                  | 19 U   | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| 2-Nitroaniline                  | 94 U   | 94  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| 2-Nitrophenol                   | 19 U   | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| 3,3'-Dichlorobenzidine          | 19 U   | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| 3- and 4-Methylphenol Coelution | 19 U   | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| 3-Nitroaniline                  | 94 U   | 94  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| 4,6-Dinitro-2-methylphenol      | 94 U   | 94  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| 4-Bromophenyl Phenyl Ether      | 19 U   | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| 4-Chloro-3-methylphenol         | 19 U   | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| 4-Chloroaniline                 | 19 U   | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| 4-Chlorophenyl Phenyl Ether     | 19 U   | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| 4-Nitroaniline                  | 94 U   | 94  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| 4-Nitrophenol                   | 94 U   | 94  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| Acenaphthene                    | 19 U   | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| Acenaphthylene                  | 19 U   | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| Anthracene                      | 19 U   | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| Benz(a)anthracene               | 60     | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| Benzo(a)pyrene                  | 80     | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| Benzo(b)fluoranthene            | 97     | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| Benzo(g,h,i)perylene            | 66     | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| Benzo(k)fluoranthene            | 36     | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| Benzyl Alcohol                  | 19 U   | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| 2,2'-Oxybis(1-chloropropane)    | 19 U   | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| Bis(2-chloroethoxy)methane      | 19 U   | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| Bis(2-chloroethyl) Ether        | 19 U   | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| Bis(2-ethylhexyl) Phthalate     | 19 U   | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| Butyl Benzyl Phthalate          | 19 U   | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| Carbazole                       | 19 U   | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| Chrysene                        | 65     | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |



ALS Group USA, Corp.  
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Analytical Report

**Client:** The LiRo Group  
**Project:** City of Buffalo - Franczyk Park Site/17-039-1144  
**Sample Matrix:** Water

**Service Request:** R1710113  
**Date Collected:** 10/25/17 09:00  
**Date Received:** 10/25/17 12:35

**Sample Name:** MW-8  
**Lab Code:** R1710113-006

**Units:** ug/L  
**Basis:** NA

Semivolatile Organic Compounds by GC/MS

**Analysis Method:** 8270D  
**Prep Method:** EPA 3510C

| Analyte Name              | Result     | MRL | Dil. | Date Analyzed  | Date Extracted | Q |
|---------------------------|------------|-----|------|----------------|----------------|---|
| Di-n-butyl Phthalate      | 19 U       | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| Di-n-octyl Phthalate      | 19 U       | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| Dibenz(a,h)anthracene     | 19 U       | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| Dibenzofuran              | 19 U       | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| Diethyl Phthalate         | 19 U       | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| Dimethyl Phthalate        | 19 U       | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| Fluoranthene              | <b>120</b> | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| Fluorene                  | 19 U       | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| Hexachlorobenzene         | 19 U       | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| Hexachlorobutadiene       | 19 U       | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| Hexachlorocyclopentadiene | 19 U       | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| Hexachloroethane          | 19 U       | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| Indeno(1,2,3-cd)pyrene    | <b>62</b>  | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| Isophorone                | 19 U       | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| N-Nitrosodi-n-propylamine | 19 U       | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| N-Nitrosodimethylamine    | 19 U       | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| N-Nitrosodiphenylamine    | 19 U       | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| Naphthalene               | 19 U       | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| Nitrobenzene              | 19 U       | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| Pentachlorophenol (PCP)   | 94 U       | 94  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| Phenanthrene              | <b>52</b>  | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| Phenol                    | 19 U       | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| Pyrene                    | <b>100</b> | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |

| Surrogate Name       | % Rec | Control Limits | Date Analyzed  | Q |
|----------------------|-------|----------------|----------------|---|
| 2,4,6-Tribromophenol | 72    | 35 - 141       | 10/31/17 17:13 |   |
| 2-Fluorobiphenyl     | 60    | 31 - 118       | 10/31/17 17:13 |   |
| 2-Fluorophenol       | 41    | 10 - 105       | 10/31/17 17:13 |   |
| Nitrobenzene-d5      | 75    | 31 - 110       | 10/31/17 17:13 |   |
| Phenol-d6            | 28    | 10 - 107       | 10/31/17 17:13 |   |
| p-Terphenyl-d14      | 45    | 30 - 133       | 10/31/17 17:13 |   |



# Metals

**ALS Environmental—Rochester Laboratory**  
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**METALS**  
-1-  
**INORGANIC ANALYSIS DATA SHEET**

SAMPLE NO.

MW-7

Contract: R1710113

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: MW-7

Matrix (soil/water): WATER Lab Sample ID: R1710113-001

Level (low/med): LOW Date Received: 10/25/2017

Concentration Units (ug/L or mg/kg dry weight): UG/L

| CAS No.   | Analyte   | Concentration | C | Q | M  |
|-----------|-----------|---------------|---|---|----|
| 7429-90-5 | Aluminum  | 1120          |   |   | P  |
| 7440-36-0 | Antimony  | 60.0          | U |   | P  |
| 7440-38-2 | Arsenic   | 10.0          | U |   | P  |
| 7440-39-3 | Barium    | 23.5          |   |   | P  |
| 7440-41-7 | Beryllium | 3.0           | U |   | P  |
| 7440-43-9 | Cadmium   | 5.0           | U |   | P  |
| 7439-97-6 | Mercury   | 0.200         | U |   | CV |
| 7440-70-2 | Calcium   | 392000        |   |   | P  |
| 7440-47-3 | Chromium  | 10.0          | U |   | P  |
| 7440-48-4 | Cobalt    | 50.0          | U |   | P  |
| 7440-50-8 | Copper    | 20.0          | U |   | P  |
| 7439-89-6 | Iron      | 4110          |   |   | P  |
| 7439-92-1 | Lead      | 50.0          | U |   | P  |
| 7439-95-4 | Magnesium | 77700         |   |   | P  |
| 7439-96-5 | Manganese | 2950          |   |   | P  |
| 7440-02-0 | Nickel    | 40.0          | U |   | P  |
| 7440-09-7 | Potassium | 18700         |   |   | P  |
| 7782-49-2 | Selenium  | 10.0          | U |   | P  |
| 7440-22-4 | Silver    | 10.0          | U |   | P  |
| 7440-23-5 | Sodium    | 35100         |   |   | P  |
| 7440-28-0 | Thallium  | 100           | U |   | P  |
| 7440-62-2 | Vanadium  | 50.0          | U |   | P  |
| 7440-66-6 | Zinc      | 20.0          | U |   | P  |

Color Before: COLORLESS Clarity Before: CLEAR Texture: \_\_\_\_\_

Color After: COLORLESS Clarity After: CLEAR Artifacts: \_\_\_\_\_

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**METALS**  
-1-  
**INORGANIC ANALYSIS DATA SHEET**

SAMPLE NO.

MW-3

Contract: R1710113

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: MW-7

Matrix (soil/water): WATER Lab Sample ID: R1710113-002

Level (low/med): LOW Date Received: 10/25/2017

Concentration Units (ug/L or mg/kg dry weight): UG/L

| CAS No.   | Analyte   | Concentration | C | Q | M  |
|-----------|-----------|---------------|---|---|----|
| 7429-90-5 | Aluminum  | 214000        |   |   | P  |
| 7440-36-0 | Antimony  | 60.0          | U |   | P  |
| 7440-38-2 | Arsenic   | 10.0          | U |   | P  |
| 7440-39-3 | Barium    | 70.5          |   |   | P  |
| 7440-41-7 | Beryllium | 12.8          |   |   | P  |
| 7440-43-9 | Cadmium   | 12.4          |   |   | P  |
| 7439-97-6 | Mercury   | 0.200         | U |   | CV |
| 7440-70-2 | Calcium   | 414000        |   |   | P  |
| 7440-47-3 | Chromium  | 23.4          |   |   | P  |
| 7440-48-4 | Cobalt    | 50.0          | U |   | P  |
| 7440-50-8 | Copper    | 20.0          | U |   | P  |
| 7439-89-6 | Iron      | 1280000       |   |   | P  |
| 7439-92-1 | Lead      | 50.0          | U |   | P  |
| 7439-95-4 | Magnesium | 478000        |   |   | P  |
| 7439-96-5 | Manganese | 18400         |   |   | P  |
| 7440-02-0 | Nickel    | 40.0          | U |   | P  |
| 7440-09-7 | Potassium | 131000        |   |   | P  |
| 7782-49-2 | Selenium  | 20.0          | U |   | P  |
| 7440-22-4 | Silver    | 10.0          | U |   | P  |
| 7440-23-5 | Sodium    | 93100         |   |   | P  |
| 7440-28-0 | Thallium  | 100           | U |   | P  |
| 7440-62-2 | Vanadium  | 80.5          |   |   | P  |
| 7440-66-6 | Zinc      | 294           |   |   | P  |

Color Before: YELLOW Clarity Before: CLOUDY Texture: \_\_\_\_\_

Color After: YELLOW Clarity After: CLEAR Artifacts: \_\_\_\_\_

Comments: \_\_\_\_\_  
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\_\_\_\_\_

**METALS**  
-1-  
**INORGANIC ANALYSIS DATA SHEET**

SAMPLE NO.

MW-3 Diss

Contract: R1710113

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: MW-7

Matrix (soil/water): WATER Lab Sample ID: R1710113-003

Level (low/med): LOW Date Received: 10/25/2017

Concentration Units (ug/L or mg/kg dry weight): UG/L

| CAS No.   | Analyte   | Concentration | C | Q | M  |
|-----------|-----------|---------------|---|---|----|
| 7429-90-5 | Aluminum  | 225000        |   |   | P  |
| 7440-36-0 | Antimony  | 60.0          | U |   | P  |
| 7440-38-2 | Arsenic   | 10.0          | U |   | P  |
| 7440-39-3 | Barium    | 24.7          |   |   | P  |
| 7440-41-7 | Beryllium | 14.3          |   |   | P  |
| 7440-43-9 | Cadmium   | 14.5          |   |   | P  |
| 7439-97-6 | Mercury   | 0.200         | U |   | CV |
| 7440-70-2 | Calcium   | 437000        |   |   | P  |
| 7440-47-3 | Chromium  | 13.5          |   |   | P  |
| 7440-48-4 | Cobalt    | 50.0          | U |   | P  |
| 7440-50-8 | Copper    | 20.0          | U |   | P  |
| 7439-89-6 | Iron      | 1480000       |   |   | P  |
| 7439-92-1 | Lead      | 50.0          | U |   | P  |
| 7439-95-4 | Magnesium | 631000        |   |   | P  |
| 7439-96-5 | Manganese | 21100         |   |   | P  |
| 7440-02-0 | Nickel    | 40.0          | U |   | P  |
| 7440-09-7 | Potassium | 143000        |   |   | P  |
| 7782-49-2 | Selenium  | 31.3          |   |   | P  |
| 7440-22-4 | Silver    | 10.0          | U |   | P  |
| 7440-23-5 | Sodium    | 101000        |   |   | P  |
| 7440-28-0 | Thallium  | 100           | U |   | P  |
| 7440-62-2 | Vanadium  | 68.6          |   |   | P  |
| 7440-66-6 | Zinc      | 211           |   |   | P  |

Color Before: YELLOW Clarity Before: CLOUDY Texture: \_\_\_\_\_

Color After: YELLOW Clarity After: CLEAR Artifacts: \_\_\_\_\_

Comments: \_\_\_\_\_  
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**METALS**  
-1-  
**INORGANIC ANALYSIS DATA SHEET**

SAMPLE NO.

MW-D

Contract: R1710113

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: MW-7

Matrix (soil/water): WATER Lab Sample ID: R1710113-004

Level (low/med): LOW Date Received: 10/25/2017

Concentration Units (ug/L or mg/kg dry weight): UG/L

| CAS No.   | Analyte   | Concentration | C | Q | M  |
|-----------|-----------|---------------|---|---|----|
| 7429-90-5 | Aluminum  | 217000        |   |   | P  |
| 7440-36-0 | Antimony  | 60.0          | U |   | P  |
| 7440-38-2 | Arsenic   | 10.0          | U |   | P  |
| 7440-39-3 | Barium    | 75.7          |   |   | P  |
| 7440-41-7 | Beryllium | 12.9          |   |   | P  |
| 7440-43-9 | Cadmium   | 12.5          |   |   | P  |
| 7439-97-6 | Mercury   | 0.200         | U |   | CV |
| 7440-70-2 | Calcium   | 415000        |   |   | P  |
| 7440-47-3 | Chromium  | 24.3          |   |   | P  |
| 7440-48-4 | Cobalt    | 50.0          | U |   | P  |
| 7440-50-8 | Copper    | 20.0          | U |   | P  |
| 7439-89-6 | Iron      | 1260000       |   |   | P  |
| 7439-92-1 | Lead      | 50.0          | U |   | P  |
| 7439-95-4 | Magnesium | 481000        |   |   | P  |
| 7439-96-5 | Manganese | 18300         |   |   | P  |
| 7440-02-0 | Nickel    | 40.0          | U |   | P  |
| 7440-09-7 | Potassium | 133000        |   |   | P  |
| 7782-49-2 | Selenium  | 28.7          |   |   | P  |
| 7440-22-4 | Silver    | 10.0          | U |   | P  |
| 7440-23-5 | Sodium    | 92500         |   |   | P  |
| 7440-28-0 | Thallium  | 100           | U |   | P  |
| 7440-62-2 | Vanadium  | 81.9          |   |   | P  |
| 7440-66-6 | Zinc      | 306           |   |   | P  |

Color Before: YELLOW Clarity Before: CLOUDY Texture: \_\_\_\_\_

Color After: YELLOW Clarity After: CLOUDY Artifacts: \_\_\_\_\_

Comments: \_\_\_\_\_  
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**METALS**  
-1-  
**INORGANIC ANALYSIS DATA SHEET**

SAMPLE NO.

MW-D Diss

Contract: R1710113

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: MW-7

Matrix (soil/water): WATER Lab Sample ID: R1710113-005

Level (low/med): LOW Date Received: 10/25/2017

Concentration Units (ug/L or mg/kg dry weight): UG/L

| CAS No.   | Analyte   | Concentration | C | Q | M  |
|-----------|-----------|---------------|---|---|----|
| 7429-90-5 | Aluminum  | 176000        |   |   | P  |
| 7440-36-0 | Antimony  | 60.0          | U |   | P  |
| 7440-38-2 | Arsenic   | 10.0          | U |   | P  |
| 7440-39-3 | Barium    | 28.9          |   |   | P  |
| 7440-41-7 | Beryllium | 11.2          |   |   | P  |
| 7440-43-9 | Cadmium   | 11.0          |   |   | P  |
| 7439-97-6 | Mercury   | 0.200         | U |   | CV |
| 7440-70-2 | Calcium   | 439000        |   |   | P  |
| 7440-47-3 | Chromium  | 11.3          |   |   | P  |
| 7440-48-4 | Cobalt    | 50.0          | U |   | P  |
| 7440-50-8 | Copper    | 20.0          | U |   | P  |
| 7439-89-6 | Iron      | 1190000       |   |   | P  |
| 7439-92-1 | Lead      | 50.0          | U |   | P  |
| 7439-95-4 | Magnesium | 470000        |   |   | P  |
| 7439-96-5 | Manganese | 17300         |   |   | P  |
| 7440-02-0 | Nickel    | 40.0          | U |   | P  |
| 7440-09-7 | Potassium | 131000        |   |   | P  |
| 7782-49-2 | Selenium  | 18.6          |   |   | P  |
| 7440-22-4 | Silver    | 10.0          | U |   | P  |
| 7440-23-5 | Sodium    | 93200         |   |   | P  |
| 7440-28-0 | Thallium  | 20.0          | U |   | P  |
| 7440-62-2 | Vanadium  | 58.5          |   |   | P  |
| 7440-66-6 | Zinc      | 195           |   |   | P  |

Color Before: YELLOW Clarity Before: CLEAR Texture: \_\_\_\_\_

Color After: YELLOW Clarity After: CLEAR Artifacts: \_\_\_\_\_

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



**METALS**  
-1-  
**INORGANIC ANALYSIS DATA SHEET**

SAMPLE NO.

MW-8

Contract: R1710113

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: MW-7

Matrix (soil/water): WATER Lab Sample ID: R1710113-006

Level (low/med): LOW Date Received: 10/25/2017

Concentration Units (ug/L or mg/kg dry weight): UG/L

| CAS No.   | Analyte   | Concentration | C | Q | M  |
|-----------|-----------|---------------|---|---|----|
| 7429-90-5 | Aluminum  | 200000        |   |   | P  |
| 7440-36-0 | Antimony  | 68.5          |   |   | P  |
| 7440-38-2 | Arsenic   | 581           |   |   | P  |
| 7440-39-3 | Barium    | 4220          |   |   | P  |
| 7440-41-7 | Beryllium | 6.9           |   |   | P  |
| 7440-43-9 | Cadmium   | 7.9           |   |   | P  |
| 7439-97-6 | Mercury   | 14.5          |   |   | CV |
| 7440-70-2 | Calcium   | 1140000       |   |   | P  |
| 7440-47-3 | Chromium  | 375           |   |   | P  |
| 7440-48-4 | Cobalt    | 50.0          | U |   | P  |
| 7440-50-8 | Copper    | 1080          |   |   | P  |
| 7439-89-6 | Iron      | 229000        |   |   | P  |
| 7439-92-1 | Lead      | 27400         |   |   | P  |
| 7439-95-4 | Magnesium | 227000        |   |   | P  |
| 7439-96-5 | Manganese | 3490          |   |   | P  |
| 7440-02-0 | Nickel    | 177           |   |   | P  |
| 7440-09-7 | Potassium | 118000        |   |   | P  |
| 7782-49-2 | Selenium  | 27.2          |   |   | P  |
| 7440-22-4 | Silver    | 14.4          |   |   | P  |
| 7440-23-5 | Sodium    | 39100         |   |   | P  |
| 7440-28-0 | Thallium  | 38.8          |   |   | P  |
| 7440-62-2 | Vanadium  | 405           |   |   | P  |
| 7440-66-6 | Zinc      | 3150          |   |   | P  |

Color Before: BROWN Clarity Before: CLOUDY Texture: \_\_\_\_\_

Color After: BROWN Clarity After: CLOUDY Artifacts: \_\_\_\_\_

Comments: \_\_\_\_\_  
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**METALS**  
-1-  
**INORGANIC ANALYSIS DATA SHEET**

SAMPLE NO.

MW-8 Diss

Contract: R1710113

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: MW-7

Matrix (soil/water): WATER Lab Sample ID: R1710113-007

Level (low/med): LOW Date Received: 10/25/2017

Concentration Units (ug/L or mg/kg dry weight): UG/L

| CAS No.   | Analyte   | Concentration | C | Q | M  |
|-----------|-----------|---------------|---|---|----|
| 7429-90-5 | Aluminum  | 89000         |   |   | P  |
| 7440-36-0 | Antimony  | 60.0          | U |   | P  |
| 7440-38-2 | Arsenic   | 347           |   |   | P  |
| 7440-39-3 | Barium    | 1970          |   |   | P  |
| 7440-41-7 | Beryllium | 3.0           |   |   | P  |
| 7440-43-9 | Cadmium   | 5.0           | U |   | P  |
| 7439-97-6 | Mercury   | 8.1           |   |   | CV |
| 7440-70-2 | Calcium   | 916000        |   |   | P  |
| 7440-47-3 | Chromium  | 163           |   |   | P  |
| 7440-48-4 | Cobalt    | 50.0          | U |   | P  |
| 7440-50-8 | Copper    | 487           |   |   | P  |
| 7439-89-6 | Iron      | 106000        |   |   | P  |
| 7439-92-1 | Lead      | 12900         |   |   | P  |
| 7439-95-4 | Magnesium | 210000        |   |   | P  |
| 7439-96-5 | Manganese | 2020          |   |   | P  |
| 7440-02-0 | Nickel    | 77.6          |   |   | P  |
| 7440-09-7 | Potassium | 89300         |   |   | P  |
| 7782-49-2 | Selenium  | 10.0          | U |   | P  |
| 7440-22-4 | Silver    | 10.0          | U |   | P  |
| 7440-23-5 | Sodium    | 39200         |   |   | P  |
| 7440-28-0 | Thallium  | 26.0          |   |   | P  |
| 7440-62-2 | Vanadium  | 181           |   |   | P  |
| 7440-66-6 | Zinc      | 1440          |   |   | P  |

Color Before: BROWN Clarity Before: CLOUDY Texture: \_\_\_\_\_

Color After: BROWN Clarity After: CLOUDY Artifacts: \_\_\_\_\_

Comments: \_\_\_\_\_  
\_\_\_\_\_  
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# QC Summary Forms

**ALS Environmental—Rochester Laboratory**  
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623  
Phone (585) 288-5380 Fax (585) 288-8475  
[www.alsglobal.com](http://www.alsglobal.com)



## Semivolatile Organic Compounds by GC/MS

**ALS Environmental—Rochester Laboratory**  
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623  
Phone (585) 288-5380 Fax (585) 288-8475  
[www.alsglobal.com](http://www.alsglobal.com)

**Client:** The LiRo Group  
**Project:** City of Buffalo - Franczyk Park Site/17-039-1144  
**Sample Matrix:** Water

**Service Request:** R1710113

**SURROGATE RECOVERY SUMMARY**  
**Semivolatile Organic Compounds by GC/MS**

**Analysis Method:** 8270D  
**Extraction Method:** EPA 3510C

| Sample Name                  | Lab Code     | 2,4,6-Tribromophenol | 2-Fluorobiphenyl | 2-Fluorophenol |
|------------------------------|--------------|----------------------|------------------|----------------|
|                              |              | 35 - 141             | 31 - 118         | 10 - 105       |
| MW-7                         | R1710113-001 | 75                   | 72               | 37             |
| MW-3                         | R1710113-002 | 48                   | 43               | 22             |
| MW-D                         | R1710113-004 | 77                   | 71               | 39             |
| MW-8                         | R1710113-006 | 72                   | 60               | 41             |
| Method Blank                 | RQ1711100-01 | 71                   | 69               | 41             |
| Lab Control Sample           | RQ1711100-02 | 20 *                 | 76               | 11             |
| Duplicate Lab Control Sample | RQ1711100-03 | 83                   | 80               | 48             |

**Client:** The LiRo Group  
**Project:** City of Buffalo - Franczyk Park Site/17-039-1144  
**Sample Matrix:** Water

**Service Request:** R1710113

**SURROGATE RECOVERY SUMMARY**  
**Semivolatile Organic Compounds by GC/MS**

**Analysis Method:** 8270D  
**Extraction Method:** EPA 3510C

| Sample Name                  | Lab Code     | Nitrobenzene-d5 | Phenol-d6 | p-Terphenyl-d14 |
|------------------------------|--------------|-----------------|-----------|-----------------|
|                              |              | 31 - 110        | 10 - 107  | 30 - 133        |
| MW-7                         | R1710113-001 | 72              | 25        | 77              |
| MW-3                         | R1710113-002 | 44              | 14        | 47              |
| MW-D                         | R1710113-004 | 71              | 27        | 71              |
| MW-8                         | R1710113-006 | 75              | 28        | 45              |
| Method Blank                 | RQ1711100-01 | 72              | 28        | 79              |
| Lab Control Sample           | RQ1711100-02 | 77              | 15        | 81              |
| Duplicate Lab Control Sample | RQ1711100-03 | 85              | 35        | 86              |



**ALS Group USA, Corp.**  
dba ALS Environmental

QA/QC Report

**Client:** The LiRo Group  
**Project:** City of Buffalo - Franczyk Park Site/17-039-1144  
**Sample Matrix:** Water

**Service Request:** R1710113  
**Date Analyzed:** 10/30/17 10:58  
**Date Extracted:** 10/26/17

**Method Blank Summary**  
**Semivolatle Organic Compounds by GC/MS**

|                                  |   |
|----------------------------------|---|
| <b>Sample Name:</b> Method Blank | <b>Instrument ID:</b> R-MS-54                           |
| <b>Lab Code:</b> RQ1711100-01    | <b>File ID:</b> I:\ACQUADATA\5973D\Data\103017\BM241.D\ |
| <b>Analysis Method:</b> 8270D    | <b>Analysis Lot:</b> 567960                             |
| <b>Prep Method:</b> EPA 3510C    | <b>Extraction Lot:</b> 301663                           |

This Method Blank applies to the following analyses.

| Sample Name                  | Lab Code     | File ID                                 | Date Analyzed  |
|------------------------------|--------------|---|----------------|
| Lab Control Sample           | RQ1711100-02 | I:\ACQUADATA\5973D\Data\103017\BM242.D\ | 10/30/17 11:26 |
| Duplicate Lab Control Sample | RQ1711100-03 | I:\ACQUADATA\5973D\Data\103017\BM243.D\ | 10/30/17 11:55 |
| MW-7                         | R1710113-001 | I:\ACQUADATA\5973D\Data\103017\BM252.D\ | 10/30/17 16:09 |
| MW-3                         | R1710113-002 | I:\ACQUADATA\5973D\Data\103017\BM253.D\ | 10/30/17 16:37 |
| MW-D                         | R1710113-004 | I:\ACQUADATA\5973D\Data\103017\BM254.D\ | 10/30/17 17:05 |
| MW-8                         | R1710113-006 | I:\ACQUADATA\5973D\Data\103117\BM290.D\ | 10/31/17 17:13 |

ALS Group USA, Corp.  
dba ALS Environmental

Analytical Report

**Client:** The LiRo Group  
**Project:** City of Buffalo - Franczyk Park Site/17-039-1144  
**Sample Matrix:** Water  
**Sample Name:** Method Blank  
**Lab Code:** RQ1711100-01

**Service Request:** R1710113  
**Date Collected:** NA  
**Date Received:** NA

**Units:** ug/L  
**Basis:** NA

Semivolatile Organic Compounds by GC/MS

**Analysis Method:** 8270D  
**Prep Method:** EPA 3510C

| Analyte Name                    | Result | MRL | Dil. | Date Analyzed  | Date Extracted | Q |
|---------------------------------|--------|-----|------|----------------|----------------|---|
| 1,2,4-Trichlorobenzene          | 10 U   | 10  | 1    | 10/30/17 10:58 | 10/26/17       |   |
| 1,2-Dichlorobenzene             | 10 U   | 10  | 1    | 10/30/17 10:58 | 10/26/17       |   |
| 1,3-Dichlorobenzene             | 10 U   | 10  | 1    | 10/30/17 10:58 | 10/26/17       |   |
| 1,4-Dichlorobenzene             | 10 U   | 10  | 1    | 10/30/17 10:58 | 10/26/17       |   |
| 2,4,5-Trichlorophenol           | 10 U   | 10  | 1    | 10/30/17 10:58 | 10/26/17       |   |
| 2,4,6-Trichlorophenol           | 10 U   | 10  | 1    | 10/30/17 10:58 | 10/26/17       |   |
| 2,4-Dichlorophenol              | 10 U   | 10  | 1    | 10/30/17 10:58 | 10/26/17       |   |
| 2,4-Dimethylphenol              | 10 U   | 10  | 1    | 10/30/17 10:58 | 10/26/17       |   |
| 2,4-Dinitrophenol               | 50 U   | 50  | 1    | 10/30/17 10:58 | 10/26/17       |   |
| 2,4-Dinitrotoluene              | 10 U   | 10  | 1    | 10/30/17 10:58 | 10/26/17       |   |
| 2,6-Dinitrotoluene              | 10 U   | 10  | 1    | 10/30/17 10:58 | 10/26/17       |   |
| 2-Chloronaphthalene             | 10 U   | 10  | 1    | 10/30/17 10:58 | 10/26/17       |   |
| 2-Chlorophenol                  | 10 U   | 10  | 1    | 10/30/17 10:58 | 10/26/17       |   |
| 2-Methylnaphthalene             | 10 U   | 10  | 1    | 10/30/17 10:58 | 10/26/17       |   |
| 2-Methylphenol                  | 10 U   | 10  | 1    | 10/30/17 10:58 | 10/26/17       |   |
| 2-Nitroaniline                  | 50 U   | 50  | 1    | 10/30/17 10:58 | 10/26/17       |   |
| 2-Nitrophenol                   | 10 U   | 10  | 1    | 10/30/17 10:58 | 10/26/17       |   |
| 3,3'-Dichlorobenzidine          | 10 U   | 10  | 1    | 10/30/17 10:58 | 10/26/17       |   |
| 3- and 4-Methylphenol Coelution | 10 U   | 10  | 1    | 10/30/17 10:58 | 10/26/17       |   |
| 3-Nitroaniline                  | 50 U   | 50  | 1    | 10/30/17 10:58 | 10/26/17       |   |
| 4,6-Dinitro-2-methylphenol      | 50 U   | 50  | 1    | 10/30/17 10:58 | 10/26/17       |   |
| 4-Bromophenyl Phenyl Ether      | 10 U   | 10  | 1    | 10/30/17 10:58 | 10/26/17       |   |
| 4-Chloro-3-methylphenol         | 10 U   | 10  | 1    | 10/30/17 10:58 | 10/26/17       |   |
| 4-Chloroaniline                 | 10 U   | 10  | 1    | 10/30/17 10:58 | 10/26/17       |   |
| 4-Chlorophenyl Phenyl Ether     | 10 U   | 10  | 1    | 10/30/17 10:58 | 10/26/17       |   |
| 4-Nitroaniline                  | 50 U   | 50  | 1    | 10/30/17 10:58 | 10/26/17       |   |
| 4-Nitrophenol                   | 50 U   | 50  | 1    | 10/30/17 10:58 | 10/26/17       |   |
| Acenaphthene                    | 10 U   | 10  | 1    | 10/30/17 10:58 | 10/26/17       |   |
| Acenaphthylene                  | 10 U   | 10  | 1    | 10/30/17 10:58 | 10/26/17       |   |
| Anthracene                      | 10 U   | 10  | 1    | 10/30/17 10:58 | 10/26/17       |   |
| Benz(a)anthracene               | 10 U   | 10  | 1    | 10/30/17 10:58 | 10/26/17       |   |
| Benzo(a)pyrene                  | 10 U   | 10  | 1    | 10/30/17 10:58 | 10/26/17       |   |
| Benzo(b)fluoranthene            | 10 U   | 10  | 1    | 10/30/17 10:58 | 10/26/17       |   |
| Benzo(g,h,i)perylene            | 10 U   | 10  | 1    | 10/30/17 10:58 | 10/26/17       |   |
| Benzo(k)fluoranthene            | 10 U   | 10  | 1    | 10/30/17 10:58 | 10/26/17       |   |
| Benzyl Alcohol                  | 10 U   | 10  | 1    | 10/30/17 10:58 | 10/26/17       |   |
| 2,2'-Oxybis(1-chloropropane)    | 10 U   | 10  | 1    | 10/30/17 10:58 | 10/26/17       |   |
| Bis(2-chloroethoxy)methane      | 10 U   | 10  | 1    | 10/30/17 10:58 | 10/26/17       |   |
| Bis(2-chloroethyl) Ether        | 10 U   | 10  | 1    | 10/30/17 10:58 | 10/26/17       |   |
| Bis(2-ethylhexyl) Phthalate     | 10 U   | 10  | 1    | 10/30/17 10:58 | 10/26/17       |   |
| Butyl Benzyl Phthalate          | 10 U   | 10  | 1    | 10/30/17 10:58 | 10/26/17       |   |
| Carbazole                       | 10 U   | 10  | 1    | 10/30/17 10:58 | 10/26/17       |   |
| Chrysene                        | 10 U   | 10  | 1    | 10/30/17 10:58 | 10/26/17       |   |

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dba ALS Environmental

Analytical Report

**Client:** The LiRo Group  
**Project:** City of Buffalo - Franczyk Park Site/17-039-1144  
**Sample Matrix:** Water

**Service Request:** R1710113  
**Date Collected:** NA  
**Date Received:** NA

**Sample Name:** Method Blank  
**Lab Code:** RQ1711100-01

**Units:** ug/L  
**Basis:** NA

**Semivolatile Organic Compounds by GC/MS**

**Analysis Method:** 8270D  
**Prep Method:** EPA 3510C

| Analyte Name              | Result | MRL | Dil. | Date Analyzed  | Date Extracted | Q |
|---------------------------|--------|-----|------|----------------|----------------|---|
| Di-n-butyl Phthalate      | 10 U   | 10  | 1    | 10/30/17 10:58 | 10/26/17       |   |
| Di-n-octyl Phthalate      | 10 U   | 10  | 1    | 10/30/17 10:58 | 10/26/17       |   |
| Dibenz(a,h)anthracene     | 10 U   | 10  | 1    | 10/30/17 10:58 | 10/26/17       |   |
| Dibenzofuran              | 10 U   | 10  | 1    | 10/30/17 10:58 | 10/26/17       |   |
| Diethyl Phthalate         | 10 U   | 10  | 1    | 10/30/17 10:58 | 10/26/17       |   |
| Dimethyl Phthalate        | 10 U   | 10  | 1    | 10/30/17 10:58 | 10/26/17       |   |
| Fluoranthene              | 10 U   | 10  | 1    | 10/30/17 10:58 | 10/26/17       |   |
| Fluorene                  | 10 U   | 10  | 1    | 10/30/17 10:58 | 10/26/17       |   |
| Hexachlorobenzene         | 10 U   | 10  | 1    | 10/30/17 10:58 | 10/26/17       |   |
| Hexachlorobutadiene       | 10 U   | 10  | 1    | 10/30/17 10:58 | 10/26/17       |   |
| Hexachlorocyclopentadiene | 10 U   | 10  | 1    | 10/30/17 10:58 | 10/26/17       |   |
| Hexachloroethane          | 10 U   | 10  | 1    | 10/30/17 10:58 | 10/26/17       |   |
| Indeno(1,2,3-cd)pyrene    | 10 U   | 10  | 1    | 10/30/17 10:58 | 10/26/17       |   |
| Isophorone                | 10 U   | 10  | 1    | 10/30/17 10:58 | 10/26/17       |   |
| N-Nitrosodi-n-propylamine | 10 U   | 10  | 1    | 10/30/17 10:58 | 10/26/17       |   |
| N-Nitrosodimethylamine    | 10 U   | 10  | 1    | 10/30/17 10:58 | 10/26/17       |   |
| N-Nitrosodiphenylamine    | 10 U   | 10  | 1    | 10/30/17 10:58 | 10/26/17       |   |
| Naphthalene               | 10 U   | 10  | 1    | 10/30/17 10:58 | 10/26/17       |   |
| Nitrobenzene              | 10 U   | 10  | 1    | 10/30/17 10:58 | 10/26/17       |   |
| Pentachlorophenol (PCP)   | 50 U   | 50  | 1    | 10/30/17 10:58 | 10/26/17       |   |
| Phenanthrene              | 10 U   | 10  | 1    | 10/30/17 10:58 | 10/26/17       |   |
| Phenol                    | 10 U   | 10  | 1    | 10/30/17 10:58 | 10/26/17       |   |
| Pyrene                    | 10 U   | 10  | 1    | 10/30/17 10:58 | 10/26/17       |   |

| Surrogate Name       | % Rec | Control Limits | Date Analyzed  | Q |
|----------------------|-------|----------------|----------------|---|
| 2,4,6-Tribromophenol | 71    | 35 - 141       | 10/30/17 10:58 |   |
| 2-Fluorobiphenyl     | 69    | 31 - 118       | 10/30/17 10:58 |   |
| 2-Fluorophenol       | 41    | 10 - 105       | 10/30/17 10:58 |   |
| Nitrobenzene-d5      | 72    | 31 - 110       | 10/30/17 10:58 |   |
| Phenol-d6            | 28    | 10 - 107       | 10/30/17 10:58 |   |
| p-Terphenyl-d14      | 79    | 30 - 133       | 10/30/17 10:58 |   |

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QA/QC Report

**Client:** The LiRo Group  
**Project:** City of Buffalo - Franczyk Park Site/17-039-1144  
**Sample Matrix:** Water

**Service Request:** R1710113  
**Date Analyzed:** 10/30/17 11:26  
**Date Extracted:** 10/26/17

**Lab Control Sample Summary**  
**Semivolatile Organic Compounds by GC/MS**

**Sample Name:** Lab Control Sample      **Instrument ID:** R-MS-54  
**Lab Code:** RQ1711100-02      **File ID:** I:\ACQUADATA\5973D\Data\103017\BM242.D\  
**Analysis Method:** 8270D      **Analysis Lot:** 567960  
**Prep Method:** EPA 3510C      **Extraction Lot:** 301663

This Lab Control Sample applies to the following analyses.

| <b>Sample Name</b>           | <b>Lab Code</b> | <b>File ID</b>                          | <b>Date Analyzed</b> |
|------------------------------|-----------------|---|----------------------|
| Method Blank                 | RQ1711100-01    | I:\ACQUADATA\5973D\Data\103017\BM241.D\ | 10/30/17 10:58       |
| Duplicate Lab Control Sample | RQ1711100-03    | I:\ACQUADATA\5973D\Data\103017\BM243.D\ | 10/30/17 11:55       |
| MW-7                         | R1710113-001    | I:\ACQUADATA\5973D\Data\103017\BM252.D\ | 10/30/17 16:09       |
| MW-3                         | R1710113-002    | I:\ACQUADATA\5973D\Data\103017\BM253.D\ | 10/30/17 16:37       |
| MW-D                         | R1710113-004    | I:\ACQUADATA\5973D\Data\103017\BM254.D\ | 10/30/17 17:05       |
| MW-8                         | R1710113-006    | I:\ACQUADATA\5973D\Data\103117\BM290.D\ | 10/31/17 17:13       |

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QA/QC Report

**Client:** The LiRo Group  
**Project:** City of Buffalo - Franczyk Park Site/17-039-1144  
**Sample Matrix:** Water

**Service Request:** R1710113  
**Date Analyzed:** 10/30/17

**Duplicate Lab Control Sample Summary**  
**Semivolatile Organic Compounds by GC/MS**

**Units:**ug/L  
**Basis:**NA

| Analyte Name                    | Lab Control Sample<br>RQ1711100-02 |        |              |       | Duplicate Lab Control Sample<br>RQ1711100-03 |              |       |              | RPD  | RPD<br>Limit |
|---------------------------------|------------------------------------|--------|--------------|-------|--|--------------|-------|--------------|------|--------------|
|                                 | Analytical Method                  | Result | Spike Amount | % Rec | Result                                       | Spike Amount | % Rec | % Rec Limits |      |              |
| 1,2,4-Trichlorobenzene          | 8270D                              | 57.1   | 100          | 57    | 65.1   | 100          | 65    | 10-127       | 13   | 30           |
| 1,2-Dichlorobenzene             | 8270D                              | 57.8   | 100          | 58    | 63.8   | 100          | 64    | 23-130       | 10   | 30           |
| 1,3-Dichlorobenzene             | 8270D                              | 54.2   | 100          | 54    | 60.7   | 100          | 61    | 21-90        | 12   | 30           |
| 1,4-Dichlorobenzene             | 8270D                              | 56.7   | 100          | 57    | 64.3   | 100          | 64    | 10-124       | 12   | 30           |
| 2,4,5-Trichlorophenol           | 8270D                              | 21.6   | 100          | 22 *  | 89.2   | 100          | 89    | 63-121       | 121* | 30           |
| 2,4,6-Trichlorophenol           | 8270D                              | 18.7   | 100          | 19 *  | 84.5   | 100          | 85    | 64-116       | 127* | 30           |
| 2,4-Dichlorophenol              | 8270D                              | 26.3   | 100          | 26 *  | 85.1   | 100          | 85    | 52-111       | 106* | 30           |
| 2,4-Dimethylphenol              | 8270D                              | 78.4   | 100          | 78    | 89.4   | 100          | 89    | 44-114       | 13   | 30           |
| 2,4-Dinitrophenol               | 8270D                              | 8.85 J | 100          | 9 *   | 48.2 J                                       | 100          | 48    | 10-160       | 137* | 30           |
| 2,4-Dinitrotoluene              | 8270D                              | 71.1   | 100          | 71    | 76.7   | 100          | 77    | 62-142       | 8    | 30           |
| 2,6-Dinitrotoluene              | 8270D                              | 70.5   | 100          | 71    | 74.4   | 100          | 74    | 61-139       | 4    | 30           |
| 2-Chloronaphthalene             | 8270D                              | 67.3   | 100          | 67    | 72.5   | 100          | 73    | 53-98        | 9    | 30           |
| 2-Chlorophenol                  | 8270D                              | 24.5   | 100          | 24 *  | 76.7   | 100          | 77    | 42-112       | 105* | 30           |
| 2-Methylnaphthalene             | 8270D                              | 64.1   | 100          | 64    | 70.6   | 100          | 71    | 34-102       | 10   | 30           |
| 2-Methylphenol                  | 8270D                              | 59.0   | 100          | 59    | 76.5   | 100          | 76    | 59-104       | 25   | 30           |
| 2-Nitroaniline                  | 8270D                              | 78.0   | 100          | 78    | 87.4   | 100          | 87    | 52-133       | 11   | 30           |
| 2-Nitrophenol                   | 8270D                              | 21.7   | 100          | 22 *  | 88.6   | 100          | 89    | 51-115       | 121* | 30           |
| 3,3'-Dichlorobenzidine          | 8270D                              | 80.7   | 100          | 81    | 81.6   | 100          | 82    | 45-122       | 1    | 30           |
| 3- and 4-Methylphenol Coelution | 8270D                              | 46.8   | 100          | 47 *  | 65.8   | 100          | 66    | 50-111       | 34*  | 30           |
| 3-Nitroaniline                  | 8270D                              | 71.4   | 100          | 71    | 76.8   | 100          | 77    | 48-115       | 8    | 30           |
| 4,6-Dinitro-2-methylphenol      | 8270D                              | 15.2 J | 100          | 15 *  | 75.5   | 100          | 76    | 35-168       | 134* | 30           |
| 4-Bromophenyl Phenyl Ether      | 8270D                              | 63.0   | 100          | 63 *  | 67.4   | 100          | 67    | 65-113       | 6    | 30           |
| 4-Chloro-3-methylphenol         | 8270D                              | 62.6   | 100          | 63    | 91.5   | 100          | 91    | 52-113       | 36*  | 30           |
| 4-Chloroaniline                 | 8270D                              | 67.4   | 100          | 67    | 74.6   | 100          | 75    | 47-104       | 11   | 30           |
| 4-Chlorophenyl Phenyl Ether     | 8270D                              | 64.1   | 100          | 64    | 69.3   | 100          | 69    | 61-110       | 8    | 30           |
| 4-Nitroaniline                  | 8270D                              | 81.5   | 100          | 82    | 85.4   | 100          | 85    | 54-133       | 4    | 30           |
| 4-Nitrophenol                   | 8270D                              | 5.83 J | 100          | 6 *   | 35.3 J                                       | 100          | 35    | 10-126       | 141* | 30           |
| Acenaphthene                    | 8270D                              | 72.4   | 100          | 72    | 79.2   | 100          | 79    | 54-125       | 9    | 30           |
| Acenaphthylene                  | 8270D                              | 76.4   | 100          | 76    | 82.1   | 100          | 82    | 60-106       | 8    | 30           |
| Anthracene                      | 8270D                              | 82.5   | 100          | 83    | 90.3   | 100          | 90    | 55-116       | 8    | 30           |
| Benz(a)anthracene               | 8270D                              | 81.7   | 100          | 82    | 87.6   | 100          | 88    | 66-110       | 7    | 30           |
| Benzo(a)pyrene                  | 8270D                              | 86.1   | 100          | 86    | 93.0   | 100          | 93    | 44-114       | 8    | 30           |
| Benzo(b)fluoranthene            | 8270D                              | 80.9   | 100          | 81    | 87.3   | 100          | 87    | 69-117       | 7    | 30           |

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QA/QC Report

**Client:** The LiRo Group  
**Project:** City of Buffalo - Franczyk Park Site/17-039-1144  
**Sample Matrix:** Water

**Service Request:** R1710113  
**Date Analyzed:** 10/30/17

**Duplicate Lab Control Sample Summary**  
**Semivolatile Organic Compounds by GC/MS**

**Units:**ug/L  
**Basis:**NA

| Analyte Name                 | Lab Control Sample<br>RQ1711100-02 |        |              |       | Duplicate Lab Control Sample<br>RQ1711100-03 |              |       |              | RPD  | RPD<br>Limit |
|------------------------------|------------------------------------|--------|--------------|-------|--|--------------|-------|--------------|------|--------------|
|                              | Analytical Method                  | Result | Spike Amount | % Rec | Result                                       | Spike Amount | % Rec | % Rec Limits |      |              |
| Benzo(g,h,i)perylene         | 8270D                              | 96.5   | 100          | 96    | 103  | 100          | 103   | 63-136       | 7    | 30           |
| Benzo(k)fluoranthene         | 8270D                              | 83.8   | 100          | 84    | 90.7   | 100          | 91    | 49-133       | 8    | 30           |
| Benzyl Alcohol               | 8270D                              | 64.4   | 100          | 64    | 69.4   | 100          | 69    | 31-109       | 8    | 30           |
| 2,2'-Oxybis(1-chloropropane) | 8270D                              | 65.4   | 100          | 65    | 71.8   | 100          | 72    | 47-132       | 10   | 30           |
| Bis(2-chloroethoxy)methane   | 8270D                              | 73.9   | 100          | 74    | 82.2   | 100          | 82    | 55-110       | 10   | 30           |
| Bis(2-chloroethyl) Ether     | 8270D                              | 65.9   | 100          | 66    | 72.0   | 100          | 72    | 56-102       | 9    | 30           |
| Bis(2-ethylhexyl) Phthalate  | 8270D                              | 80.2   | 100          | 80    | 87.9   | 100          | 88    | 70-132       | 10   | 30           |
| Butyl Benzyl Phthalate       | 8270D                              | 83.1   | 100          | 83    | 88.9   | 100          | 89    | 41-148       | 7    | 30           |
| Carbazole                    | 8270D                              | 87.9   | 100          | 88    | 93.9   | 100          | 94    | 61-126       | 7    | 30           |
| Chrysene                     | 8270D                              | 82.0   | 100          | 82    | 87.6   | 100          | 88    | 57-118       | 7    | 30           |
| Di-n-butyl Phthalate         | 8270D                              | 81.4   | 100          | 81    | 87.6   | 100          | 88    | 57-139       | 8    | 30           |
| Di-n-octyl Phthalate         | 8270D                              | 86.7   | 100          | 87    | 97.9   | 100          | 98    | 70-134       | 12   | 30           |
| Dibenz(a,h)anthracene        | 8270D                              | 63.9   | 100          | 64    | 68.0   | 100          | 68    | 58-132       | 6    | 30           |
| Dibenzofuran                 | 8270D                              | 74.8   | 100          | 75    | 82.4   | 100          | 82    | 62-105       | 9    | 30           |
| Diethyl Phthalate            | 8270D                              | 69.3   | 100          | 69    | 75.8   | 100          | 76    | 65-122       | 10   | 30           |
| Dimethyl Phthalate           | 8270D                              | 71.4   | 100          | 71    | 76.0   | 100          | 76    | 58-119       | 7    | 30           |
| Fluoranthene                 | 8270D                              | 86.1   | 100          | 86    | 93.2   | 100          | 93    | 66-127       | 8    | 30           |
| Fluorene                     | 8270D                              | 72.5   | 100          | 73    | 78.1   | 100          | 78    | 66-110       | 7    | 30           |
| Hexachlorobenzene            | 8270D                              | 75.6   | 100          | 76    | 81.8   | 100          | 82    | 68-115       | 8    | 30           |
| Hexachlorobutadiene          | 8270D                              | 57.4   | 100          | 57    | 65.5   | 100          | 66    | 16-95        | 15   | 30           |
| Hexachlorocyclopentadiene    | 8270D                              | 47.6   | 100          | 48    | 54.1   | 100          | 54    | 10-99        | 12   | 30           |
| Hexachloroethane             | 8270D                              | 52.1   | 100          | 52    | 56.9   | 100          | 57    | 15-92        | 9    | 30           |
| Indeno(1,2,3-cd)pyrene       | 8270D                              | 87.9   | 100          | 88    | 92.3   | 100          | 92    | 65-124       | 4    | 30           |
| Isophorone                   | 8270D                              | 68.1   | 100          | 68    | 76.7   | 100          | 77    | 50-116       | 12   | 30           |
| N-Nitrosodi-n-propylamine    | 8270D                              | 73.3   | 100          | 73    | 83.6   | 100          | 84    | 49-115       | 14   | 30           |
| N-Nitrosodimethylamine       | 8270D                              | 52.1   | 100          | 52    | 52.6   | 100          | 53    | 31-70        | 2    | 30           |
| N-Nitrosodiphenylamine       | 8270D                              | 84.2   | 100          | 84    | 93.9   | 100          | 94    | 45-123       | 11   | 30           |
| Naphthalene                  | 8270D                              | 64.3   | 100          | 64    | 71.5   | 100          | 72    | 36-95        | 12   | 30           |
| Nitrobenzene                 | 8270D                              | 64.4   | 100          | 64    | 70.8   | 100          | 71    | 46-108       | 10   | 30           |
| Pentachlorophenol (PCP)      | 8270D                              | 7.65 J | 100          | 8 *   | 68.5   | 100          | 68    | 41-154       | 158* | 30           |
| Phenanthrene                 | 8270D                              | 80.7   | 100          | 81    | 87.9   | 100          | 88    | 58-118       | 8    | 30           |
| Phenol                       | 8270D                              | 14.9   | 100          | 15    | 34.4   | 100          | 34    | 10-113       | 78*  | 30           |
| Pyrene                       | 8270D                              | 82.7   | 100          | 83    | 89.1   | 100          | 89    | 69-127       | 7    | 30           |

**ALS Group USA, Corp.**  
dba ALS Environmental

QC/QC Report

**Client:** The LiRo Group  
**Project:** City of Buffalo - Franczyk Park Site/17-039-1144

**Service Request:**R1710113  
**Date Analyzed:**10/30/17 09:43

**Tune Summary**  
**Semivolatile Organic Compounds by GC/MS**

**File ID:** I:\ACQUADATA\5973D\Data\103017\BM238.D\  
**Instrument ID:** R-MS-54

**Analytical Method:** 8270D  
**Analysis Lot:** 567960

| Target Mass | Relative to Mass | Lower Limit % | Upper Limit % | Relative Abundance % | Raw Abundance | Result Pass/Fail |
|-------------|------------------|---------------|---------------|----------------------|---------------|------------------|
| 51          | 198              | 10            | 80            | 29.93                | 15089         | Pass             |
| 68          | 69               | 0.00          | 2             | 1.38                 | 246           | Pass             |
| 69          | 198              | 0.00          | 100           | 35.39                | 17840         | Pass             |
| 70          | 69               | 0.00          | 2             | 0.46                 | 82            | Pass             |
| 127         | 198              | 10            | 80            | 47.56                | 23976         | Pass             |
| 197         | 198              | 0.00          | 2             | 0.00                 | 0             | Pass             |
| 198         | 198              | 100           | 100           | 100.00               | 50416         | Pass             |
| 199         | 198              | 5             | 9             | 7.09                 | 3574          | Pass             |
| 275         | 198              | 10            | 60            | 35.83                | 18064         | Pass             |
| 365         | 198              | 1             | 100           | 7.76                 | 3912          | Pass             |
| 441         | 442              | 0.01          | 24            | 15.71                | 16472         | Pass             |
| 442         | 442              | 100           | 100           | 100.00               | 104880        | Pass             |
| 443         | 442              | 15            | 24            | 17.48                | 18336         | Pass             |

| Sample Name                         | Lab Code     | File ID:                                | Date Analyzed: | Q |
|-------------------------------------|--------------|---|----------------|---|
| Continuing Calibration Verification | RQ1711211-02 | I:\ACQUADATA\5973D\Data\103017\BM239.D\ | 10/30/17 10:01 |   |
| Method Blank                        | RQ1711100-01 | I:\ACQUADATA\5973D\Data\103017\BM241.D\ | 10/30/17 10:58 |   |
| Lab Control Sample                  | RQ1711100-02 | I:\ACQUADATA\5973D\Data\103017\BM242.D\ | 10/30/17 11:26 |   |
| Duplicate Lab Control Sample        | RQ1711100-03 | I:\ACQUADATA\5973D\Data\103017\BM243.D\ | 10/30/17 11:55 |   |
| MW-7                                | R1710113-001 | I:\ACQUADATA\5973D\Data\103017\BM252.D\ | 10/30/17 16:09 |   |
| MW-3                                | R1710113-002 | I:\ACQUADATA\5973D\Data\103017\BM253.D\ | 10/30/17 16:37 |   |
| MW-D                                | R1710113-004 | I:\ACQUADATA\5973D\Data\103017\BM254.D\ | 10/30/17 17:05 |   |



**ALS Group USA, Corp.**  
dba ALS Environmental

QC/QC Report

**Client:** The LiRo Group  
**Project:** City of Buffalo - Franczyk Park Site/17-039-1144

**Service Request:**R1710113  
**Date Analyzed:**10/31/17 06:36

**Tune Summary**  
**Semivolatile Organic Compounds by GC/MS**

**File ID:** I:\ACQUADATA\5973D\Data\103117\BM267.D\  
**Instrument ID:** R-MS-54

**Analytical Method:** 8270D  
**Analysis Lot:** 568326

| Target Mass | Relative to Mass | Lower Limit % | Upper Limit % | Relative Abundance % | Raw Abundance | Result Pass/Fail |
|-------------|------------------|---------------|---------------|----------------------|---------------|------------------|
| 51          | 198              | 10            | 80            | 43.97                | 23365         | Pass             |
| 68          | 69               | 0.00          | 2             | 1.20                 | 298           | Pass             |
| 69          | 198              | 0.00          | 100           | 46.57                | 24744         | Pass             |
| 70          | 69               | 0.00          | 2             | 0.66                 | 164           | Pass             |
| 127         | 198              | 10            | 80            | 54.18                | 28787         | Pass             |
| 197         | 198              | 0.00          | 2             | 1.29                 | 687           | Pass             |
| 198         | 198              | 100           | 100           | 100.00               | 53133         | Pass             |
| 199         | 198              | 5             | 9             | 7.50                 | 3987          | Pass             |
| 275         | 198              | 10            | 60            | 27.76                | 14752         | Pass             |
| 365         | 198              | 1             | 100           | 4.34                 | 2304          | Pass             |
| 441         | 442              | 0.01          | 24            | 16.01                | 10002         | Pass             |
| 442         | 442              | 100           | 100           | 100.00               | 62462         | Pass             |
| 443         | 442              | 15            | 24            | 17.95                | 11213         | Pass             |

| Sample Name                         | Lab Code     | File ID:                                | Date Analyzed: | Q |
|-------------------------------------|--------------|---|----------------|---|
| Continuing Calibration Verification | RQ1711335-02 | I:\ACQUADATA\5973D\Data\103117\BM268.D\ | 10/31/17 06:54 |   |
| MW-8                                | R1710113-006 | I:\ACQUADATA\5973D\Data\103117\BM290.D\ | 10/31/17 17:13 |   |

**ALS Group USA, Corp.**  
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QA/QC Report

**Client:** The LiRo Group  
**Project:** City of Buffalo - Franczyk Park Site/17-039-1144

**Service Request:**R1710113  
**Date Analyzed:**10/30/17 10:01

**Internal Standard Area and RT SUMMARY**  
**Semivolatile Organic Compounds by GC/MS**

**File ID:** I:\ACQUADATA\5973D\Data\103017\BM239.D\  
**Instrument ID:** R-MS-54  
**Analysis Method:** 8270D

**Lab Code:**RQ1711211-02  
**Analysis Lot:**567960  
**Signal ID:**

|                           | 1,4-Dichlorobenzene-d4 |      | Acenaphthene-d10 |      | Chrysene-d12 |       |
|---------------------------|------------------------|------|------------------|------|--------------|-------|
|                           | Area                   | RT   | Area             | RT   | Area         | RT    |
| <b>ICAL Result ==&gt;</b> | 99,861                 | 4.77 | 197,680          | 7.64 | 371,952      | 12.39 |
| <b>Upper Limit ==&gt;</b> | 199,722                | 5.27 | 395,360          | 8.14 | 743,904      | 12.89 |
| <b>Lower Limit ==&gt;</b> | 49,931                 | 4.27 | 98,840           | 7.14 | 185,976      | 11.89 |

**Associated Analyses**

|                              |                  |       |      |        |      |        |       |
|------------------------------|------------------|-------|------|--------|------|--------|-------|
| Method Blank                 | RQ1711100-01.R01 | 80664 | 4.77 | 151922 | 7.64 | 282132 | 12.37 |
| Lab Control Sample           | RQ1711100-02.R01 | 90851 | 4.77 | 172060 | 7.64 | 317524 | 12.39 |
| Duplicate Lab Control Sample | RQ1711100-03.R01 | 91820 | 4.77 | 176932 | 7.64 | 326848 | 12.39 |
| MW-7                         | R1710113-001     | 98500 | 4.77 | 189539 | 7.64 | 350902 | 12.37 |
| MW-3                         | R1710113-002     | 91970 | 4.77 | 177018 | 7.64 | 330171 | 12.37 |
| MW-D                         | R1710113-004     | 87885 | 4.77 | 163079 | 7.64 | 314783 | 12.37 |

ALS Group USA, Corp.  
dba ALS Environmental

QA/QC Report

**Client:** The LiRo Group  
**Project:** City of Buffalo - Franczyk Park Site/17-039-1144

**Service Request:**R1710113  
**Date Analyzed:**10/30/17 10:01

**Internal Standard Area and RT SUMMARY**  
**Semivolatile Organic Compounds by GC/MS**

**File ID:** I:\ACQUADATA\5973D\Data\103017\BM239.D\  
**Instrument ID:** R-MS-54  
**Analysis Method:** 8270D

**Lab Code:**RQ1711211-02  
**Analysis Lot:**567960  
**Signal ID:**

|                           | Naphthalene-d8 |      | Perylene-d12 |       | Phenanthrene-d10 |      |
|---------------------------|----------------|------|--------------|-------|------------------|------|
|                           | Area           | RT   | Area         | RT    | Area             | RT   |
| <b>ICAL Result ==&gt;</b> | 378,468        | 5.93 | 364,191      | 15.31 | 360,868          | 9.11 |
| <b>Upper Limit ==&gt;</b> | 756,936        | 6.43 | 728,382      | 15.81 | 721,736          | 9.61 |
| <b>Lower Limit ==&gt;</b> | 189,234        | 5.43 | 182,096      | 14.81 | 180,434          | 8.61 |

**Associated Analyses**

| Method Blank                 | RQ1711100-01.R01 | 307523 | 5.93 | 304527 | 15.31 | 283022 | 9.11 |
|------------------------------|------------------|--------|------|--------|-------|--------|------|
| Lab Control Sample           | RQ1711100-02.R01 | 344190 | 5.93 | 320410 | 15.31 | 299533 | 9.11 |
| Duplicate Lab Control Sample | RQ1711100-03.R01 | 345435 | 5.93 | 328164 | 15.31 | 306422 | 9.11 |
| MW-7                         | R1710113-001     | 371689 | 5.93 | 383386 | 15.31 | 333594 | 9.11 |
| MW-3                         | R1710113-002     | 344918 | 5.93 | 345718 | 15.31 | 324925 | 9.11 |
| MW-D                         | R1710113-004     | 325999 | 5.93 | 321959 | 15.31 | 289294 | 9.11 |

**ALS Group USA, Corp.**  
 dba ALS Environmental

QA/QC Report

**Client:** The LiRo Group  
**Project:** City of Buffalo - Franczyk Park Site/17-039-1144

**Service Request:**R1710113  
**Date Analyzed:**10/31/17 06:54

**Internal Standard Area and RT SUMMARY**  
**Semivolatile Organic Compounds by GC/MS**

**File ID:** I:\ACQUADATA\5973D\Data\103117\BM268.D\  
**Instrument ID:** R-MS-54  
**Analysis Method:** 8270D

**Lab Code:**RQ1711335-02  
**Analysis Lot:**568326  
**Signal ID:**

|                            | 1,4-Dichlorobenzene-d4 |        | Acenaphthene-d10 |        | Chrysene-d12 |        |       |
|----------------------------|------------------------|--------|------------------|--------|--------------|--------|-------|
|                            | Area                   | RT     | Area             | RT     | Area         | RT     |       |
| <b>ICAL Result ==&gt;</b>  | 91,693                 | 4.78   | 200,993          | 7.65   | 365,649      | 12.40  |       |
| <b>Upper Limit ==&gt;</b>  | 183,386                | 5.28   | 401,986          | 8.15   | 731,298      | 12.90  |       |
| <b>Lower Limit ==&gt;</b>  | 45,847                 | 4.28   | 100,497          | 7.15   | 182,825      | 11.90  |       |
| <b>Associated Analyses</b> |                        |        |                  |        |              |        |       |
| MW-8                       | R1710113-006           | 106983 | 4.77             | 205928 | 7.65         | 370659 | 12.40 |

ALS Group USA, Corp.  
dba ALS Environmental

QA/QC Report

**Client:** The LiRo Group  
**Project:** City of Buffalo - Franczyk Park Site/17-039-1144

**Service Request:**R1710113  
**Date Analyzed:**10/31/17 06:54

**Internal Standard Area and RT SUMMARY**  
**Semivolatile Organic Compounds by GC/MS**

**File ID:** I:\ACQUADATA\5973D\Data\103117\BM268.D\  
**Instrument ID:** R-MS-54  
**Analysis Method:** 8270D

**Lab Code:**RQ1711335-02  
**Analysis Lot:**568326  
**Signal ID:**

|                            | Naphthalene-d8 |        | Perylene-d12 |        | Phenanthrene-d10 |        |      |
|----------------------------|----------------|--------|--------------|--------|------------------|--------|------|
|                            | Area           | RT     | Area         | RT     | Area             | RT     |      |
| <b>ICAL Result ==&gt;</b>  | 363,291        | 5.94   | 368,678      | 15.34  | 340,406          | 9.12   |      |
| <b>Upper Limit ==&gt;</b>  | 726,582        | 6.44   | 737,356      | 15.84  | 680,812          | 9.62   |      |
| <b>Lower Limit ==&gt;</b>  | 181,646        | 5.44   | 184,339      | 14.84  | 170,203          | 8.62   |      |
| <b>Associated Analyses</b> |                |        |              |        |                  |        |      |
| MW-8                       | R1710113-006   | 399499 | 5.94         | 372709 | 15.34            | 381554 | 9.11 |



# Metals

**ALS Environmental—Rochester Laboratory**  
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623  
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**METALS**  
-2A-  
**INITIAL AND CONTINUING CALIBRATION VERIFICATION**

Contract: R1710113

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: MW-7

Initial Calibration Source: PERKIN ELMER

Continuing Calibration Source: PERKIN ELMER

Concentration Units: ug/L

| Analyte   | Initial Calibration |       |       | Continuing Calibration |       |       |       |       | M  |
|-----------|---------------------|-------|-------|------------------------|-------|-------|-------|-------|----|
|           | True                | Found | %R(1) | True                   | Found | %R(1) | Found | %R(1) |    |
| Aluminum  | 10000               | 9420  | 94    | 10000                  | 9220  | 92    | 9260  | 93    | P  |
| Antimony  | 5000                | 4870  | 97    | 5000                   | 4800  | 96    | 4770  | 95    | P  |
| Arsenic   | 1000                | 962   | 96    | 1000                   | 945   | 94    | 947   | 95    | P  |
| Barium    | 10000               | 10200 | 102   | 10000                  | 10100 | 101   | 10100 | 101   | P  |
| Beryllium | 250                 | 251   | 100   | 250                    | 248   | 99    | 247   | 99    | P  |
| Cadmium   | 500                 | 498   | 100   | 500                    | 494   | 99    | 494   | 99    | P  |
| Mercury   | 3.00                | 3.04  | 101   | 3.00                   | 3.03  | 101   | 3.02  | 101   | CV |
| Chromium  | 500                 | 500   | 100   | 500                    | 498   | 100   | 497   | 99    | P  |
| Cobalt    | 2500                | 2570  | 103   | 2500                   | 2550  | 102   | 2540  | 102   | P  |
| Copper    | 1250                | 1200  | 96    | 1250                   | 1160  | 93    | 1150  | 92    | P  |
| Iron      | 5000                | 4810  | 96    | 5000                   | 4750  | 95    | 4790  | 96    | P  |
| Lead      | 500                 | 498   | 100   | 500                    | 493   | 99    | 490   | 98    | P  |
| Magnesium | 25000               | 24900 | 100   | 25000                  | 24700 | 99    | 24800 | 99    | P  |
| Nickel    | 2000                | 2030  | 102   | 2000                   | 2000  | 100   | 1990  | 100   | P  |
| Potassium | 25000               | 24500 | 98    | 25000                  | 23900 | 96    | 23700 | 95    | P  |
| Selenium  | 500                 | 479   | 96    | 500                    | 485   | 97    | 479   | 96    | P  |
| Silver    | 500                 | 486   | 97    | 500                    | 479   | 96    | 477   | 95    | P  |
| Sodium    | 25000               | 24500 | 98    | 25000                  | 24000 | 96    | 23700 | 95    | P  |
| Thallium  | 1000                | 978   | 98    | 1000                   | 960   | 96    | 954   | 95    | P  |
| Vanadium  | 2500                | 2500  | 100   | 2500                   | 2460  | 98    | 2450  | 98    | P  |
| Zinc      | 1000                | 997   | 100   | 1000                   | 991   | 99    | 989   | 99    | P  |

Comments:



**METALS**  
-2A-  
**INITIAL AND CONTINUING CALIBRATION VERIFICATION**

Contract: R1710113

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: MW-7

Initial Calibration Source: PERKIN ELMER

Continuing Calibration Source: PERKIN ELMER

Concentration Units: ug/L

| Analyte   | Initial Calibration |       |       | Continuing Calibration |       |       |       |       | M  |
|-----------|---------------------|-------|-------|------------------------|-------|-------|-------|-------|----|
|           | True                | Found | %R(1) | True                   | Found | %R(1) | Found | %R(1) |    |
| Aluminum  |                     |       |       | 10000                  | 9530  | 95    | 9670  | 97    | P  |
| Antimony  |                     |       |       | 5000                   | 4940  | 99    | 5020  | 100   | P  |
| Arsenic   |                     |       |       | 1000                   | 974   | 97    | 1000  | 100   | P  |
| Barium    |                     |       |       | 10000                  | 10500 | 105   | 10700 | 107   | P  |
| Beryllium |                     |       |       | 250                    | 256   | 102   | 260   | 104   | P  |
| Cadmium   |                     |       |       | 500                    | 512   | 102   | 524   | 105   | P  |
| Mercury   |                     |       |       | 3.00                   | 3.04  | 101   | 3.05  | 102   | CV |
| Chromium  |                     |       |       | 500                    | 516   | 103   | 527   | 105   | P  |
| Cobalt    |                     |       |       | 2500                   | 2640  | 106   | 2690  | 108   | P  |
| Copper    |                     |       |       | 1250                   | 1190  | 95    | 1210  | 97    | P  |
| Iron      |                     |       |       | 5000                   | 4930  | 99    | 5350  | 107   | P  |
| Lead      |                     |       |       | 500                    | 507   | 101   | 525   | 105   | P  |
| Magnesium |                     |       |       | 25000                  | 25600 | 102   | 26300 | 105   | P  |
| Nickel    |                     |       |       | 2000                   | 2070  | 104   | 2110  | 106   | P  |
| Potassium |                     |       |       | 25000                  | 24600 | 98    | 24600 | 98    | P  |
| Selenium  |                     |       |       | 500                    | 503   | 101   | 512   | 102   | P  |
| Silver    |                     |       |       | 500                    | 494   | 99    | 501   | 100   | P  |
| Sodium    |                     |       |       | 25000                  | 24600 | 98    | 24700 | 99    | P  |
| Thallium  |                     |       |       | 1000                   | 989   | 99    | 997   | 100   | P  |
| Vanadium  |                     |       |       | 2500                   | 2550  | 102   | 2590  | 104   | P  |
| Zinc      |                     |       |       | 1000                   | 1030  | 103   | 1050  | 105   | P  |

Comments:

**METALS**  
-2A-  
**INITIAL AND CONTINUING CALIBRATION VERIFICATION**

Contract: R1710113

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: MW-7

Initial Calibration Source: PERKIN ELMER

Continuing Calibration Source: PERKIN ELMER

Concentration Units: ug/L

| Analyte   | Initial Calibration |       |       | Continuing Calibration |       |       |       |       | M  |
|-----------|---------------------|-------|-------|------------------------|-------|-------|-------|-------|----|
|           | True                | Found | %R(1) | True                   | Found | %R(1) | Found | %R(1) |    |
| Aluminum  |                     |       |       | 10000                  | 9490  | 95    | 9660  | 97    | P  |
| Antimony  |                     |       |       | 5000                   | 4960  | 99    | 5000  | 100   | P  |
| Arsenic   |                     |       |       | 1000                   | 984   | 98    | 991   | 99    | P  |
| Barium    |                     |       |       | 10000                  | 10500 | 105   | 10600 | 106   | P  |
| Beryllium |                     |       |       | 250                    | 257   | 103   | 259   | 104   | P  |
| Cadmium   |                     |       |       | 500                    | 519   | 104   | 522   | 104   | P  |
| Mercury   |                     |       |       | 3.00                   | 3.02  | 101   | 3.04  | 101   | CV |
| Chromium  |                     |       |       | 500                    | 520   | 104   | 526   | 105   | P  |
| Cobalt    |                     |       |       | 2500                   | 2660  | 106   | 2680  | 107   | P  |
| Copper    |                     |       |       | 1250                   | 1190  | 95    | 1200  | 96    | P  |
| Iron      |                     |       |       | 5000                   | 4980  | 100   | 5060  | 101   | P  |
| Lead      |                     |       |       | 500                    | 517   | 103   | 517   | 103   | P  |
| Magnesium |                     |       |       | 25000                  | 25800 | 103   | 26100 | 104   | P  |
| Nickel    |                     |       |       | 2000                   | 2090  | 104   | 2100  | 105   | P  |
| Potassium |                     |       |       | 25000                  | 24200 | 97    | 24300 | 97    | P  |
| Selenium  |                     |       |       | 500                    | 503   | 101   | 508   | 102   | P  |
| Silver    |                     |       |       | 500                    | 497   | 99    | 499   | 100   | P  |
| Sodium    |                     |       |       | 25000                  | 24300 | 97    | 24500 | 98    | P  |
| Thallium  |                     |       |       | 1000                   | 989   | 99    | 997   | 100   | P  |
| Vanadium  |                     |       |       | 2500                   | 2560  | 102   | 2580  | 103   | P  |
| Zinc      |                     |       |       | 1000                   | 1040  | 104   | 1040  | 104   | P  |

Comments:

**METALS**  
-2A-  
**INITIAL AND CONTINUING CALIBRATION VERIFICATION**

Contract: R1710113

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: MW-7

Initial Calibration Source: PERKIN ELMER

Continuing Calibration Source: PERKIN ELMER

Concentration Units: ug/L

| Analyte   | Initial Calibration |       |       | Continuing Calibration |       |       |       |       | M |
|-----------|---------------------|-------|-------|------------------------|-------|-------|-------|-------|---|
|           | True                | Found | %R(1) | True                   | Found | %R(1) | Found | %R(1) |   |
| Calcium   | 25000               | 24200 | 97    | 25000                  | 24300 | 97    | 24300 | 97    | P |
| Iron      | 5000                | 4860  | 97    | 5000                   | 4880  | 98    | 4860  | 97    | P |
| Lead      | 500                 | 500   | 100   | 500                    | 499   | 100   | 499   | 100   | P |
| Magnesium | 25000               | 25000 | 100   | 25000                  | 25000 | 100   | 25000 | 100   | P |
| Manganese | 750                 | 753   | 100   | 750                    | 753   | 100   | 755   | 101   | P |
| Selenium  | 500                 | 485   | 97    | 500                    | 480   | 96    | 485   | 97    | P |
| Thallium  | 1000                | 987   | 99    | 1000                   | 990   | 99    | 991   | 99    | P |

Comments:

**METALS**  
-2A-  
**INITIAL AND CONTINUING CALIBRATION VERIFICATION**

Contract: R1710113

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: MW-7

Initial Calibration Source: PERKIN ELMER

Continuing Calibration Source: PERKIN ELMER

Concentration Units: ug/L

| Analyte   | Initial Calibration |       |       | Continuing Calibration |       |       |       |       | M |
|-----------|---------------------|-------|-------|------------------------|-------|-------|-------|-------|---|
|           | True                | Found | %R(1) | True                   | Found | %R(1) | Found | %R(1) |   |
| Calcium   |                     |       |       | 25000                  | 24400 | 98    | 24400 | 98    | P |
| Iron      |                     |       |       | 5000                   | 4890  | 98    | 4930  | 99    | P |
| Lead      |                     |       |       | 500                    | 503   | 101   | 504   | 101   | P |
| Magnesium |                     |       |       | 25000                  | 25200 | 101   | 25300 | 101   | P |
| Manganese |                     |       |       | 750                    | 760   | 101   | 765   | 102   | P |
| Selenium  |                     |       |       | 500                    | 485   | 97    | 488   | 98    | P |
| Thallium  |                     |       |       | 1000                   | 996   | 100   | 999   | 100   | P |

Comments:

**METALS**  
-2A-  
**INITIAL AND CONTINUING CALIBRATION VERIFICATION**

Contract: R1710113

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: MW-7

Initial Calibration Source: PERKIN ELMER

Continuing Calibration Source: PERKIN ELMER

Concentration Units: ug/L

| Analyte   | Initial Calibration |       |       | Continuing Calibration |       |       |       |       | M |
|-----------|---------------------|-------|-------|------------------------|-------|-------|-------|-------|---|
|           | True                | Found | %R(1) | True                   | Found | %R(1) | Found | %R(1) |   |
| Calcium   |                     |       |       | 25000                  | 24600 | 98    | 24500 | 98    | P |
| Iron      |                     |       |       | 5000                   | 4910  | 98    | 4900  | 98    | P |
| Lead      |                     |       |       | 500                    | 503   | 101   | 500   | 100   | P |
| Magnesium |                     |       |       | 25000                  | 25100 | 100   | 25200 | 101   | P |
| Manganese |                     |       |       | 750                    | 761   | 101   | 761   | 101   | P |
| Selenium  |                     |       |       | 500                    | 482   | 96    | 484   | 97    | P |
| Thallium  |                     |       |       | 1000                   | 999   | 100   | 1000  | 100   | P |

Comments:

METALS  
-2A-  
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Contract: R1710113

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: MW-7

Initial Calibration Source: PERKIN ELMER

Continuing Calibration Source: PERKIN ELMER

Concentration Units: ug/L

| Analyte   | Initial Calibration |       |       | Continuing Calibration |       |       |       |       | M |
|-----------|---------------------|-------|-------|------------------------|-------|-------|-------|-------|---|
|           | True                | Found | %R(1) | True                   | Found | %R(1) | Found | %R(1) |   |
| Calcium   |                     |       |       | 25000                  | 24500 | 98    |       |       | P |
| Iron      |                     |       |       | 5000                   | 4930  | 99    |       |       | P |
| Lead      |                     |       |       | 500                    | 506   | 101   |       |       | P |
| Magnesium |                     |       |       | 25000                  | 25300 | 101   |       |       | P |
| Manganese |                     |       |       | 750                    | 766   | 102   |       |       | P |
| Selenium  |                     |       |       | 500                    | 489   | 98    |       |       | P |
| Thallium  |                     |       |       | 1000                   | 1000  | 100   |       |       | P |

Comments:

**METALS**  
-2B-  
CRDL STANDARD FOR AA AND ICP

Contract: R1710113

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG No.: MW-7

AA CRDL Standard Source: ACCUSTANDARD

ICP CRDL Standard Source: \_\_\_\_\_

Concentration Units: ug/L

| Analyte   | CRDL Standard for AA |       |    | CRDL Standard for ICP |        |       |         |     |
|-----------|----------------------|-------|----|-----------------------|--------|-------|---------|-----|
|           | True                 | Found | %R | Initial               |        | Final |         |     |
|           |                      |       |    | True                  | Found  | %R    | Found   | %R  |
| Aluminum  |                      |       |    | 200.0                 | 170.00 | 85    | 177.10  | 89  |
| Antimony  |                      |       |    | 60.0                  | 57.60  | 96    | 59.30   | 99  |
| Arsenic   |                      |       |    | 20.0                  | 18.30  | 92    | 19.80   | 99  |
| Barium    |                      |       |    | 200.0                 | 209.80 | 105   | 219.20  | 110 |
| Beryllium |                      |       |    | 5.0                   | 4.80   | 96    | 5.00    | 100 |
| Cadmium   |                      |       |    | 10.0                  | 10.10  | 101   | 10.70   | 107 |
| Mercury   | 0.200                | 0.196 | 98 |                       |        |       |         |     |
| Chromium  |                      |       |    | 10.0                  | 10.30  | 103   | 10.60   | 106 |
| Cobalt    |                      |       |    | 50.0                  | 51.10  | 102   | 53.60   | 107 |
| Copper    |                      |       |    | 25.0                  | 23.70  | 95    | 24.40   | 98  |
| Iron      |                      |       |    | 100.0                 | 101.50 | 102   | 107.50  | 108 |
| Lead      |                      |       |    | 10.0                  | 10.20  | 102   | 10.00   | 100 |
| Magnesium |                      |       |    | 1000.0                | 985.50 | 99    | 1027.30 | 103 |
| Nickel    |                      |       |    | 40.0                  | 39.90  | 100   | 42.00   | 105 |
| Potassium |                      |       |    | 1000.0                | 919.20 | 92    | 951.70  | 95  |
| Selenium  |                      |       |    | 10.0                  | 10.90  | 109   | 12.00   | 120 |
| Silver    |                      |       |    | 10.0                  | 9.30   | 93    | 9.70    | 97  |
| Sodium    |                      |       |    | 1000.0                | 962.30 | 96    | 961.00  | 96  |
| Thallium  |                      |       |    | 20.0                  | 18.90  | 94    | 20.00   | 100 |
| Vanadium  |                      |       |    | 50.0                  | 49.00  | 98    | 51.40   | 103 |
| Zinc      |                      |       |    | 20.0                  | 19.40  | 97    | 20.40   | 102 |

Comments:

**METALS**  
**-2B-**  
**CRDL STANDARD FOR AA AND ICP**

Contract: R1710113

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG No.: MW-7

AA CRDL Standard Source: ACCUSTANDARD

ICP CRDL Standard Source: \_\_\_\_\_

Concentration Units: ug/L

| Analyte | CRDL Standard for AA |       |    | CRDL Standard for ICP |       |       |       |    |
|---------|----------------------|-------|----|-----------------------|-------|-------|-------|----|
|         | True                 | Found | %R | Initial               |       | Final |       |    |
|         | True                 | Found | %R | True                  | Found | %R    | Found | %R |
| Mercury | 0.200                | 0.197 | 98 |                       |       |       |       |    |

Comments:



**METALS**  
**-2B-**  
**CRDL STANDARD FOR AA AND ICP**

Contract: R1710113

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG No.: MW-7

AA CRDL Standard Source: ACCUSTANDARD

ICP CRDL Standard Source: \_\_\_\_\_

Concentration Units: ug/L

| Analyte   | CRDL Standard for AA |       |    | CRDL Standard for ICP |        |       |         |     |
|-----------|----------------------|-------|----|-----------------------|--------|-------|---------|-----|
|           | True                 | Found | %R | Initial               |        | Final |         |     |
|           | True                 | Found | %R | True                  | Found  | %R    | Found   | %R  |
| Calcium   |                      |       |    | 1000.0                | 954.20 | 95    | 1007.60 | 101 |
| Iron      |                      |       |    | 100.0                 | 96.50  | 96    | 97.60   | 98  |
| Lead      |                      |       |    | 10.0                  | 10.40  | 104   | 9.50    | 95  |
| Magnesium |                      |       |    | 1000.0                | 989.50 | 99    | 1000.70 | 100 |
| Manganese |                      |       |    | 15.0                  | 15.20  | 101   | 15.40   | 103 |
| Selenium  |                      |       |    | 10.0                  | 8.30   | 83    | 9.40    | 94  |
| Thallium  |                      |       |    | 20.0                  | 16.70  | 84    | 16.10   | 80  |

Comments:

METALS

-3-

BLANKS

Contract: R1710113

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: MW-7

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L, ppt, or mg/kg): UG/L

| Analyte   | Initial Calib. Blank ug/L |   | Continuing Calibration Blank ug/L |   |         |   |         |   | Preparation Blank |   | M  |
|-----------|---------------------------|---|-----------------------------------|---|---------|---|---------|---|-------------------|---|----|
|           | C                         |   | 1                                 | C | 2       | C | 3       | C | C                 |   |    |
| Aluminum  | 100.00                    | U | 100.00                            | U | 100.00  | U | 100.00  | U | 100.000           | U | P  |
| Antimony  | 60.00                     | U | 60.00                             | U | 60.00   | U | 60.00   | U | 60.000            | U | P  |
| Arsenic   | 10.00                     | U | 10.00                             | U | 10.00   | U | 10.00   | U | 10.000            | U | P  |
| Barium    | 20.00                     | U | 20.00                             | U | 20.00   | U | 20.00   | U | 20.000            | U | P  |
| Beryllium | 3.00                      | U | 3.00                              | U | 3.00    | U | 3.00    | U | 3.000             | U | P  |
| Cadmium   | 5.00                      | U | 5.00                              | U | 5.00    | U | 5.00    | U | 5.000             | U | P  |
| Mercury   | 0.200                     | U | 0.200                             | U | 0.200   | U | 0.200   | U | 0.200             | U | CV |
| Chromium  | 10.00                     | U | 10.00                             | U | 10.00   | U | 10.00   | U | 10.000            | U | P  |
| Cobalt    | 50.00                     | U | 50.00                             | U | 50.00   | U | 50.00   | U | 50.000            | U | P  |
| Copper    | 20.00                     | U | 20.00                             | U | 20.00   | U | 20.00   | U | 20.000            | U | P  |
| Iron      | 100.00                    | U | 100.00                            | U | 100.00  | U | 100.00  | U | 100.000           | U | P  |
| Lead      | 50.00                     | U | 50.00                             | U | 50.00   | U | 50.00   | U | 50.000            | U | P  |
| Magnesium | 1000.00                   | U | 1000.00                           | U | 1000.00 | U | 1000.00 | U | 1000.000          | U | P  |
| Nickel    | 40.00                     | U | 40.00                             | U | 40.00   | U | 40.00   | U | 40.000            | U | P  |
| Potassium | 2000.00                   | U | 2000.00                           | U | 2000.00 | U | 2000.00 | U | 2000.000          | U | P  |
| Selenium  | 10.00                     | U | 10.00                             | U | 10.00   | U | 10.00   | U | 10.000            | U | P  |
| Silver    | 10.00                     | U | 10.00                             | U | 10.00   | U | 10.00   | U | 10.000            | U | P  |
| Sodium    | 1000.00                   | U | 1000.00                           | U | 1000.00 | U | 1000.00 | U | 1000.000          | U | P  |
| Thallium  | 10.00                     | U | 10.00                             | U | 10.00   | U | 10.00   | U | 10.000            | U | P  |
| Vanadium  | 50.00                     | U | 50.00                             | U | 50.00   | U | 50.00   | U | 50.000            | U | P  |
| Zinc      | 20.00                     | U | 20.00                             | U | 20.00   | U | 20.00   | U | 20.000            | U | P  |

Comments:

METALS

-3-

BLANKS

Contract: R1710113

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: MW-7

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L, ppt, or mg/kg): UG/L

| Analyte   | Initial Calib. Blank ug/L | Continuing Calibration Blank ug/L |   |         |   |         |   | Preparation Blank | C | M  |
|-----------|---------------------------|-----------------------------------|---|---------|---|---------|---|-------------------|---|----|
|           |                           | 1                                 | C | 2       | C | 3       | C |                   |   |    |
| Aluminum  |                           | 100.00                            | U | 100.00  | U | 100.00  | U |                   |   | P  |
| Antimony  |                           | 60.00                             | U | 60.00   | U | 60.00   | U |                   |   | P  |
| Arsenic   |                           | 10.00                             | U | 10.00   | U | 10.00   | U |                   |   | P  |
| Barium    |                           | 20.00                             | U | 20.00   | U | 20.00   | U |                   |   | P  |
| Beryllium |                           | 3.00                              | U | 3.00    | U | 3.00    | U |                   |   | P  |
| Cadmium   |                           | 5.00                              | U | 5.00    | U | 5.00    | U |                   |   | P  |
| Mercury   |                           | 0.200                             | U | 0.200   | U | 0.200   | U |                   |   | CV |
| Chromium  |                           | 10.00                             | U | 10.00   | U | 10.00   | U |                   |   | P  |
| Cobalt    |                           | 50.00                             | U | 50.00   | U | 50.00   | U |                   |   | P  |
| Copper    |                           | 20.00                             | U | 20.00   | U | 20.00   | U |                   |   | P  |
| Iron      |                           | 100.00                            | U | 100.00  | U | 100.00  | U |                   |   | P  |
| Lead      |                           | 50.00                             | U | 50.00   | U | 50.00   | U |                   |   | P  |
| Magnesium |                           | 1000.00                           | U | 1000.00 | U | 1000.00 | U |                   |   | P  |
| Nickel    |                           | 40.00                             | U | 40.00   | U | 40.00   | U |                   |   | P  |
| Potassium |                           | 2000.00                           | U | 2000.00 | U | 2000.00 | U |                   |   | P  |
| Selenium  |                           | 10.00                             | U | 10.00   | U | 10.00   | U |                   |   | P  |
| Silver    |                           | 10.00                             | U | 10.00   | U | 10.00   | U |                   |   | P  |
| Sodium    |                           | 1000.00                           | U | 1000.00 | U | 1000.00 | U |                   |   | P  |
| Thallium  |                           | 10.00                             | U | 10.00   | U | 10.00   | U |                   |   | P  |
| Vanadium  |                           | 50.00                             | U | 50.00   | U | 50.00   | U |                   |   | P  |
| Zinc      |                           | 20.00                             | U | 20.00   | U | 20.00   | U |                   |   | P  |

Comments:

**METALS**

-3-

**BLANKS**

Contract: R1710113

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: MW-7

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L, ppt, or mg/kg): UG/L

| Analyte   | Initial Calib. Blank ug/L | Continuing Calibration Blank ug/L |   |         |   |         |   | Preparation Blank |   | M |
|-----------|---------------------------|-----------------------------------|---|---------|---|---------|---|-------------------|---|---|
|           |                           | 1                                 | C | 2       | C | 3       | C | C                 |   |   |
| Calcium   | 1000.00 U                 | 1000.00                           | U | 1000.00 | U | 1000.00 | U | 1000.00           | U | P |
| Iron      | 100.00 U                  | 100.00                            | U | 100.00  | U | 100.00  | U |                   |   | P |
| Lead      | 50.00 U                   | 50.00                             | U | 50.00   | U | 50.00   | U |                   |   | P |
| Magnesium | 1000.00 U                 | 1000.00                           | U | 1000.00 | U | 1000.00 | U |                   |   | P |
| Manganese | 10.00 U                   | 10.00                             | U | 10.00   | U | 10.00   | U | 10.000            | U | P |
| Selenium  | 10.00 U                   | 10.00                             | U | 10.00   | U | 10.00   | U |                   |   | P |
| Thallium  | 10.00 U                   | 10.00                             | U | 10.00   | U | 10.00   | U |                   |   | P |

Comments:

**METALS**

-3-

**BLANKS**

Contract: R1710113

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: MW-7

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L, ppt, or mg/kg): UG/L

| Analyte   | Initial Calib. Blank ug/L | Continuing Calibration Blank ug/L |   |         |   |         |   | Preparation Blank | C | M |
|-----------|---------------------------|-----------------------------------|---|---------|---|---------|---|-------------------|---|---|
|           |                           | 1                                 | C | 2       | C | 3       | C |                   |   |   |
| Calcium   |                           | 1000.00                           | U | 1000.00 | U | 1000.00 | U |                   |   | P |
| Iron      |                           | 100.00                            | U | 100.00  | U | 100.00  | U |                   |   | P |
| Lead      |                           | 50.00                             | U | 50.00   | U | 50.00   | U |                   |   | P |
| Magnesium |                           | 1000.00                           | U | 1000.00 | U | 1000.00 | U |                   |   | P |
| Manganese |                           | 10.00                             | U | 10.00   | U | 10.00   | U |                   |   | P |
| Selenium  |                           | 10.00                             | U | 10.00   | U | 10.00   | U |                   |   | P |
| Thallium  |                           | 10.00                             | U | 10.00   | U | 10.00   | U |                   |   | P |

Comments:

**METALS**

-3-

**BLANKS**

Contract: R1710113

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: MW-7

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L, ppt, or mg/kg): UG/L

| Analyte   | Initial Calib. Blank ug/L | Continuing Calibration Blank ug/L |   |   |   |   |   | Preparation Blank | C | M |
|-----------|---------------------------|-----------------------------------|---|---|---|---|---|-------------------|---|---|
|           |                           | 1                                 | C | 2 | C | 3 | C |                   |   |   |
| Calcium   |                           | 1000.00                           | U |   |   |   |   |                   |   | P |
| Iron      |                           | 100.00                            | U |   |   |   |   |                   |   | P |
| Lead      |                           | 50.00                             | U |   |   |   |   |                   |   | P |
| Magnesium |                           | 1000.00                           | U |   |   |   |   |                   |   | P |
| Manganese |                           | 10.00                             | U |   |   |   |   |                   |   | P |
| Selenium  |                           | 10.00                             | U |   |   |   |   |                   |   | P |
| Thallium  |                           | 10.00                             | U |   |   |   |   |                   |   | P |

Comments:

METALS

-4-

ICP INTERFERENCE CHECK SAMPLE

Contract: R1710113

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: MW-7

ICP ID Number: Agilent ICP ICS Source: PERKIN ELMER

Concentration Units): ug/L

| Analyte   | True   |        | Initial Found |        |     | Final Found |        |     |
|-----------|--------|--------|---------------|--------|-----|-------------|--------|-----|
|           | Sol.A  | Sol.AB | Sol.A         | Sol.AB | %R  | Sol.A       | Sol.AB | %R  |
| Aluminum  | 250000 | 250000 | 254000.0      | 254000 | 102 | 263000.0    | 264000 | 106 |
| Antimony  |        | 600    | -1.6          | 596    | 99  | -4.8        | 622    | 104 |
| Arsenic   |        | 100    | -1.0          | 101    | 101 | 4.5         | 107    | 107 |
| Barium    |        | 500    | 1.3           | 515    | 103 | 0.9         | 541    | 108 |
| Beryllium |        | 500    | 0.0           | 492    | 98  | 0.0         | 516    | 103 |
| Cadmium   |        | 1000   | -0.9          | 949    | 95  | -0.9        | 1000   | 100 |
| Chromium  |        | 500    | 0.2           | 485    | 97  | 0.0         | 511    | 102 |
| Cobalt    |        | 500    | -1.6          | 486    | 97  | -2.7        | 510    | 102 |
| Copper    |        | 500    | 0.7           | 504    | 101 | 0.8         | 520    | 104 |
| Iron      | 100000 | 100000 | 87500.0       | 87200  | 87  | 91900.0     | 92200  | 92  |
| Lead      |        | 50     | -2.7          | 47     | 94  | -1.4        | 50     | 100 |
| Magnesium | 250000 | 250000 | 261000.0      | 261000 | 104 | 273000.0    | 274000 | 110 |
| Nickel    |        | 1000   | -2.4          | 937    | 94  | -2.6        | 983    | 98  |
| Potassium |        |        | 77.9          | 12     |     | 86.5        | 59     |     |
| Selenium  |        | 50     | 1.1           | 49     | 98  | 6.2         | 58     | 116 |
| Silver    |        | 200    | 0.0           | 209    | 104 | 0.0         | 217    | 108 |
| Sodium    |        |        | -8.9          | -1     |     | -26.1       | -18    |     |
| Thallium  |        | 100    | 5.1           | 111    | 111 | 1.7         | 115    | 115 |
| Vanadium  |        | 500    | 3.2           | 494    | 99  | 3.5         | 519    | 104 |
| Zinc      |        | 1000   | 11.0          | 1010   | 101 | 11.8        | 1060   | 106 |

METALS

-4-

ICP INTERFERENCE CHECK SAMPLE

Contract: R1710113

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: MW-7

ICP ID Number: Agilent ICP ICS Source: PERKIN ELMER

Concentration Units): ug/L

| Analyte   | True   |        | Initial Found |        |     | Final Found |        |     |
|-----------|--------|--------|---------------|--------|-----|-------------|--------|-----|
|           | Sol.A  | Sol.AB | Sol.A         | Sol.AB | %R  | Sol.A       | Sol.AB | %R  |
| Calcium   | 250000 | 250000 | 269000.0      | 267000 | 107 | 272000.0    | 269000 | 108 |
| Iron      | 100000 | 100000 | 89400.0       | 89400  | 89  | 89800.0     | 90000  | 90  |
| Lead      |        | 50     | -4.3          | 49     | 98  | -1.5        | 47     | 94  |
| Magnesium | 250000 | 250000 | 265000.0      | 264000 | 106 | 266000.0    | 266000 | 106 |
| Manganese |        | 500    | 1.5           | 498    | 100 | 1.6         | 502    | 100 |
| Selenium  |        | 50     | 0.2           | 51     | 102 | 4.1         | 49     | 98  |
| Thallium  |        | 100    | 1.0           | 113    | 113 | 1.6         | 117    | 117 |



METALS

-7-

LABORATORY CONTROL SAMPLE

Contract: R1710113

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: MW-7

Solid LCS Source: \_\_\_\_\_

Aqueous LCS Source: CPI

| Analyte   | Aqueous (ug/L) |       |     | Solid (mg/K) |       |   |        |    |
|-----------|----------------|-------|-----|--------------|-------|---|--------|----|
|           | True           | Found | %R  | True         | Found | C | Limits | %R |
| Aluminum  | 2000           | 1810  | 90  |              |       |   |        |    |
| Antimony  | 500            | 485   | 97  |              |       |   |        |    |
| Arsenic   | 40             | 38    | 95  |              |       |   |        |    |
| Barium    | 2000           | 2040  | 102 |              |       |   |        |    |
| Beryllium | 50             | 49    | 98  |              |       |   |        |    |
| Cadmium   | 50             | 51    | 102 |              |       |   |        |    |
| Mercury   | 1.000          | 1.010 | 101 |              |       |   |        |    |
| Calcium   | 2000           | 1910  | 96  |              |       |   |        |    |
| Chromium  | 200            | 197   | 98  |              |       |   |        |    |
| Cobalt    | 500            | 507   | 101 |              |       |   |        |    |
| Copper    | 250            | 236   | 94  |              |       |   |        |    |
| Iron      | 1000           | 967   | 97  |              |       |   |        |    |
| Lead      | 500            | 510   | 102 |              |       |   |        |    |
| Magnesium | 2000           | 1980  | 99  |              |       |   |        |    |
| Manganese | 500            | 495   | 99  |              |       |   |        |    |
| Nickel    | 500            | 504   | 101 |              |       |   |        |    |
| Potassium | 20000          | 18700 | 94  |              |       |   |        |    |
| Selenium  | 1010           | 1050  | 104 |              |       |   |        |    |
| Silver    | 50             | 49    | 98  |              |       |   |        |    |
| Sodium    | 20000          | 19000 | 95  |              |       |   |        |    |
| Thallium  | 2000           | 1820  | 91  |              |       |   |        |    |
| Vanadium  | 500            | 490   | 98  |              |       |   |        |    |
| Zinc      | 500            | 508   | 102 |              |       |   |        |    |

Comments: \_\_\_\_\_

**METALS**  
-9-  
**ICP SERIAL DILUTIONS**

SAMPLE NO.

MW-8 DissL

Contract: R1710113

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: MW-7

Matrix (soil/water): WATER Level (low/med): LOW

Concentration Units: ug/L

| Analyte   | Initial Sample Result (I) |   | Serial Dilution Result (S) |   | % Difference | Q | M |
|-----------|---------------------------|---|----------------------------|---|--------------|---|---|
|           | C                         |   | C                          |   |              |   |   |
| Aluminum  | 89000.00                  |   | 83400.00                   |   | 6            |   | P |
| Antimony  | 60.00                     | U | 300.00                     | U |              |   | P |
| Arsenic   | 347.00                    |   | 342.00                     |   | 1            |   | P |
| Barium    | 1970.00                   |   | 2100.00                    |   | 7            |   | P |
| Beryllium | 3.00                      |   | 15.00                      | U | 100.0        |   | P |
| Cadmium   | 5.00                      | U | 25.00                      | U |              |   | P |
| Chromium  | 163.00                    |   | 179.00                     |   | 10           |   | P |
| Cobalt    | 50.00                     | U | 250.00                     | U |              |   | P |
| Copper    | 487.00                    |   | 462.00                     |   | 5            |   | P |
| Magnesium | 210000.00                 |   | 209000.00                  |   | 0            |   | P |
| Nickel    | 77.60                     |   | 200.00                     | U | 100.0        |   | P |
| Potassium | 89300.00                  |   | 83300.00                   |   | 7            |   | P |
| Silver    | 10.00                     | U | 50.00                      | U |              |   | P |
| Sodium    | 39200.00                  |   | 37500.00                   |   | 4            |   | P |
| Thallium  | 26.00                     |   | 50.00                      | U | 100.0        |   | P |
| Vanadium  | 181.00                    |   | 250.00                     | U | 100.0        |   | P |
| Zinc      | 1440.00                   |   | 1450.00                    |   | 1            |   | P |

Comments: \_\_\_\_\_

METALS  
-10-  
DETECTION LIMITS

Contract: R1710113  
Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: MW-7  
ICP ID Number: \_\_\_\_\_ Date: 5/5/2017  
Flame AA ID Number: PE FAA/CVAA  
Furnace AA ID Number: \_\_\_\_\_

| Analyte | Wave-length (nm) | Back-ground | PQL ug/L | MDL ug/L | M  |
|---------|------------------|-------------|----------|----------|----|
| Mercury | 253.70           | BD          | 0.200    | 0.200    | CV |

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**METALS**  
-10-  
**DETECTION LIMITS**

Contract: R1710113

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: MW-7

ICP ID Number: Agilent ICP Date: 3/23/2017

Flame AA ID Number: \_\_\_\_\_

Furnace AA ID Number: \_\_\_\_\_

| Analyte   | Wave-length (nm) | Back-ground | PQL ug/L | MDL ug/L | M |
|-----------|------------------|-------------|----------|----------|---|
| Aluminum  | 394.401          |             | 100.0    | 100.0    | P |
| Antimony  | 217.582          |             | 60.0     | 60.0     | P |
| Arsenic   | 188.980          |             | 10.0     | 10.0     | P |
| Barium    | 230.424          |             | 20.0     | 20.0     | P |
| Beryllium | 313.107          |             | 3.0      | 3.0      | P |
| Cadmium   | 214.439          |             | 5.0      | 5.0      | P |
| Calcium   | 227.547          |             | 1000.0   | 1000.0   | P |
| Chromium  | 267.716          |             | 10.0     | 10.0     | P |
| Cobalt    | 230.786          |             | 50.0     | 50.0     | P |
| Copper    | 327.395          |             | 20.0     | 20.0     | P |
| Iron      | 234.350          |             | 100.0    | 100.0    | P |
| Lead      | 220.353          |             | 50.0     | 50.0     | P |
| Magnesium | 279.078          |             | 1000.0   | 1000.0   | P |
| Manganese | 257.610          |             | 10.0     | 10.0     | P |
| Nickel    | 230.299          |             | 40.0     | 40.0     | P |
| Potassium | 766.491          |             | 2000.0   | 2000.0   | P |
| Selenium  | 196.026          |             | 10.0     | 10.0     | P |
| Silver    | 328.068          |             | 10.0     | 10.0     | P |
| Sodium    | 588.995          |             | 1000.0   | 1000.0   | P |
| Thallium  | 351.923          |             | 10.0     | 10.0     | P |
| Vanadium  | 292.401          |             | 50.0     | 50.0     | P |
| Zinc      | 213.857          |             | 20.0     | 20.0     | P |

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

METALS  
ICP LINEAR RANGES (QUARTERLY)

-12-

Contract: R1710113

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: MW-7

ICP ID Number: Agilent ICP Date: 4/28/2017

| Analyte   | Integ. Time (Sec.) | Concentration (ug/L) | M |
|-----------|--------------------|----------------------|---|
| Aluminum  | 1.000              | 500000               | P |
| Antimony  | 1.000              | 10000                | P |
| Arsenic   | 1.000              | 4000                 | P |
| Barium    | 1.000              | 40000                | P |
| Beryllium | 1.000              | 1000                 | P |
| Cadmium   | 1.000              | 2000                 | P |
| Calcium   | 1.000              | 250000               | P |
| Chromium  | 1.000              | 10000                | P |
| Cobalt    | 1.000              | 10000                | P |
| Copper    | 1.000              | 5000                 | P |
| Iron      | 1.000              | 50000                | P |
| Lead      | 1.000              | 10000                | P |
| Magnesium | 1.000              | 500000               | P |
| Manganese | 1.000              | 10000                | P |
| Nickel    | 1.000              | 8000                 | P |
| Potassium | 1.000              | 150000               | P |
| Selenium  | 1.000              | 2000                 | P |
| Silver    | 1.000              | 2000                 | P |
| Sodium    | 1.000              | 150000               | P |
| Thallium  | 1.000              | 4000                 | P |
| Vanadium  | 1.000              | 10000                | P |
| Zinc      | 1.000              | 4000                 | P |

Comments:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

METALS  
-14-

ANALYSIS RUN LOG

Contract: R1710113  
 Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG No.: MW-7  
 Instrument ID Number: Agilent ICP Method: P  
 Start Date: 11/1/2017 End Date: 11/1/2017

| Sample ID. | D/F   | Time  | % R | Analytes |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |
|------------|-------|-------|-----|----------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---|--------|--------|--------|--------|---|
|            |       |       |     | A<br>L   | S<br>B | A<br>S | B<br>A | B<br>E | C<br>D | C<br>A | C<br>R | C<br>O | C<br>U | F<br>E | P<br>B | M<br>G | M<br>N | H<br>G | N<br>I | K | S<br>E | A<br>G | N<br>A | T<br>L | V |
| BLANK      | 1.00  | 17:20 |     |          |        |        |        |        | X      |        |        |        | X      | X      | X      | X      |        |        | X      |   |        | X      |        |        |   |
| STANDARD 1 | 1.00  | 17:24 |     |          |        |        |        | X      |        |        |        | X      | X      | X      | X      |        |        | X      |        |   | X      |        |        |        |   |
| STANDARD 2 | 1.00  | 17:27 |     |          |        |        |        | X      |        |        |        | X      | X      | X      | X      |        |        | X      |        |   | X      |        |        |        |   |
| STANDARD 3 | 1.00  | 17:30 |     |          |        |        |        | X      |        |        |        | X      | X      | X      | X      |        |        | X      |        |   | X      |        |        |        |   |
| STANDARD 4 | 1.00  | 17:34 |     |          |        |        |        | X      |        |        |        | X      | X      | X      | X      |        |        | X      |        |   | X      |        |        |        |   |
| STANDARD 5 | 1.00  | 17:37 |     |          |        |        |        | X      |        |        |        | X      | X      | X      | X      |        |        | X      |        |   | X      |        |        |        |   |
| ICV2       | 1.00  | 17:40 |     |          |        |        |        | X      |        |        |        | X      | X      | X      | X      |        |        | X      |        |   | X      |        |        |        |   |
| ICB2       | 1.00  | 17:44 |     |          |        |        |        | X      |        |        |        | X      | X      | X      | X      |        |        | X      |        |   | X      |        |        |        |   |
| CRDL1      | 1.00  | 17:47 |     |          |        |        |        | X      |        |        |        | X      | X      | X      | X      |        |        | X      |        |   | X      |        |        |        |   |
| ICS-A1     | 1.00  | 17:50 |     |          |        |        |        | X      |        |        |        | X      | X      | X      | X      |        |        | X      |        |   | X      |        |        |        |   |
| ICS-AB1    | 1.00  | 17:54 |     |          |        |        |        | X      |        |        |        | X      | X      | X      | X      |        |        | X      |        |   | X      |        |        |        |   |
| CCV1       | 1.00  | 17:57 |     |          |        |        |        | X      |        |        |        | X      | X      | X      | X      |        |        | X      |        |   | X      |        |        |        |   |
| CCB1       | 1.00  | 18:00 |     |          |        |        |        | X      |        |        |        | X      | X      | X      | X      |        |        | X      |        |   | X      |        |        |        |   |
| ZZZZZZ     | 1.00  | 18:04 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |
| ZZZZZZ     | 1.00  | 18:07 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |
| ZZZZZZ     | 10.00 | 18:10 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |
| ZZZZZZ     | 10.00 | 18:13 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |
| ZZZZZZ     | 1.00  | 18:17 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |
| ZZZZZZ     | 1.00  | 18:20 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |
| ZZZZZZ     | 1.00  | 18:23 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |
| ZZZZZZ     | 5.00  | 18:27 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |
| PBW        | 1.00  | 18:30 |     |          |        |        |        | X      |        |        |        |        |        |        |        | X      |        |        |        |   |        |        |        |        |   |
| LCSW       | 1.00  | 18:33 |     |          |        |        |        | X      |        |        |        |        |        |        |        | X      |        |        |        |   |        |        |        |        |   |
| CCV2       | 1.00  | 18:37 |     |          |        |        |        | X      |        |        |        | X      | X      | X      | X      |        |        | X      |        |   | X      |        |        |        |   |
| CCB2       | 1.00  | 18:40 |     |          |        |        |        | X      |        |        |        | X      | X      | X      | X      |        |        | X      |        |   | X      |        |        |        |   |
| ZZZZZZ     | 1.00  | 18:43 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |
| ZZZZZZ     | 1.00  | 18:47 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |
| ZZZZZZ     | 1.00  | 18:50 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |
| ZZZZZZ     | 1.00  | 18:53 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |
| ZZZZZZ     | 5.00  | 18:57 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |
| ZZZZZZ     | 1.00  | 19:00 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |
| ZZZZZZ     | 1.00  | 19:03 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |
| ZZZZZZ     | 1.00  | 19:07 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |

\* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

METALS  
-14-

ANALYSIS RUN LOG

Contract: R1710113  
 Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG No.: MW-7  
 Instrument ID Number: Agilent ICP Method: P  
 Start Date: 11/1/2017 End Date: 11/1/2017

| Sample ID. | D/F    | Time  | % R | Analytes |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
|------------|--------|-------|-----|----------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---|--------|
|            |        |       |     | A<br>L   | S<br>B | A<br>S | B<br>A | B<br>E | C<br>D | C<br>A | C<br>R | C<br>O | C<br>U | F<br>E | P<br>B | M<br>G | M<br>N | H<br>G | N<br>I | K<br>E | S<br>G | A<br>G | N<br>A | T<br>L | V | Z<br>N |
| ZZZZZZ     | 10.00  | 19:10 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| ZZZZZZ     | 1.00   | 19:13 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| CCV3       | 1.00   | 19:17 |     |          |        |        |        | X      |        |        |        | X      | X      | X      | X      |        |        |        | X      |        |        |        | X      |        |   |        |
| CCB3       | 1.00   | 19:20 |     |          |        |        |        | X      |        |        |        | X      | X      | X      | X      |        |        |        | X      |        |        |        | X      |        |   |        |
| ZZZZZZ     | 1.00   | 19:23 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| ZZZZZZ     | 10.00  | 19:27 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| ZZZZZZ     | 1.00   | 19:30 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| MW-7       | 10.00  | 19:33 |     |          |        |        |        | X      |        |        |        |        |        |        | X      |        |        |        |        |        |        |        | X      |        |   |        |
| MW-7       | 1.00   | 19:36 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| MW-3 Diss  | 100.00 | 19:40 |     |          |        |        |        |        |        |        |        | X      |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| MW-3 Diss  | 10.00  | 19:43 |     |          |        |        |        | X      |        |        |        |        |        | X      | X      |        |        | X      |        |        |        |        | X      |        |   |        |
| MW-3 Diss  | 2.00   | 19:46 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| MW-3 Diss  | 1.00   | 19:50 |     |          |        |        |        |        |        |        |        |        | X      |        |        |        |        |        |        |        |        |        |        |        |   |        |
| MW-3       | 100.00 | 19:53 |     |          |        |        |        |        |        |        |        | X      |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| CCV4       | 1.00   | 19:56 |     |          |        |        |        | X      |        |        |        | X      | X      | X      | X      |        |        |        | X      |        |        |        | X      |        |   |        |
| CCB4       | 1.00   | 20:00 |     |          |        |        |        | X      |        |        |        | X      | X      | X      | X      |        |        |        | X      |        |        |        | X      |        |   |        |
| MW-3       | 10.00  | 20:03 |     |          |        |        |        | X      |        |        |        |        |        |        | X      |        |        | X      |        |        |        |        | X      |        |   |        |
| MW-3       | 2.00   | 20:06 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        | X      |        |        |        |        |        |   |        |
| MW-3       | 1.00   | 20:10 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| MW-D       | 100.00 | 20:13 |     |          |        |        |        |        |        |        |        | X      |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| MW-D       | 10.00  | 20:16 |     |          |        |        |        | X      |        |        |        |        |        |        | X      |        |        | X      |        |        |        |        | X      |        |   |        |
| MW-D       | 2.00   | 20:20 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| MW-D Diss  | 100.00 | 20:23 |     |          |        |        |        |        |        |        |        | X      |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| MW-D Diss  | 10.00  | 20:26 |     |          |        |        |        | X      |        |        |        |        |        |        | X      |        |        | X      |        |        |        |        |        |        |   |        |
| CCV5       | 1.00   | 20:30 |     |          |        |        |        | X      |        |        |        | X      | X      | X      | X      |        |        |        | X      |        |        |        | X      |        |   |        |
| CCB5       | 1.00   | 20:33 |     |          |        |        |        | X      |        |        |        | X      | X      | X      | X      |        |        |        | X      |        |        |        | X      |        |   |        |
| MW-D Diss  | 2.00   | 20:36 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        | X      |        |   |        |
| MW-D Diss  | 1.00   | 20:40 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        | X      |        |        |        |        |        |   |        |
| MW-8       | 10.00  | 20:43 |     |          |        |        |        | X      |        |        |        | X      | X      |        | X      |        |        | X      |        |        |        |        |        |        |   |        |
| MW-8 Diss  | 10.00  | 20:46 |     |          |        |        |        | X      |        |        |        | X      | X      |        | X      |        |        |        |        |        |        |        |        |        |   |        |
| MW-8 Diss  | 1.00   | 20:49 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        | X      |        |        |        |        |        |   |        |
| ZZZZZZ     | 10.00  | 20:53 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| ZZZZZZ     | 1.00   | 20:56 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |

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METALS  
-14-

ANALYSIS RUN LOG

Contract: R1710113  
 Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG No.: MW-7  
 Instrument ID Number: Agilent ICP Method: P  
 Start Date: 11/1/2017 End Date: 11/1/2017

| Sample ID. | D/F  | Time  | % R | Analytes |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |
|------------|------|-------|-----|----------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---|--------|--------|--------|--------|---|--------|
|            |      |       |     | A<br>L   | S<br>B | A<br>S | B<br>A | B<br>E | C<br>D | C<br>A | C<br>R | C<br>O | C<br>U | F<br>E | P<br>B | M<br>G | M<br>N | H<br>G | N<br>I | K | S<br>E | A<br>G | N<br>A | T<br>L | V | Z<br>N |
| ZZZZZZ     | 1.00 | 20:59 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |
| ZZZZZZ     | 1.00 | 21:03 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |
| CCV6       | 1.00 | 21:06 |     |          |        |        |        |        | X      |        |        | X      | X      | X      | X      |        |        |        | X      |   |        | X      |        |        |   |        |
| CCB6       | 1.00 | 21:09 |     |          |        |        |        |        | X      |        |        | X      | X      | X      | X      |        |        |        | X      |   |        | X      |        |        |   |        |
| CRDL2      | 1.00 | 21:13 |     |          |        |        |        |        | X      |        |        | X      | X      | X      | X      |        |        |        | X      |   |        | X      |        |        |   |        |
| ICS-A2     | 1.00 | 21:16 |     |          |        |        |        |        | X      |        |        | X      | X      | X      | X      |        |        |        | X      |   |        | X      |        |        |   |        |
| ICS-AB2    | 1.00 | 21:19 |     |          |        |        |        |        | X      |        |        | X      | X      | X      | X      |        |        |        | X      |   |        | X      |        |        |   |        |
| ZZZZZZ     | 1.00 | 21:23 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |
| ZZZZZZ     | 1.00 | 21:26 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |
| ZZZZZZ     | 1.00 | 21:29 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |
| CCV7       | 1.00 | 21:33 |     |          |        |        |        |        | X      |        |        | X      | X      | X      | X      |        |        |        | X      |   |        | X      |        |        |   |        |
| CCB7       | 1.00 | 21:36 |     |          |        |        |        |        | X      |        |        | X      | X      | X      | X      |        |        |        | X      |   |        | X      |        |        |   |        |

\* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14



METALS  
-14-

ANALYSIS RUN LOG

Contract: R1710113  
 Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG No.: MW-7  
 Instrument ID Number: Agilent ICP Method: P  
 Start Date: 10/31/2017 End Date: 11/1/2017

| Sample ID. | D/F    | Time  | % R | Analytes |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |
|------------|--------|-------|-----|----------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---|
|            |        |       |     | A<br>L   | S<br>B | A<br>S | B<br>A | B<br>E | C<br>D | C<br>A | C<br>R | C<br>O | C<br>U | F<br>E | P<br>B | M<br>G | M<br>N | H<br>G | N<br>I | K<br>E | S<br>G | A<br>A | N<br>L | T<br>L | V |
| BLANK      | 1.00   | 18:19 |     | X        | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      |        | X      | X      | X      | X      | X      | X      | X      | X      | X |
| STANDARD 1 | 1.00   | 18:22 |     | X        | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      |        | X      | X      | X      | X      | X      | X      | X      | X      | X |
| STANDARD 2 | 1.00   | 18:25 |     | X        | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      |        | X      | X      | X      | X      | X      | X      | X      | X      | X |
| STANDARD 3 | 1.00   | 18:29 |     | X        | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      |        | X      | X      | X      | X      | X      | X      | X      | X      | X |
| STANDARD 4 | 1.00   | 18:32 |     | X        | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      |        | X      | X      | X      | X      | X      | X      | X      | X      | X |
| STANDARD 5 | 1.00   | 18:35 |     | X        | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      |        | X      | X      | X      | X      | X      | X      | X      | X      | X |
| ICV1       | 1.00   | 18:39 |     | X        | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      |        | X      | X      | X      | X      | X      | X      | X      | X      | X |
| ICB1       | 1.00   | 18:42 |     | X        | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      |        | X      | X      | X      | X      | X      | X      | X      | X      | X |
| ZZZZZZ     | 1.00   | 18:45 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |
| ZZZZZZ     | 1.00   | 18:49 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |
| ZZZZZZ     | 1.00   | 18:52 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |
| ZZZZZZ     | 1.00   | 18:55 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |
| ZZZZZZ     | 1.00   | 18:59 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |
| ZZZZZZ     | 1.00   | 19:02 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |
| ZZZZZZ     | 1.00   | 19:05 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |
| ZZZZZZ     | 1.00   | 19:09 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |
| ZZZZZZ     | 1.00   | 19:12 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |
| ZZZZZZ     | 100.00 | 19:15 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |
| ZZZZZZ     | 1.00   | 19:19 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |
| ZZZZZZ     | 1.00   | 19:22 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |
| ZZZZZZ     | 1.00   | 19:25 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |
| ZZZZZZ     | 1.00   | 19:29 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |
| ZZZZZZ     | 1.00   | 19:32 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |
| ZZZZZZ     | 1.00   | 19:35 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |
| ZZZZZZ     | 1.00   | 19:39 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |
| ZZZZZZ     | 5.00   | 19:42 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |
| ZZZZZZ     | 1.00   | 19:45 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |
| ZZZZZZ     | 10.00  | 19:48 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |
| ZZZZZZ     | 1.00   | 19:52 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |
| ZZZZZZ     | 1.00   | 19:55 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |
| ZZZZZZ     | 100.00 | 19:58 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |
| ZZZZZZ     | 1.00   | 20:02 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |
| ZZZZZZ     | 1.00   | 20:05 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |

\* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

METALS  
-14-

ANALYSIS RUN LOG

Contract: R1710113  
 Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG No.: MW-7  
 Instrument ID Number: Agilent ICP Method: P  
 Start Date: 10/31/2017 End Date: 11/1/2017

| Sample ID. | D/F   | Time  | % R | Analytes |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
|------------|-------|-------|-----|----------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---|--------|
|            |       |       |     | A<br>L   | S<br>B | A<br>S | B<br>A | B<br>E | C<br>D | C<br>A | C<br>R | C<br>O | C<br>U | F<br>E | P<br>B | M<br>G | M<br>N | H<br>G | N<br>I | K<br>E | S<br>G | A<br>A | N<br>L | T<br>L | V | Z<br>N |
| ZZZZZZ     | 10.00 | 20:08 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| ZZZZZZ     | 1.00  | 20:12 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| ZZZZZZ     | 1.00  | 20:15 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| ZZZZZZ     | 1.00  | 20:18 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| ZZZZZZ     | 1.00  | 20:22 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| ZZZZZZ     | 1.00  | 20:25 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| ZZZZZZ     | 1.00  | 20:28 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| ZZZZZZ     | 1.00  | 20:32 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| ZZZZZZ     | 1.00  | 20:35 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| ZZZZZZ     | 1.00  | 20:38 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| ZZZZZZ     | 1.00  | 20:42 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| ZZZZZZ     | 1.00  | 20:45 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| ZZZZZZ     | 1.00  | 20:48 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| ZZZZZZ     | 1.00  | 20:52 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| ZZZZZZ     | 1.00  | 20:55 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| ZZZZZZ     | 1.00  | 20:58 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| ZZZZZZ     | 1.00  | 21:02 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| ZZZZZZ     | 1.00  | 21:05 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| ZZZZZZ     | 1.00  | 21:08 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| ZZZZZZ     | 1.00  | 21:11 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| ZZZZZZ     | 1.00  | 21:15 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| ZZZZZZ     | 1.00  | 21:18 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| ZZZZZZ     | 1.00  | 21:21 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| ZZZZZZ     | 1.00  | 21:25 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| ZZZZZZ     | 5.00  | 21:28 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| ZZZZZZ     | 1.00  | 21:31 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| ZZZZZZ     | 1.00  | 21:35 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| ZZZZZZ     | 1.00  | 21:38 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| ZZZZZZ     | 1.00  | 21:41 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| ZZZZZZ     | 1.00  | 21:45 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| ZZZZZZ     | 1.00  | 21:48 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| ZZZZZZ     | 1.00  | 21:51 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| ZZZZZZ     | 1.00  | 21:55 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |

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METALS

-14-

ANALYSIS RUN LOG

Contract: R1710113

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG No.: MW-7

Instrument ID Number: Agilent ICP Method: P

Start Date: 10/31/2017 End Date: 11/1/2017

| Sample ID. | D/F  | Time  | % R | Analytes |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |   |  |  |  |
|------------|------|-------|-----|----------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---|--------|--------|---|--|--|--|
|            |      |       |     | A<br>L   | S<br>B | A<br>S | B<br>A | B<br>E | C<br>D | C<br>A | C<br>R | C<br>O | C<br>U | F<br>E | P<br>B | M<br>G | M<br>N | H<br>G | N<br>I | K<br>E | S<br>E | A<br>G | N<br>A | T<br>L | V | Z<br>N | C<br>N |   |  |  |  |
| ZZZZZZ     | 1.00 | 21:58 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |   |  |  |  |
| ZZZZZZ     | 1.00 | 22:01 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |   |  |  |  |
| ZZZZZZ     | 1.00 | 22:05 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |   |  |  |  |
| ZZZZZZ     | 5.00 | 22:08 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |   |  |  |  |
| ZZZZZZ     | 1.00 | 22:11 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |   |  |  |  |
| ZZZZZZ     | 1.00 | 22:14 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |   |  |  |  |
| ZZZZZZ     | 1.00 | 22:18 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |   |  |  |  |
| ZZZZZZ     | 1.00 | 22:21 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |   |  |  |  |
| ZZZZZZ     | 1.00 | 22:24 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |   |  |  |  |
| ZZZZZZ     | 1.00 | 22:28 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |   |  |  |  |
| ZZZZZZ     | 1.00 | 22:31 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |   |  |  |  |
| ZZZZZZ     | 1.00 | 22:34 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |   |  |  |  |
| ZZZZZZ     | 1.00 | 22:38 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |   |  |  |  |
| ZZZZZZ     | 1.00 | 22:41 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |   |  |  |  |
| ZZZZZZ     | 1.00 | 22:44 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |   |  |  |  |
| ZZZZZZ     | 1.00 | 22:48 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |   |  |  |  |
| ZZZZZZ     | 1.00 | 22:51 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |   |  |  |  |
| ZZZZZZ     | 1.00 | 22:54 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |   |  |  |  |
| CCV1       | 1.00 | 22:58 |     | X        | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      |        |        | X      | X      | X      | X      | X      | X      | X | X      | X      | X |  |  |  |
| CCB1       | 1.00 | 23:01 |     | X        | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      |        |        | X      | X      | X      | X      | X      | X      | X | X      | X      | X |  |  |  |
| CRDL1      | 1.00 | 23:04 |     | X        | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      |        |        | X      | X      | X      | X      | X      | X      | X | X      | X      | X |  |  |  |
| ICS-A1     | 1.00 | 23:08 |     | X        | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      |        |        | X      | X      | X      | X      | X      | X      | X | X      | X      | X |  |  |  |
| ICS-AB1    | 1.00 | 23:11 |     | X        | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      |        |        | X      | X      | X      | X      | X      | X      | X | X      | X      | X |  |  |  |
| CCV2       | 1.00 | 23:14 |     | X        | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      |        |        | X      | X      | X      | X      | X      | X      | X | X      | X      | X |  |  |  |
| CCB2       | 1.00 | 23:18 |     | X        | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      |        |        | X      | X      | X      | X      | X      | X      | X | X      | X      | X |  |  |  |
| PBW        | 1.00 | 23:21 |     | X        | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      |        |        | X      | X      | X      | X      | X      | X      | X | X      | X      | X |  |  |  |
| LCSW       | 1.00 | 23:24 |     | X        | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      |        |        | X      | X      | X      | X      | X      | X      | X | X      | X      | X |  |  |  |
| ZZZZZZ     | 1.00 | 23:28 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |   |  |  |  |
| ZZZZZZ     | 1.00 | 23:31 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |   |  |  |  |
| ZZZZZZ     | 1.00 | 23:34 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |   |  |  |  |
| ZZZZZZ     | 1.00 | 23:37 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |   |  |  |  |
| ZZZZZZ     | 5.00 | 23:41 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |   |  |  |  |
| ZZZZZZ     | 1.00 | 23:44 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |   |  |  |  |

\* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

METALS

-14-

ANALYSIS RUN LOG

Contract: R1710113

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG No.: MW-7

Instrument ID Number: Agilent ICP Method: P

Start Date: 10/31/2017 End Date: 11/1/2017

| Sample ID. | D/F  | Time  | % R | Analytes |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        |  |  |
|------------|------|-------|-----|----------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---|--------|--------|--------|--------|---|--------|--------|--|--|
|            |      |       |     | A<br>L   | S<br>B | A<br>S | B<br>A | B<br>E | C<br>D | C<br>A | C<br>R | C<br>O | C<br>U | F<br>E | P<br>B | M<br>G | M<br>N | H<br>G | N<br>I | K | S<br>E | A<br>G | N<br>A | T<br>L | V | Z<br>N | C<br>N |  |  |
| ZZZZZZ     | 1.00 | 23:47 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        |  |  |
| ZZZZZZ     | 1.00 | 23:51 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        |  |  |
| CCV3       | 1.00 | 23:54 |     | X        | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      |        |        |        | X      | X | X      | X      | X      | X      | X | X      | X      |  |  |
| CCB3       | 1.00 | 23:57 |     | X        | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      |        |        |        | X      | X      | X | X      | X      | X      | X      | X | X      | X      |  |  |
| ZZZZZZ     | 1.00 | 00:01 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        |  |  |
| ZZZZZZ     | 1.00 | 00:04 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        |  |  |
| ZZZZZZ     | 1.00 | 00:07 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        |  |  |
| ZZZZZZ     | 1.00 | 00:11 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        |  |  |
| MW-7       | 1.00 | 00:14 |     | X        | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      |        |        |        | X      | X      | X | X      | X      | X      | X      | X | X      | X      |  |  |
| MW-3 Diss  | 1.00 | 00:17 |     | X        | X      | X      | X      | X      | X      | X      | X      |        |        |        |        |        |        | X      | X      | X | X      | X      | X      | X      | X | X      | X      |  |  |
| MW-3       | 1.00 | 00:21 |     | X        | X      | X      | X      | X      | X      | X      | X      |        |        | X      | X      |        |        | X      |        |   | X      | X      | X      | X      | X | X      | X      |  |  |
| MW-D       | 1.00 | 00:24 |     | X        | X      | X      | X      | X      | X      | X      | X      |        |        | X      | X      |        |        | X      |        |   | X      | X      | X      | X      | X | X      | X      |  |  |
| MW-D Diss  | 1.00 | 00:27 |     | X        | X      | X      | X      | X      | X      | X      | X      |        |        | X      | X      |        |        | X      |        |   | X      | X      | X      | X      | X | X      | X      |  |  |
| MW-8       | 1.00 | 00:30 |     | X        | X      | X      | X      | X      | X      | X      | X      |        |        | X      |        |        |        | X      |        |   | X      | X      | X      | X      | X | X      | X      |  |  |
| CCV4       | 1.00 | 00:34 |     | X        | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      |        |        |        | X      | X      | X | X      | X      | X      | X      | X | X      | X      |  |  |
| CCB4       | 1.00 | 00:37 |     | X        | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      |        |        |        | X      | X      | X | X      | X      | X      | X      | X | X      | X      |  |  |
| MW-8 Diss  | 1.00 | 00:40 |     | X        | X      | X      | X      | X      | X      | X      | X      |        |        | X      |        |        |        | X      | X      |   | X      | X      | X      | X      | X | X      | X      |  |  |
| MW-8 DissL | 5.00 | 00:44 |     | X        | X      | X      | X      | X      | X      | X      | X      |        |        | X      |        |        |        | X      | X      |   | X      | X      | X      | X      | X | X      | X      |  |  |
| ZZZZZZ     | 1.00 | 00:47 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        |  |  |
| ZZZZZZ     | 1.00 | 00:50 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        |  |  |
| CCV5       | 1.00 | 00:54 |     | X        | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      |        |        |        | X      | X      | X | X      | X      | X      | X      | X | X      | X      |  |  |
| CCB5       | 1.00 | 00:57 |     | X        | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      |        |        |        | X      | X      | X | X      | X      | X      | X      | X | X      | X      |  |  |
| CRDL2      | 1.00 | 01:00 |     | X        | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      |        |        |        | X      | X      | X | X      | X      | X      | X      | X | X      | X      |  |  |
| ICS-A2     | 1.00 | 01:04 |     | X        | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      |        |        |        | X      | X      | X | X      | X      | X      | X      | X | X      | X      |  |  |
| ICS-AB2    | 1.00 | 01:07 |     | X        | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      |        |        |        | X      | X      | X | X      | X      | X      | X      | X | X      | X      |  |  |
| CCV6       | 1.00 | 01:10 |     | X        | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      |        |        |        | X      | X      | X | X      | X      | X      | X      | X | X      | X      |  |  |
| CCB6       | 1.00 | 01:14 |     | X        | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      |        |        |        | X      | X      | X | X      | X      | X      | X      | X | X      | X      |  |  |

\* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

METALS

-14-

ANALYSIS RUN LOG

Contract: R1710113  
 Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG No.: MW-7  
 Instrument ID Number: PE FAA/CVAA Method: CV  
 Start Date: 11/3/2017 End Date: 11/3/2017

| Sample ID.  | D/F  | Time  | % R | Analytes |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        |  |  |   |  |
|-------------|------|-------|-----|----------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---|--------|--------|--------|--------|---|--------|--------|--|--|---|--|
|             |      |       |     | A<br>L   | S<br>B | A<br>S | B<br>A | B<br>E | C<br>D | C<br>A | C<br>R | C<br>O | C<br>U | F<br>E | P<br>B | M<br>G | M<br>N | H<br>G | N<br>I | K | S<br>E | A<br>G | N<br>A | T<br>L | V | Z<br>N | C<br>N |  |  |   |  |
| Calib Blank | 1.00 | 12:20 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        |  |  | X |  |
| 0.2ppb std  | 1.00 | 12:22 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        |  |  | X |  |
| 0.5ppb std  | 1.00 | 12:23 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        |  |  | X |  |
| 1.0ppb std  | 1.00 | 12:25 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        |  |  | X |  |
| 2.0ppb std  | 1.00 | 12:27 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        |  |  | X |  |
| 5.0ppb std  | 1.00 | 12:28 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        |  |  | X |  |
| 10.0ppb std | 1.00 | 12:30 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        |  |  | X |  |
| ICV1        | 1.00 | 12:31 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        |  |  | X |  |
| ICB1        | 1.00 | 12:33 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        |  |  | X |  |
| CRDL1       | 1.00 | 12:35 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        |  |  | X |  |
| CCV1        | 1.00 | 12:36 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        |  |  | X |  |
| CCB1        | 1.00 | 12:38 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        |  |  | X |  |
| PBW         | 1.00 | 12:40 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        |  |  | X |  |
| LCSW        | 1.00 | 12:41 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        |  |  | X |  |
| ZZZZZZ      | 1.00 | 12:43 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        |  |  |   |  |
| ZZZZZZ      | 1.00 | 12:44 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        |  |  |   |  |
| ZZZZZZ      | 1.00 | 12:46 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        |  |  |   |  |
| CCV2        | 1.00 | 12:48 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        |  |  | X |  |
| CCB2        | 1.00 | 12:49 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        |  |  | X |  |
| ZZZZZZ      | 1.00 | 12:51 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        |  |  |   |  |
| ZZZZZZ      | 1.00 | 12:53 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        |  |  |   |  |
| ZZZZZZ      | 1.00 | 12:54 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        |  |  |   |  |
| MW-7        | 1.00 | 12:56 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        |  |  | X |  |
| MW-3 Diss   | 1.00 | 12:58 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        |  |  | X |  |
| CCV3        | 1.00 | 12:59 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        |  |  | X |  |
| CCB3        | 1.00 | 13:01 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        |  |  | X |  |
| MW-3        | 1.00 | 13:02 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        |  |  | X |  |
| MW-D        | 1.00 | 13:04 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        |  |  | X |  |
| MW-D Diss   | 1.00 | 13:06 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        |  |  | X |  |
| MW-8        | 1.00 | 13:07 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        |  |  |   |  |
| MW-8 Diss   | 1.00 | 13:09 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        |  |  | X |  |
| CCV4        | 1.00 | 13:11 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        |  |  | X |  |
| CCB4        | 1.00 | 13:12 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        |  |  | X |  |

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METALS  
-14-

ANALYSIS RUN LOG

Contract: R1710113  
 Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG No.: MW-7  
 Instrument ID Number: PE FAA/CVAA Method: CV  
 Start Date: 11/3/2017 End Date: 11/3/2017

| Sample ID. | D/F  | Time  | % R | Analytes |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |
|------------|------|-------|-----|----------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---|--------|--------|
|            |      |       |     | A<br>L   | S<br>B | A<br>S | B<br>A | B<br>E | C<br>D | C<br>A | C<br>R | C<br>O | C<br>U | F<br>E | P<br>B | M<br>G | M<br>N | H<br>G | N<br>I | K<br>E | S<br>G | A<br>A | N<br>A | T<br>L | V | Z<br>N | C<br>N |
| ZZZZZZ     | 1.00 | 13:14 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |
| ZZZZZZ     | 1.00 | 13:16 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |
| ZZZZZZ     | 1.00 | 13:17 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |
| ZZZZZZ     | 1.00 | 13:19 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |
| MW-8       | 5.00 | 13:20 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        | X      |        |        |        |        |        |        |   |        |        |
| ZZZZZZ     | 1.00 | 13:22 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |
| CCV5       | 1.00 | 13:24 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        | X      |        |        |        |        |        |        |   |        |        |
| CCB5       | 1.00 | 13:25 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        | X      |        |        |        |        |        |        |   |        |        |
| ZZZZZZ     | 1.00 | 13:27 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |
| ZZZZZZ     | 1.00 | 13:29 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |
| ZZZZZZ     | 1.00 | 13:30 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |
| ZZZZZZ     | 1.00 | 13:32 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |
| ZZZZZZ     | 1.00 | 13:34 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |
| CRDL2      | 1.00 | 13:35 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        | X      |        |        |        |        |        |        |   |        |        |
| CCV6       | 1.00 | 13:37 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        | X      |        |        |        |        |        |        |   |        |        |
| CCB6       | 1.00 | 13:39 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        | X      |        |        |        |        |        |        |   |        |        |

\* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14



## Raw Data

**ALS Environmental—Rochester Laboratory**  
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623  
Phone (585) 288-5380 Fax (585) 288-8475  
[www.alsglobal.com](http://www.alsglobal.com)



## Semivolatile Organic Compounds by GC/MS

**ALS Environmental—Rochester Laboratory**  
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623  
Phone (585) 288-5380 Fax (585) 288-8475  
[www.alsglobal.com](http://www.alsglobal.com)



ALS Group USA, Corp.  
dba ALS Environmental

Analytical Report

**Client:** The LiRo Group  
**Project:** City of Buffalo - Franczyk Park Site/17-039-1144  
**Sample Matrix:** Water

**Service Request:** R1710113  
**Date Collected:** 10/24/17 11:05  
**Date Received:** 10/25/17 12:35

**Sample Name:** MW-7  
**Lab Code:** R1710113-001

**Units:** ug/L  
**Basis:** NA

Semivolatile Organic Compounds by GC/MS

**Analysis Method:** 8270D  
**Prep Method:** EPA 3510C

| Analyte Name                    | Result | MRL | Dil. | Date Analyzed  | Date Extracted | Q |
|---------------------------------|--------|-----|------|----------------|----------------|---|
| 1,2,4-Trichlorobenzene          | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| 1,2-Dichlorobenzene             | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| 1,3-Dichlorobenzene             | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| 1,4-Dichlorobenzene             | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| 2,4,5-Trichlorophenol           | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| 2,4,6-Trichlorophenol           | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| 2,4-Dichlorophenol              | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| 2,4-Dimethylphenol              | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| 2,4-Dinitrophenol               | 47 U   | 47  | 1    | 10/30/17 16:09 | 10/26/17       |   |
| 2,4-Dinitrotoluene              | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| 2,6-Dinitrotoluene              | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| 2-Chloronaphthalene             | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| 2-Chlorophenol                  | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| 2-Methylnaphthalene             | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| 2-Methylphenol                  | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| 2-Nitroaniline                  | 47 U   | 47  | 1    | 10/30/17 16:09 | 10/26/17       |   |
| 2-Nitrophenol                   | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| 3,3'-Dichlorobenzidine          | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| 3- and 4-Methylphenol Coelution | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| 3-Nitroaniline                  | 47 U   | 47  | 1    | 10/30/17 16:09 | 10/26/17       |   |
| 4,6-Dinitro-2-methylphenol      | 47 U   | 47  | 1    | 10/30/17 16:09 | 10/26/17       |   |
| 4-Bromophenyl Phenyl Ether      | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| 4-Chloro-3-methylphenol         | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| 4-Chloroaniline                 | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| 4-Chlorophenyl Phenyl Ether     | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| 4-Nitroaniline                  | 47 U   | 47  | 1    | 10/30/17 16:09 | 10/26/17       |   |
| 4-Nitrophenol                   | 47 U   | 47  | 1    | 10/30/17 16:09 | 10/26/17       |   |
| Acenaphthene                    | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| Acenaphthylene                  | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| Anthracene                      | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| Benz(a)anthracene               | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| Benzo(a)pyrene                  | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| Benzo(b)fluoranthene            | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| Benzo(g,h,i)perylene            | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| Benzo(k)fluoranthene            | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| Benzyl Alcohol                  | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| 2,2'-Oxybis(1-chloropropane)    | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| Bis(2-chloroethoxy)methane      | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| Bis(2-chloroethyl) Ether        | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| Bis(2-ethylhexyl) Phthalate     | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| Butyl Benzyl Phthalate          | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| Carbazole                       | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| Chrysene                        | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |

ALS Group USA, Corp.  
dba ALS Environmental

Analytical Report

**Client:** The LiRo Group  
**Project:** City of Buffalo - Franczyk Park Site/17-039-1144  
**Sample Matrix:** Water

**Service Request:** R1710113  
**Date Collected:** 10/24/17 11:05  
**Date Received:** 10/25/17 12:35

**Sample Name:** MW-7  
**Lab Code:** R1710113-001

**Units:** ug/L  
**Basis:** NA

Semivolatile Organic Compounds by GC/MS

**Analysis Method:** 8270D  
**Prep Method:** EPA 3510C

| Analyte Name              | Result | MRL | Dil. | Date Analyzed  | Date Extracted | Q |
|---------------------------|--------|-----|------|----------------|----------------|---|
| Di-n-butyl Phthalate      | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| Di-n-octyl Phthalate      | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| Dibenz(a,h)anthracene     | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| Dibenzofuran              | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| Diethyl Phthalate         | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| Dimethyl Phthalate        | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| Fluoranthene              | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| Fluorene                  | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| Hexachlorobenzene         | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| Hexachlorobutadiene       | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| Hexachlorocyclopentadiene | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| Hexachloroethane          | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| Indeno(1,2,3-cd)pyrene    | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| Isophorone                | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| N-Nitrosodi-n-propylamine | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| N-Nitrosodimethylamine    | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| N-Nitrosodiphenylamine    | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| Naphthalene               | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| Nitrobenzene              | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| Pentachlorophenol (PCP)   | 47 U   | 47  | 1    | 10/30/17 16:09 | 10/26/17       |   |
| Phenanthrene              | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| Phenol                    | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |
| Pyrene                    | 9.4 U  | 9.4 | 1    | 10/30/17 16:09 | 10/26/17       |   |

| Surrogate Name       | % Rec | Control Limits | Date Analyzed  | Q |
|----------------------|-------|----------------|----------------|---|
| 2,4,6-Tribromophenol | 75    | 35 - 141       | 10/30/17 16:09 |   |
| 2-Fluorobiphenyl     | 72    | 31 - 118       | 10/30/17 16:09 |   |
| 2-Fluorophenol       | 37    | 10 - 105       | 10/30/17 16:09 |   |
| Nitrobenzene-d5      | 72    | 31 - 110       | 10/30/17 16:09 |   |
| Phenol-d6            | 25    | 10 - 107       | 10/30/17 16:09 |   |
| p-Terphenyl-d14      | 77    | 30 - 133       | 10/30/17 16:09 |   |

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Analytical Report

**Client:** The LiRo Group  
**Project:** City of Buffalo - Franczyk Park Site/17-039-1144  
**Sample Matrix:** Water

**Service Request:** R1710113  
**Date Collected:** 10/24/17 13:30  
**Date Received:** 10/25/17 12:35

**Sample Name:** MW-3  
**Lab Code:** R1710113-002

**Units:** ug/L  
**Basis:** NA

Semivolatile Organic Compounds by GC/MS

**Analysis Method:** 8270D  
**Prep Method:** EPA 3510C

| Analyte Name                    | Result | MRL | Dil. | Date Analyzed  | Date Extracted | Q |
|---------------------------------|--------|-----|------|----------------|----------------|---|
| 1,2,4-Trichlorobenzene          | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| 1,2-Dichlorobenzene             | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| 1,3-Dichlorobenzene             | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| 1,4-Dichlorobenzene             | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| 2,4,5-Trichlorophenol           | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| 2,4,6-Trichlorophenol           | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| 2,4-Dichlorophenol              | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| 2,4-Dimethylphenol              | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| 2,4-Dinitrophenol               | 47 U   | 47  | 1    | 10/30/17 16:37 | 10/26/17       |   |
| 2,4-Dinitrotoluene              | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| 2,6-Dinitrotoluene              | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| 2-Chloronaphthalene             | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| 2-Chlorophenol                  | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| 2-Methylnaphthalene             | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| 2-Methylphenol                  | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| 2-Nitroaniline                  | 47 U   | 47  | 1    | 10/30/17 16:37 | 10/26/17       |   |
| 2-Nitrophenol                   | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| 3,3'-Dichlorobenzidine          | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| 3- and 4-Methylphenol Coelution | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| 3-Nitroaniline                  | 47 U   | 47  | 1    | 10/30/17 16:37 | 10/26/17       |   |
| 4,6-Dinitro-2-methylphenol      | 47 U   | 47  | 1    | 10/30/17 16:37 | 10/26/17       |   |
| 4-Bromophenyl Phenyl Ether      | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| 4-Chloro-3-methylphenol         | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| 4-Chloroaniline                 | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| 4-Chlorophenyl Phenyl Ether     | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| 4-Nitroaniline                  | 47 U   | 47  | 1    | 10/30/17 16:37 | 10/26/17       |   |
| 4-Nitrophenol                   | 47 U   | 47  | 1    | 10/30/17 16:37 | 10/26/17       |   |
| Acenaphthene                    | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| Acenaphthylene                  | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| Anthracene                      | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| Benz(a)anthracene               | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| Benzo(a)pyrene                  | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| Benzo(b)fluoranthene            | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| Benzo(g,h,i)perylene            | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| Benzo(k)fluoranthene            | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| Benzyl Alcohol                  | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| 2,2'-Oxybis(1-chloropropane)    | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| Bis(2-chloroethoxy)methane      | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| Bis(2-chloroethyl) Ether        | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| Bis(2-ethylhexyl) Phthalate     | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| Butyl Benzyl Phthalate          | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| Carbazole                       | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| Chrysene                        | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |

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Analytical Report

**Client:** The LiRo Group  
**Project:** City of Buffalo - Franczyk Park Site/17-039-1144  
**Sample Matrix:** Water

**Service Request:** R1710113  
**Date Collected:** 10/24/17 13:30  
**Date Received:** 10/25/17 12:35

**Sample Name:** MW-3  
**Lab Code:** R1710113-002

**Units:** ug/L  
**Basis:** NA

Semivolatile Organic Compounds by GC/MS

**Analysis Method:** 8270D  
**Prep Method:** EPA 3510C

| Analyte Name              | Result | MRL | Dil. | Date Analyzed  | Date Extracted | Q |
|---------------------------|--------|-----|------|----------------|----------------|---|
| Di-n-butyl Phthalate      | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| Di-n-octyl Phthalate      | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| Dibenz(a,h)anthracene     | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| Dibenzofuran              | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| Diethyl Phthalate         | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| Dimethyl Phthalate        | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| Fluoranthene              | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| Fluorene                  | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| Hexachlorobenzene         | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| Hexachlorobutadiene       | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| Hexachlorocyclopentadiene | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| Hexachloroethane          | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| Indeno(1,2,3-cd)pyrene    | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| Isophorone                | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| N-Nitrosodi-n-propylamine | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| N-Nitrosodimethylamine    | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| N-Nitrosodiphenylamine    | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| Naphthalene               | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| Nitrobenzene              | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| Pentachlorophenol (PCP)   | 47 U   | 47  | 1    | 10/30/17 16:37 | 10/26/17       |   |
| Phenanthrene              | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| Phenol                    | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |
| Pyrene                    | 9.4 U  | 9.4 | 1    | 10/30/17 16:37 | 10/26/17       |   |

| Surrogate Name       | % Rec | Control Limits | Date Analyzed  | Q |
|----------------------|-------|----------------|----------------|---|
| 2,4,6-Tribromophenol | 48    | 35 - 141       | 10/30/17 16:37 |   |
| 2-Fluorobiphenyl     | 43    | 31 - 118       | 10/30/17 16:37 |   |
| 2-Fluorophenol       | 22    | 10 - 105       | 10/30/17 16:37 |   |
| Nitrobenzene-d5      | 44    | 31 - 110       | 10/30/17 16:37 |   |
| Phenol-d6            | 14    | 10 - 107       | 10/30/17 16:37 |   |
| p-Terphenyl-d14      | 47    | 30 - 133       | 10/30/17 16:37 |   |

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Analytical Report

**Client:** The LiRo Group  
**Project:** City of Buffalo - Franczyk Park Site/17-039-1144  
**Sample Matrix:** Water  
**Sample Name:** MW-D  
**Lab Code:** R1710113-004

**Service Request:** R1710113  
**Date Collected:** 10/24/17  
**Date Received:** 10/25/17 12:35

**Units:** ug/L  
**Basis:** NA

Semivolatile Organic Compounds by GC/MS

**Analysis Method:** 8270D  
**Prep Method:** EPA 3510C

| Analyte Name                    | Result | MRL | Dil. | Date Analyzed  | Date Extracted | Q |
|---------------------------------|--------|-----|------|----------------|----------------|---|
| 1,2,4-Trichlorobenzene          | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| 1,2-Dichlorobenzene             | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| 1,3-Dichlorobenzene             | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| 1,4-Dichlorobenzene             | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| 2,4,5-Trichlorophenol           | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| 2,4,6-Trichlorophenol           | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| 2,4-Dichlorophenol              | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| 2,4-Dimethylphenol              | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| 2,4-Dinitrophenol               | 47 U   | 47  | 1    | 10/30/17 17:05 | 10/26/17       |   |
| 2,4-Dinitrotoluene              | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| 2,6-Dinitrotoluene              | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| 2-Chloronaphthalene             | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| 2-Chlorophenol                  | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| 2-Methylnaphthalene             | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| 2-Methylphenol                  | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| 2-Nitroaniline                  | 47 U   | 47  | 1    | 10/30/17 17:05 | 10/26/17       |   |
| 2-Nitrophenol                   | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| 3,3'-Dichlorobenzidine          | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| 3- and 4-Methylphenol Coelution | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| 3-Nitroaniline                  | 47 U   | 47  | 1    | 10/30/17 17:05 | 10/26/17       |   |
| 4,6-Dinitro-2-methylphenol      | 47 U   | 47  | 1    | 10/30/17 17:05 | 10/26/17       |   |
| 4-Bromophenyl Phenyl Ether      | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| 4-Chloro-3-methylphenol         | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| 4-Chloroaniline                 | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| 4-Chlorophenyl Phenyl Ether     | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| 4-Nitroaniline                  | 47 U   | 47  | 1    | 10/30/17 17:05 | 10/26/17       |   |
| 4-Nitrophenol                   | 47 U   | 47  | 1    | 10/30/17 17:05 | 10/26/17       |   |
| Acenaphthene                    | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| Acenaphthylene                  | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| Anthracene                      | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| Benz(a)anthracene               | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| Benzo(a)pyrene                  | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| Benzo(b)fluoranthene            | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| Benzo(g,h,i)perylene            | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| Benzo(k)fluoranthene            | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| Benzyl Alcohol                  | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| 2,2'-Oxybis(1-chloropropane)    | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| Bis(2-chloroethoxy)methane      | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| Bis(2-chloroethyl) Ether        | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| Bis(2-ethylhexyl) Phthalate     | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| Butyl Benzyl Phthalate          | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| Carbazole                       | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| Chrysene                        | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |

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Analytical Report

**Client:** The LiRo Group  
**Project:** City of Buffalo - Franczyk Park Site/17-039-1144  
**Sample Matrix:** Water

**Service Request:** R1710113  
**Date Collected:** 10/24/17  
**Date Received:** 10/25/17 12:35

**Sample Name:** MW-D  
**Lab Code:** R1710113-004

**Units:** ug/L  
**Basis:** NA

Semivolatile Organic Compounds by GC/MS

**Analysis Method:** 8270D  
**Prep Method:** EPA 3510C

| Analyte Name              | Result | MRL | Dil. | Date Analyzed  | Date Extracted | Q |
|---------------------------|--------|-----|------|----------------|----------------|---|
| Di-n-butyl Phthalate      | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| Di-n-octyl Phthalate      | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| Dibenz(a,h)anthracene     | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| Dibenzofuran              | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| Diethyl Phthalate         | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| Dimethyl Phthalate        | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| Fluoranthene              | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| Fluorene                  | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| Hexachlorobenzene         | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| Hexachlorobutadiene       | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| Hexachlorocyclopentadiene | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| Hexachloroethane          | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| Indeno(1,2,3-cd)pyrene    | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| Isophorone                | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| N-Nitrosodi-n-propylamine | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| N-Nitrosodimethylamine    | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| N-Nitrosodiphenylamine    | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| Naphthalene               | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| Nitrobenzene              | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| Pentachlorophenol (PCP)   | 47 U   | 47  | 1    | 10/30/17 17:05 | 10/26/17       |   |
| Phenanthrene              | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| Phenol                    | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |
| Pyrene                    | 9.4 U  | 9.4 | 1    | 10/30/17 17:05 | 10/26/17       |   |

| Surrogate Name       | % Rec | Control Limits | Date Analyzed  | Q |
|----------------------|-------|----------------|----------------|---|
| 2,4,6-Tribromophenol | 77    | 35 - 141       | 10/30/17 17:05 |   |
| 2-Fluorobiphenyl     | 71    | 31 - 118       | 10/30/17 17:05 |   |
| 2-Fluorophenol       | 39    | 10 - 105       | 10/30/17 17:05 |   |
| Nitrobenzene-d5      | 71    | 31 - 110       | 10/30/17 17:05 |   |
| Phenol-d6            | 27    | 10 - 107       | 10/30/17 17:05 |   |
| p-Terphenyl-d14      | 71    | 30 - 133       | 10/30/17 17:05 |   |

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Analytical Report

**Client:** The LiRo Group  
**Project:** City of Buffalo - Franczyk Park Site/17-039-1144  
**Sample Matrix:** Water  
**Sample Name:** MW-8  
**Lab Code:** R1710113-006

**Service Request:** R1710113  
**Date Collected:** 10/25/17 09:00  
**Date Received:** 10/25/17 12:35

**Units:** ug/L  
**Basis:** NA

Semivolatile Organic Compounds by GC/MS

**Analysis Method:** 8270D  
**Prep Method:** EPA 3510C

| Analyte Name                    | Result | MRL | Dil. | Date Analyzed  | Date Extracted | Q |
|---------------------------------|--------|-----|------|----------------|----------------|---|
| 1,2,4-Trichlorobenzene          | 19 U   | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| 1,2-Dichlorobenzene             | 19 U   | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| 1,3-Dichlorobenzene             | 19 U   | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| 1,4-Dichlorobenzene             | 19 U   | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| 2,4,5-Trichlorophenol           | 19 U   | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| 2,4,6-Trichlorophenol           | 19 U   | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| 2,4-Dichlorophenol              | 19 U   | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| 2,4-Dimethylphenol              | 19 U   | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| 2,4-Dinitrophenol               | 94 U   | 94  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| 2,4-Dinitrotoluene              | 19 U   | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| 2,6-Dinitrotoluene              | 19 U   | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| 2-Chloronaphthalene             | 19 U   | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| 2-Chlorophenol                  | 19 U   | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| 2-Methylnaphthalene             | 19 U   | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| 2-Methylphenol                  | 19 U   | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| 2-Nitroaniline                  | 94 U   | 94  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| 2-Nitrophenol                   | 19 U   | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| 3,3'-Dichlorobenzidine          | 19 U   | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| 3- and 4-Methylphenol Coelution | 19 U   | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| 3-Nitroaniline                  | 94 U   | 94  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| 4,6-Dinitro-2-methylphenol      | 94 U   | 94  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| 4-Bromophenyl Phenyl Ether      | 19 U   | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| 4-Chloro-3-methylphenol         | 19 U   | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| 4-Chloroaniline                 | 19 U   | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| 4-Chlorophenyl Phenyl Ether     | 19 U   | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| 4-Nitroaniline                  | 94 U   | 94  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| 4-Nitrophenol                   | 94 U   | 94  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| Acenaphthene                    | 19 U   | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| Acenaphthylene                  | 19 U   | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| Anthracene                      | 19 U   | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| Benz(a)anthracene               | 60     | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| Benzo(a)pyrene                  | 80     | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| Benzo(b)fluoranthene            | 97     | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| Benzo(g,h,i)perylene            | 66     | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| Benzo(k)fluoranthene            | 36     | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| Benzyl Alcohol                  | 19 U   | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| 2,2'-Oxybis(1-chloropropane)    | 19 U   | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| Bis(2-chloroethoxy)methane      | 19 U   | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| Bis(2-chloroethyl) Ether        | 19 U   | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| Bis(2-ethylhexyl) Phthalate     | 19 U   | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| Butyl Benzyl Phthalate          | 19 U   | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| Carbazole                       | 19 U   | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| Chrysene                        | 65     | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |

ALS Group USA, Corp.  
dba ALS Environmental

Analytical Report

**Client:** The LiRo Group  
**Project:** City of Buffalo - Franczyk Park Site/17-039-1144  
**Sample Matrix:** Water

**Service Request:** R1710113  
**Date Collected:** 10/25/17 09:00  
**Date Received:** 10/25/17 12:35

**Sample Name:** MW-8  
**Lab Code:** R1710113-006

**Units:** ug/L  
**Basis:** NA

Semivolatile Organic Compounds by GC/MS

**Analysis Method:** 8270D  
**Prep Method:** EPA 3510C

| Analyte Name              | Result     | MRL | Dil. | Date Analyzed  | Date Extracted | Q |
|---------------------------|------------|-----|------|----------------|----------------|---|
| Di-n-butyl Phthalate      | 19 U       | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| Di-n-octyl Phthalate      | 19 U       | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| Dibenz(a,h)anthracene     | 19 U       | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| Dibenzofuran              | 19 U       | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| Diethyl Phthalate         | 19 U       | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| Dimethyl Phthalate        | 19 U       | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| Fluoranthene              | <b>120</b> | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| Fluorene                  | 19 U       | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| Hexachlorobenzene         | 19 U       | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| Hexachlorobutadiene       | 19 U       | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| Hexachlorocyclopentadiene | 19 U       | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| Hexachloroethane          | 19 U       | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| Indeno(1,2,3-cd)pyrene    | <b>62</b>  | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| Isophorone                | 19 U       | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| N-Nitrosodi-n-propylamine | 19 U       | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| N-Nitrosodimethylamine    | 19 U       | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| N-Nitrosodiphenylamine    | 19 U       | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| Naphthalene               | 19 U       | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| Nitrobenzene              | 19 U       | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| Pentachlorophenol (PCP)   | 94 U       | 94  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| Phenanthrene              | <b>52</b>  | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| Phenol                    | 19 U       | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |
| Pyrene                    | <b>100</b> | 19  | 2    | 10/31/17 17:13 | 10/26/17       |   |

| Surrogate Name       | % Rec | Control Limits | Date Analyzed  | Q |
|----------------------|-------|----------------|----------------|---|
| 2,4,6-Tribromophenol | 72    | 35 - 141       | 10/31/17 17:13 |   |
| 2-Fluorobiphenyl     | 60    | 31 - 118       | 10/31/17 17:13 |   |
| 2-Fluorophenol       | 41    | 10 - 105       | 10/31/17 17:13 |   |
| Nitrobenzene-d5      | 75    | 31 - 110       | 10/31/17 17:13 |   |
| Phenol-d6            | 28    | 10 - 107       | 10/31/17 17:13 |   |
| p-Terphenyl-d14      | 45    | 30 - 133       | 10/31/17 17:13 |   |



Data Path : I:\ACQUDATA\5973D\Data\103017\  
 Data File : BM252.D  
 Acq On : 30 Oct 2017 4:09 pm  
 Operator : J.Misiurewicz  
 Sample : R1710113-001  
 Misc : 301663 8270D  
 ALS Vial : 16 Sample Multiplier: 1

Quant Time: Oct 31 07:52:21 2017  
 Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
 Quant Title : 8270 BNA ANALYSIS  
 QLast Update : Thu Oct 26 14:29:15 2017  
 Response via : Initial Calibration

| Compound                  | R.T.   | QIon | Response | Conc  | Units | Dev(Min) |
|---------------------------|--------|------|----------|-------|-------|----------|
| Internal Standards        |        |      |          |       |       |          |
| 1) d4-1,4-Dichlorobenzene | 4.769  | 152  | 98500    | 40.00 | ppm   | 0.00     |
| 33) d8-Naphthalene        | 5.929  | 136  | 371689   | 40.00 | ppm   | 0.00     |
| 57) d10-Acenaphthene      | 7.635  | 164  | 189539   | 40.00 | ppm   | 0.00     |
| 91) d10-Phenanthrene      | 9.106  | 188  | 333594   | 40.00 | ppm   | 0.00     |
| 117) d12-Chrysene         | 12.374 | 240  | 350902   | 40.00 | ppm   | 0.00     |
| 135) d12-Perylene         | 15.305 | 264  | 383386   | 40.00 | ppm   | 0.00     |

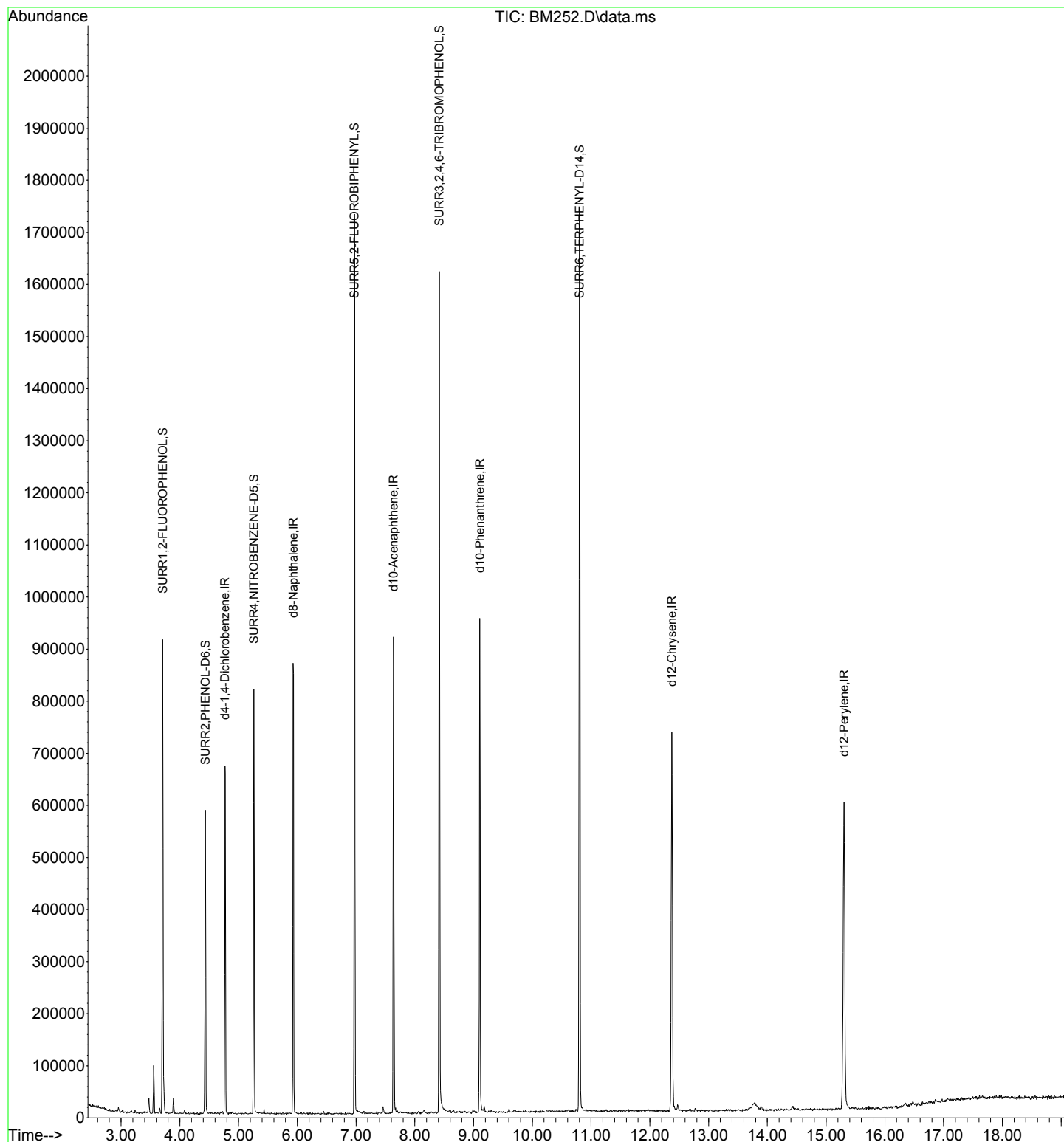
| System Monitoring Compounds   |         |       |          |          |     |        |
|-------------------------------|---------|-------|----------|----------|-----|--------|
| 7) SURR1,2-FLUOROPHENOL       | 3.710   | 112   | 242849   | 73.63    | ppm | 0.00   |
| Spiked Amount                 | 200.000 | Range | 10 - 105 | Recovery | =   | 36.81% |
| 12) SURR2,PHENOL-D6           | 4.437   | 99    | 192451   | 49.40    | ppm | 0.00   |
| Spiked Amount                 | 200.000 | Range | 10 - 107 | Recovery | =   | 24.70% |
| 34) SURR4,NITROBENZENE-D5     | 5.261   | 82    | 240493   | 71.88    | ppm | 0.00   |
| Spiked Amount                 | 100.000 | Range | 37 - 117 | Recovery | =   | 71.88% |
| 63) SURR5,2-FLUOROBIPHENYL    | 6.972   | 172   | 515038   | 71.86    | ppm | 0.00   |
| Spiked Amount                 | 100.000 | Range | 39 - 119 | Recovery | =   | 71.86% |
| 88) SURR3,2,4,6-TRIBROMOPH... | 8.416   | 330   | 191107   | 150.80   | ppm | 0.00   |
| Spiked Amount                 | 200.000 | Range | 28 - 157 | Recovery | =   | 75.40% |
| 124) SURR6,TERPHENYL-D14      | 10.802  | 244   | 616141   | 77.24    | ppm | 0.00   |
| Spiked Amount                 | 100.000 | Range | 40 - 133 | Recovery | =   | 77.24% |

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : I:\ACQUDATA\5973D\Data\103017\  
Data File : BM252.D  
Acq On : 30 Oct 2017 4:09 pm  
Operator : J.Misiurewicz  
Sample : R1710113-001  
Misc : 301663 8270D  
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Oct 31 07:52:21 2017  
Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
Quant Title : 8270 BNA ANALYSIS  
QLast Update : Thu Oct 26 14:29:15 2017  
Response via : Initial Calibration



Data Path : I:\ACQUDATA\5973D\Data\103017\  
 Data File : BM253.D  
 Acq On : 30 Oct 2017 4:37 pm  
 Operator : J.Misiurewicz  
 Sample : R1710113-002  
 Misc : 301663 8270D  
 ALS Vial : 17 Sample Multiplier: 1

Quant Time: Oct 31 07:52:27 2017  
 Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
 Quant Title : 8270 BNA ANALYSIS  
 QLast Update : Thu Oct 26 14:29:15 2017  
 Response via : Initial Calibration

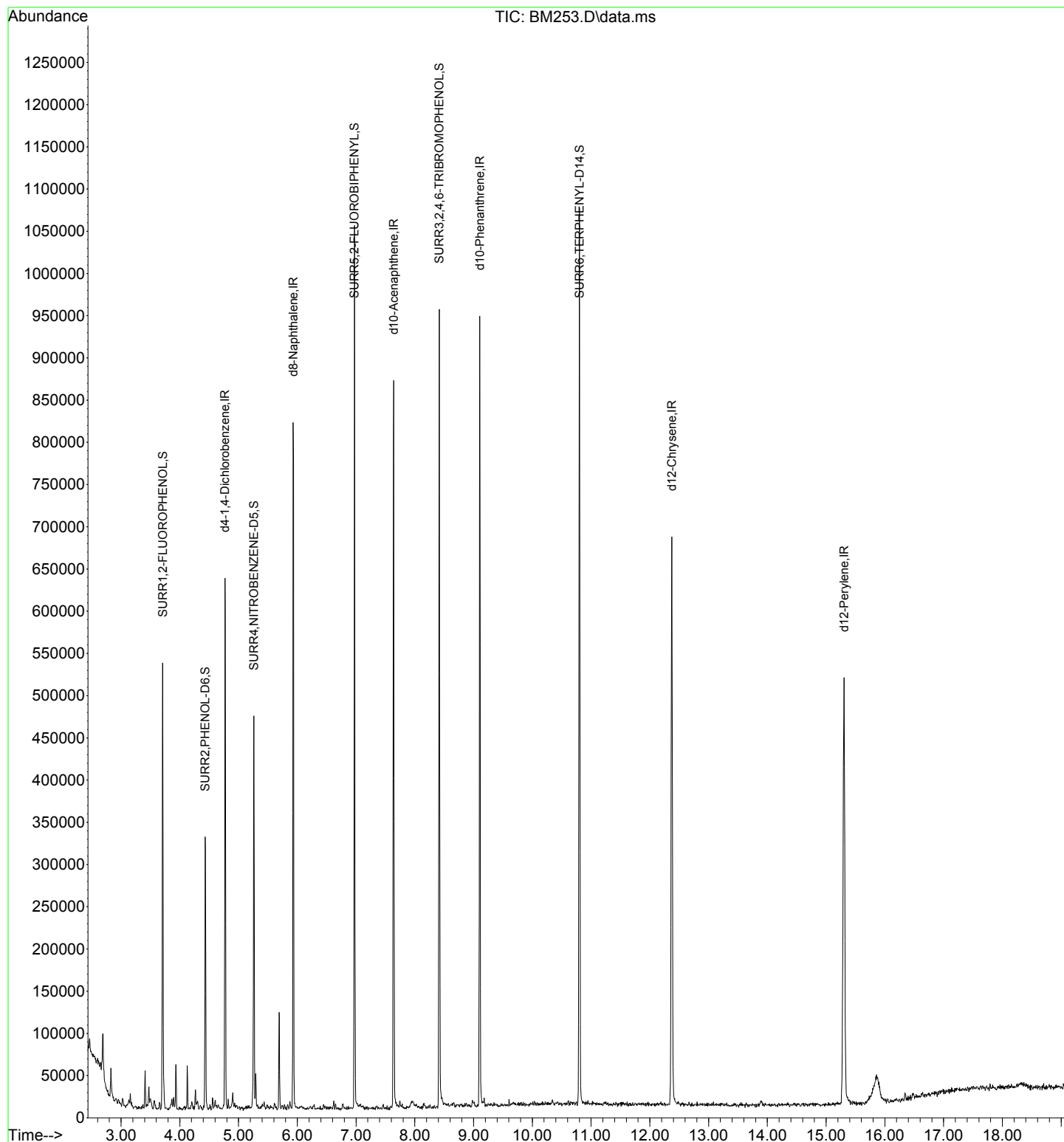
| Compound                      | R.T.           | QIon | Response   | Conc   | Units | Dev(Min) |
|-------------------------------|----------------|------|------------|--------|-------|----------|
| Internal Standards            |                |      |            |        |       |          |
| 1) d4-1,4-Dichlorobenzene     | 4.769          | 152  | 91970      | 40.00  | ppm   | 0.00     |
| 33) d8-Naphthalene            | 5.929          | 136  | 344918     | 40.00  | ppm   | 0.00     |
| 57) d10-Acenaphthene          | 7.641          | 164  | 177018     | 40.00  | ppm   | 0.00     |
| 91) d10-Phenanthrene          | 9.106          | 188  | 324925     | 40.00  | ppm   | 0.00     |
| 117) d12-Chrysene             | 12.374         | 240  | 330171     | 40.00  | ppm   | 0.00     |
| 135) d12-Perylene             | 15.306         | 264  | 345718     | 40.00  | ppm   | 0.00     |
| System Monitoring Compounds   |                |      |            |        |       |          |
| 7) SURR1,2-FLUOROPHENOL       | 3.710          | 112  | 136832     | 44.43  | ppm   | 0.00     |
| Spiked Amount 200.000         | Range 10 - 105 |      | Recovery = | 22.22% |       |          |
| 12) SURR2,PHENOL-D6           | 4.432          | 99   | 103430     | 28.43  | ppm   | 0.00     |
| Spiked Amount 200.000         | Range 10 - 107 |      | Recovery = | 14.22% |       |          |
| 34) SURR4,NITROBENZENE-D5     | 5.261          | 82   | 135414     | 43.61  | ppm   | 0.00     |
| Spiked Amount 100.000         | Range 37 - 117 |      | Recovery = | 43.61% |       |          |
| 63) SURR5,2-FLUOROBIPHENYL    | 6.972          | 172  | 289423     | 43.24  | ppm   | 0.00     |
| Spiked Amount 100.000         | Range 39 - 119 |      | Recovery = | 43.24% |       |          |
| 88) SURR3,2,4,6-TRIBROMOPH... | 8.416          | 330  | 113058     | 95.52  | ppm   | 0.00     |
| Spiked Amount 200.000         | Range 28 - 157 |      | Recovery = | 47.76% |       |          |
| 124) SURR6,TERPHENYL-D14      | 10.802         | 244  | 355638     | 47.38  | ppm   | 0.00     |
| Spiked Amount 100.000         | Range 40 - 133 |      | Recovery = | 47.38% |       |          |

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : I:\ACQUDATA\5973D\Data\103017\  
Data File : BM253.D  
Acq On : 30 Oct 2017 4:37 pm  
Operator : J.Misiurewicz  
Sample : R1710113-002  
Misc : 301663 8270D  
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Oct 31 07:52:27 2017  
Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
Quant Title : 8270 BNA ANALYSIS  
QLast Update : Thu Oct 26 14:29:15 2017  
Response via : Initial Calibration



Data Path : I:\ACQUDATA\5973D\Data\103017\  
 Data File : BM254.D  
 Acq On : 30 Oct 2017 5:05 pm  
 Operator : J.Misiurewicz  
 Sample : R1710113-004  
 Misc : 301663 8270D  
 ALS Vial : 18 Sample Multiplier: 1

Quant Time: Oct 31 07:52:33 2017  
 Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
 Quant Title : 8270 BNA ANALYSIS  
 QLast Update : Thu Oct 26 14:29:15 2017  
 Response via : Initial Calibration

| Compound                           | R.T.           | QIon | Response   | Conc   | Units | Dev(Min) |
|------------------------------------|----------------|------|------------|--------|-------|----------|
| <b>Internal Standards</b>          |                |      |            |        |       |          |
| 1) d4-1,4-Dichlorobenzene          | 4.769          | 152  | 87885      | 40.00  | ppm   | 0.00     |
| 33) d8-Naphthalene                 | 5.929          | 136  | 325999     | 40.00  | ppm   | 0.00     |
| 57) d10-Acenaphthene               | 7.636          | 164  | 163079     | 40.00  | ppm   | 0.00     |
| 91) d10-Phenanthrene               | 9.106          | 188  | 289294     | 40.00  | ppm   | 0.00     |
| 117) d12-Chrysene                  | 12.374         | 240  | 314783     | 40.00  | ppm   | 0.00     |
| 135) d12-Perylene                  | 15.306         | 264  | 321959     | 40.00  | ppm   | 0.00     |
| <b>System Monitoring Compounds</b> |                |      |            |        |       |          |
| 7) SURR1,2-FLUOROPHENOL            | 3.710          | 112  | 227072     | 77.17  | ppm   | 0.00     |
| Spiked Amount 200.000              | Range 10 - 105 |      | Recovery = | 38.59% |       |          |
| 12) SURR2,PHENOL-D6                | 4.437          | 99   | 187319     | 53.89  | ppm   | 0.00     |
| Spiked Amount 200.000              | Range 10 - 107 |      | Recovery = | 26.95% |       |          |
| 34) SURR4,NITROBENZENE-D5          | 5.261          | 82   | 207827     | 70.82  | ppm   | 0.00     |
| Spiked Amount 100.000              | Range 37 - 117 |      | Recovery = | 70.82% |       |          |
| 63) SURR5,2-FLUOROBIPHENYL         | 6.972          | 172  | 439902     | 71.33  | ppm   | 0.00     |
| Spiked Amount 100.000              | Range 39 - 119 |      | Recovery = | 71.33% |       |          |
| 88) SURR3,2,4,6-TRIBROMOPH...      | 8.416          | 330  | 167432     | 153.55 | ppm   | 0.00     |
| Spiked Amount 200.000              | Range 28 - 157 |      | Recovery = | 76.78% |       |          |
| 124) SURR6,TERPHENYL-D14           | 10.802         | 244  | 504680     | 70.53  | ppm   | 0.00     |
| Spiked Amount 100.000              | Range 40 - 133 |      | Recovery = | 70.53% |       |          |

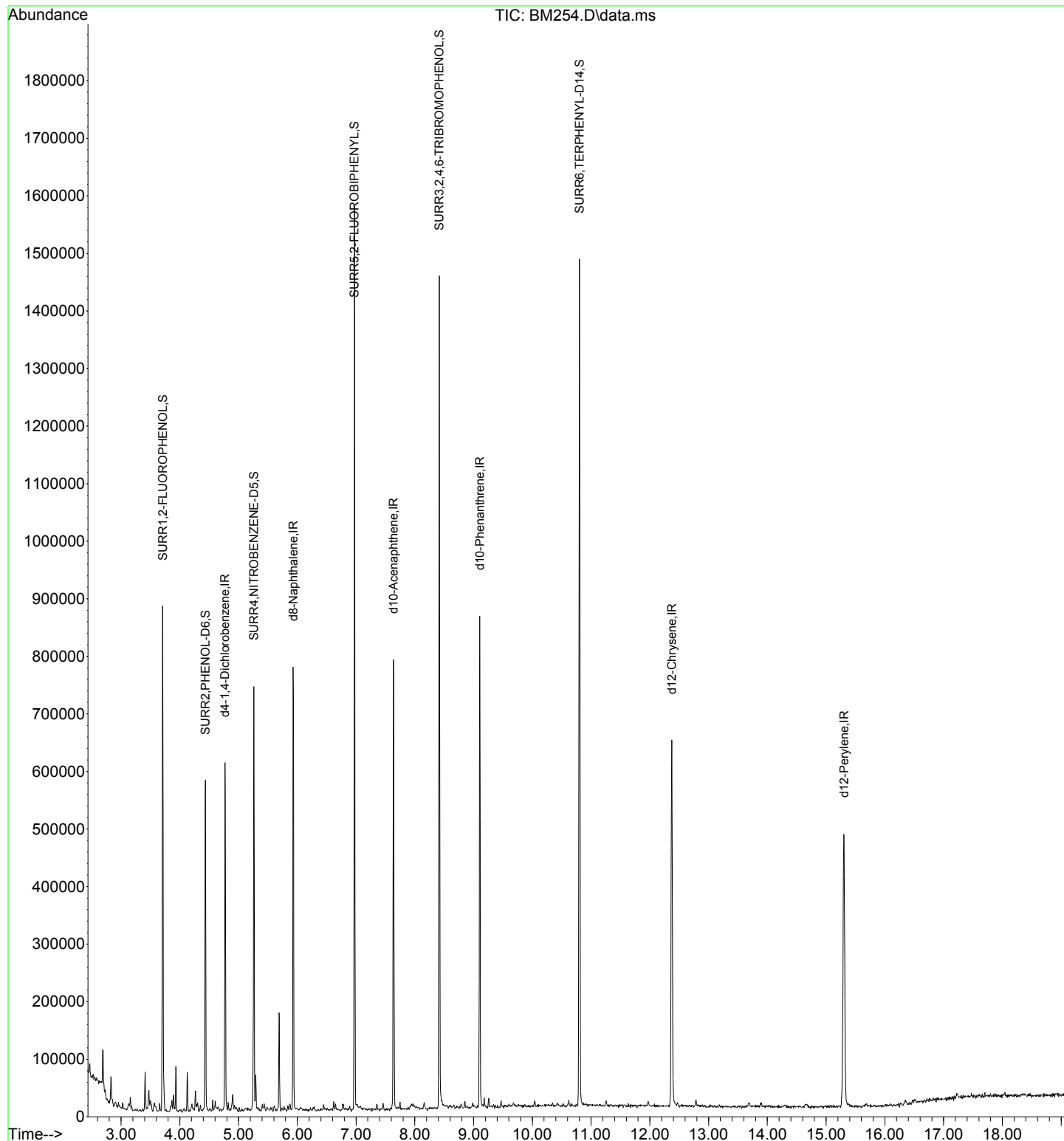
Target Compounds Qvalue

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(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : I:\ACQUDATA\5973D\Data\103017\  
Data File : BM254.D  
Acq On : 30 Oct 2017 5:05 pm  
Operator : J.Misiurewicz  
Sample : R1710113-004  
Misc : 301663 8270D  
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Oct 31 07:52:33 2017  
Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
Quant Title : 8270 BNA ANALYSIS  
QLast Update : Thu Oct 26 14:29:15 2017  
Response via : Initial Calibration



Data Path : I:\ACQUDATA\5973D\Data\103117\  
 Data File : BM290.D  
 Acq On : 31 Oct 2017 5:13 pm  
 Operator : J.Misiurewicz  
 Sample : R1710113-006|2.0  
 Misc : 301663 8270D  
 ALS Vial : 25 Sample Multiplier: 1

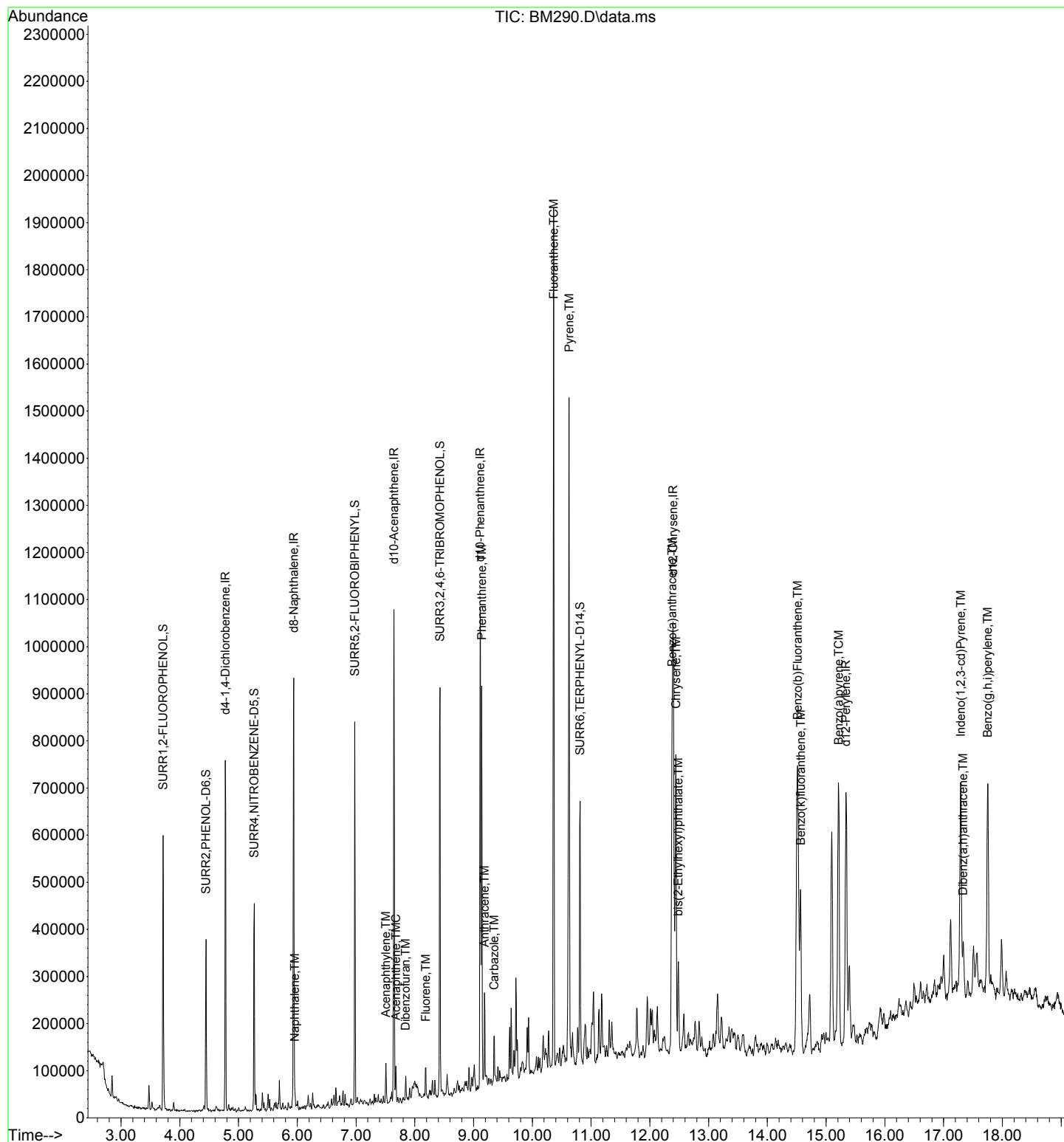
Quant Time: Nov 01 10:16:43 2017  
 Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
 Quant Title : 8270 BNA ANALYSIS  
 QLast Update : Thu Oct 26 14:29:15 2017  
 Response via : Initial Calibration

| Compound                           | R.T.     | QIon  | Response   | Conc    | Units | Dev(Min) |
|------------------------------------|----------|-------|------------|---------|-------|----------|
| <b>Internal Standards</b>          |          |       |            |         |       |          |
| 1) d4-1,4-Dichlorobenzene          | 4.774    | 152   | 106983     | 40.00   | ppm   | 0.00     |
| 33) d8-Naphthalene                 | 5.940    | 136   | 399499     | 40.00   | ppm   | 0.00     |
| 57) d10-Acenaphthene               | 7.646    | 164   | 205928     | 40.00   | ppm   | 0.00     |
| 91) d10-Phenanthrene               | 9.112    | 188   | 381554     | 40.00   | ppm   | 0.00     |
| 117) d12-Chrysene                  | 12.396   | 240   | 370659     | 40.00   | ppm   | 0.01     |
| 135) d12-Perylene                  | 15.338   | 264   | 372709     | 40.00   | ppm   | 0.03     |
| <b>System Monitoring Compounds</b> |          |       |            |         |       |          |
| 7) SURR1,2-FLUOROPHENOL            | 3.715    | 112   | 146952     | 41.02   | ppm   | 0.00     |
| Spiked Amount 200.000              | Range 10 | - 105 | Recovery = | 20.51%  |       |          |
| 12) SURR2,PHENOL-D6                | 4.448    | 99    | 120254     | 28.42   | ppm   | 0.01     |
| Spiked Amount 200.000              | Range 10 | - 107 | Recovery = | 14.21%  |       |          |
| 34) SURR4,NITROBENZENE-D5          | 5.266    | 82    | 134932     | 37.52   | ppm   | 0.00     |
| Spiked Amount 100.000              | Range 37 | - 117 | Recovery = | 37.52%  |       |          |
| 63) SURR5,2-FLUOROBIPHENYL         | 6.978    | 172   | 231752     | 29.76   | ppm   | 0.00     |
| Spiked Amount 100.000              | Range 39 | - 119 | Recovery = | 29.76%# |       |          |
| 88) SURR3,2,4,6-TRIBROMOPH...      | 8.427    | 330   | 99596      | 72.33   | ppm   | 0.00     |
| Spiked Amount 200.000              | Range 28 | - 157 | Recovery = | 36.16%  |       |          |
| 124) SURR6,TERPHENYL-D14           | 10.813   | 244   | 189028     | 22.43   | ppm   | 0.00     |
| Spiked Amount 100.000              | Range 40 | - 133 | Recovery = | 22.43%# |       |          |
| <b>Target Compounds</b>            |          |       |            |         |       |          |
| 45) Naphthalene                    | 5.956    | 128   | 12436      | 1.225   | ppm   | 96       |
| 70) Acenaphthylene                 | 7.507    | 152   | 36399      | 3.478   | ppm   | 97       |
| 73) Acenaphthene                   | 7.678    | 153   | 18763      | 2.694   | ppm   | 85       |
| 76) Dibenzofuran                   | 7.844    | 168   | 16509      | 1.785   | ppm   | 93       |
| 83) Fluorene                       | 8.187    | 166   | 20284      | 2.684   | ppm   | 94       |
| 111) Phenanthrene                  | 9.139    | 178   | 289521     | 27.780  | ppm   | 99       |
| 112) Anthracene                    | 9.187    | 178   | 71285      | 6.897   | ppm   | 96       |
| 113) Carbazole                     | 9.353    | 167   | 41632      | 4.090   | ppm   | 93       |
| 116) Fluoranthene                  | 10.364   | 202   | 703343     | 62.337  | ppm   | 98       |
| 123) Pyrene                        | 10.626   | 202   | 631394     | 55.433  | ppm   | 99       |
| 132) Benzo(a)anthracene            | 12.380   | 228   | 346472     | 31.601  | ppm   | 97       |
| 133) Chrysene                      | 12.444   | 228   | 364199     | 34.514  | ppm   | 98       |
| 134) bis(2-Ethylhexyl)phtha...     | 12.487   | 149   | 67071      | 8.163   | ppm   | 99       |
| 138) Benzo(b)Fluoranthene          | 14.514   | 252   | 582745     | 51.553  | ppm   | 96       |
| 139) Benzo(k)fluoranthene          | 14.568   | 252   | 205335     | 18.862  | ppm   | 94       |
| 140) Benzo(a)pyrene                | 15.215   | 252   | 417650     | 42.150  | ppm   | 98       |
| 142) Indeno(1,2,3-cd)Pyrene        | 17.290   | 276   | 319976     | 32.748  | ppm   | 98       |
| 143) Dibenz(a,h)anthracene         | 17.333   | 278   | 80359      | 7.737   | ppm   | 94       |
| 144) Benzo(g,h,i)perylene          | 17.750   | 276   | 332547     | 34.853  | ppm   | 95       |

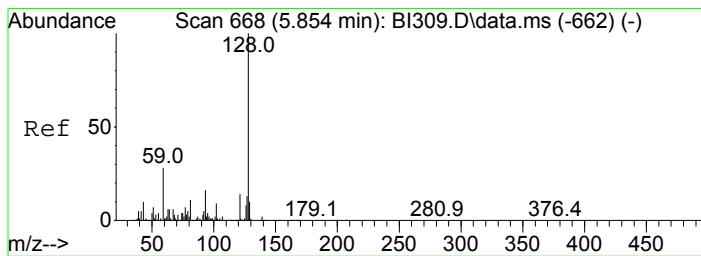
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : I:\ACQUDATA\5973D\Data\103117\  
Data File : BM290.D  
Acq On : 31 Oct 2017 5:13 pm  
Operator : J.Misiurewicz  
Sample : R1710113-006|2.0  
Misc : 301663 8270D  
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Nov 01 10:16:43 2017  
Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
Quant Title : 8270 BNA ANALYSIS  
QLast Update : Thu Oct 26 14:29:15 2017  
Response via : Initial Calibration

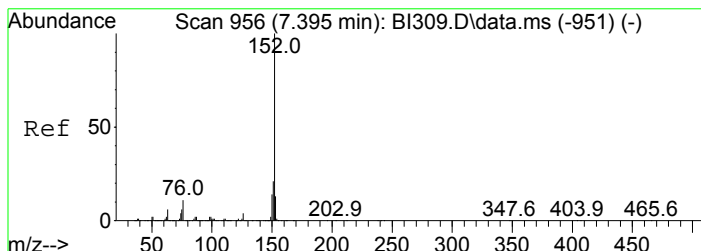
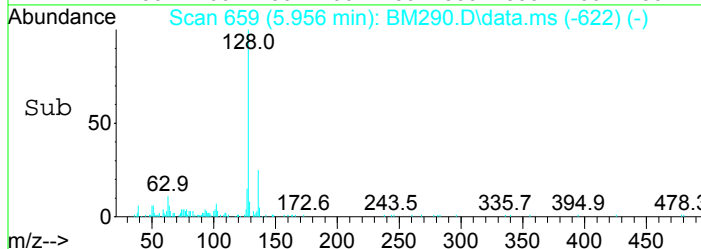
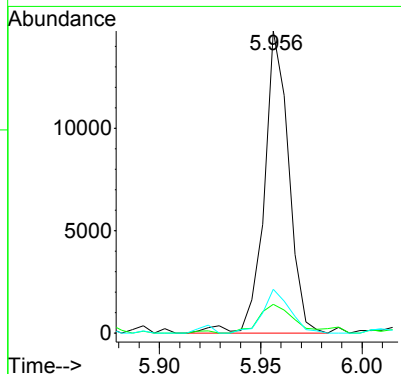
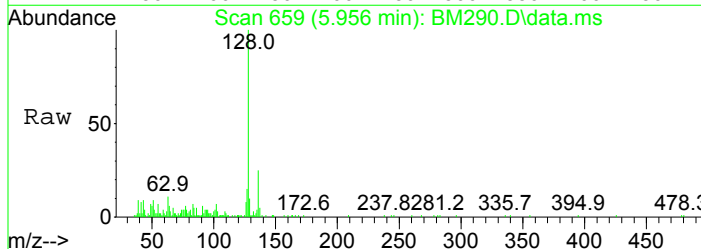






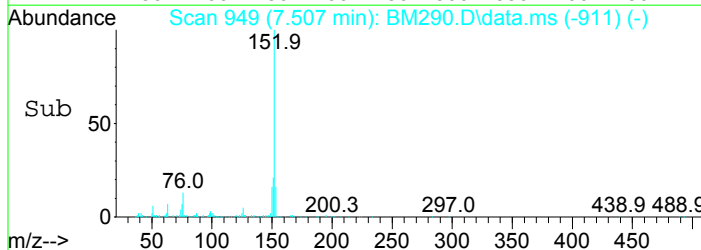
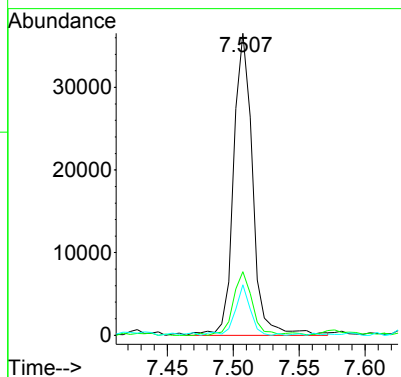
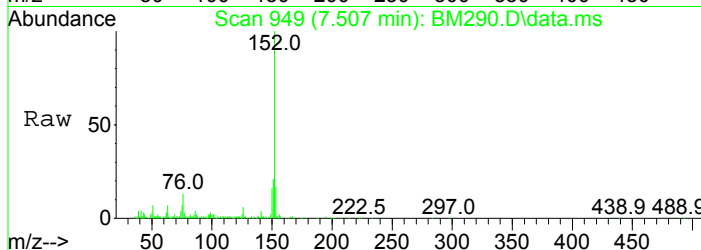
#45  
 Naphthalene  
 Concen: 1.22 ppm  
 RT: 5.956 min Scan# 659  
 Delta R.T. -0.000 min  
 Lab File: BM290.D  
 Acq: 31 Oct 2017 5:13 pm

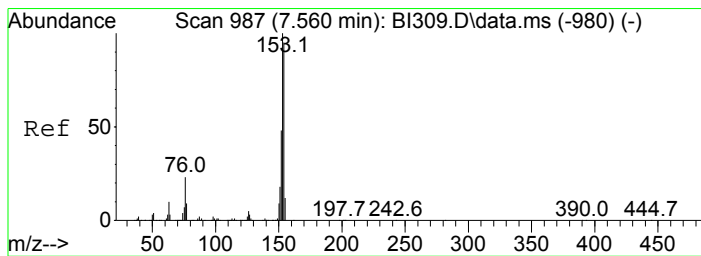
| Tgt Ion | Resp  | Lower | Upper |
|---------|-------|-------|-------|
| 128     | 12436 |       |       |
| 129     | 8.8   | 0.0   | 31.0  |
| 127     | 14.5  | 0.0   | 33.4  |



#70  
 Acenaphthylene  
 Concen: 3.48 ppm  
 RT: 7.507 min Scan# 949  
 Delta R.T. 0.002 min  
 Lab File: BM290.D  
 Acq: 31 Oct 2017 5:13 pm

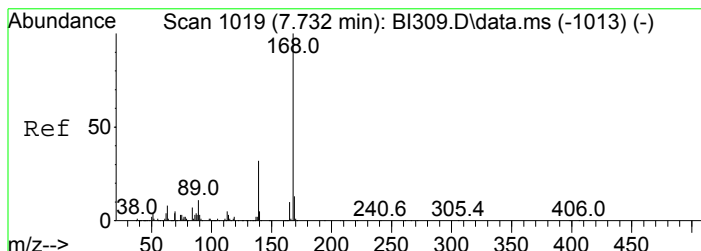
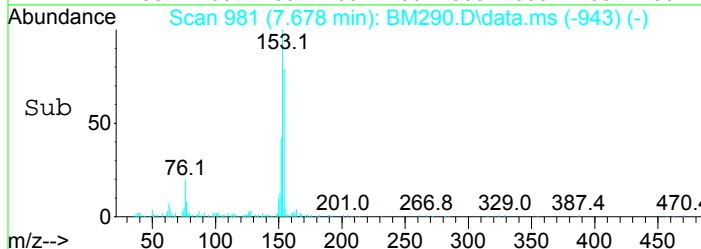
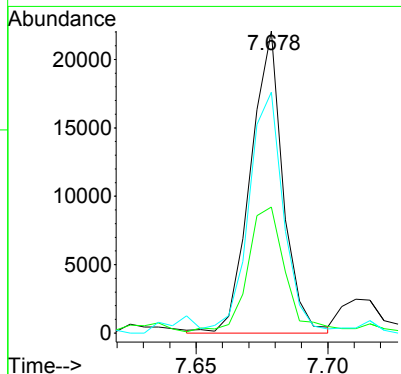
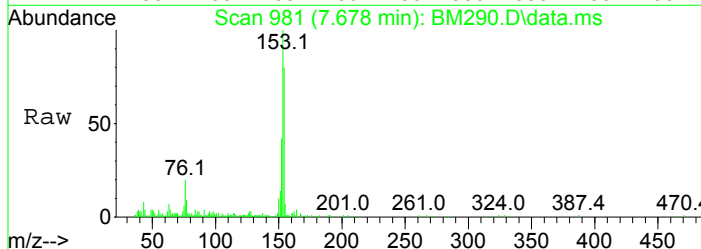
| Tgt Ion | Resp  | Lower | Upper |
|---------|-------|-------|-------|
| 152     | 36399 |       |       |
| 151     | 20.4  | 0.4   | 40.4  |
| 153     | 16.3  | 0.0   | 33.3  |





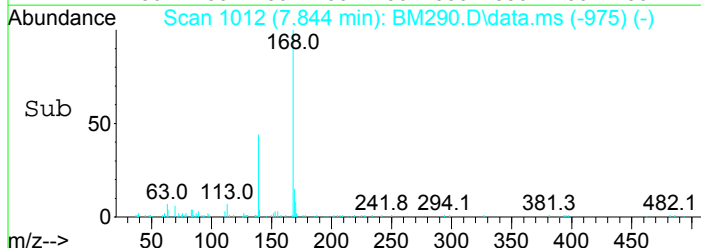
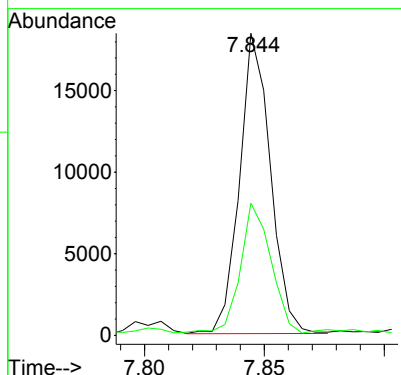
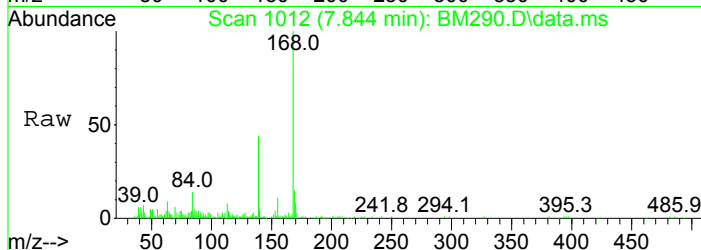
#73  
 Acenaphthene  
 Concen: 2.69 ppm  
 RT: 7.678 min Scan# 981  
 Delta R.T. 0.003 min  
 Lab File: BM290.D  
 Acq: 31 Oct 2017 5:13 pm

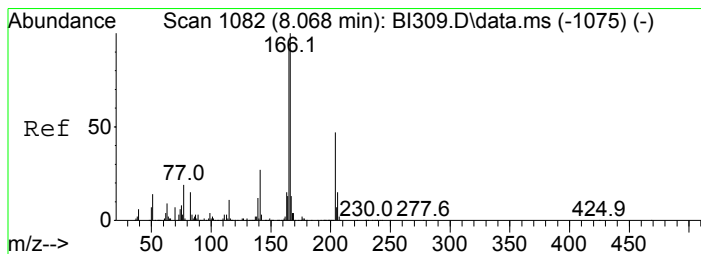
| Tgt Ion | Resp  | Lower | Upper |
|---------|-------|-------|-------|
| 153     | 18763 |       |       |
| 152     | 41.0  | 28.5  | 68.5  |
| 154     | 77.4  | 74.1  | 114.1 |



#76  
 Dibenzofuran  
 Concen: 1.79 ppm  
 RT: 7.844 min Scan# 1012  
 Delta R.T. -0.000 min  
 Lab File: BM290.D  
 Acq: 31 Oct 2017 5:13 pm

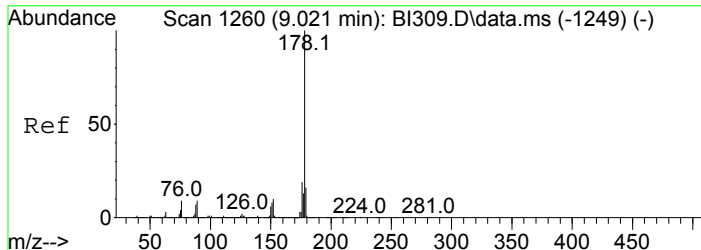
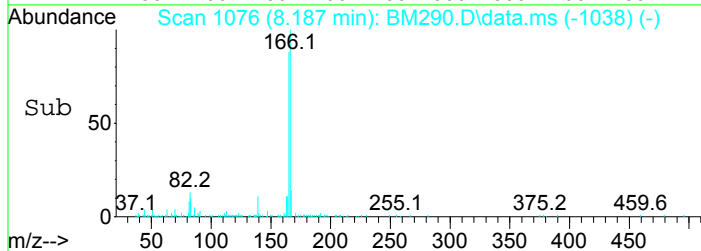
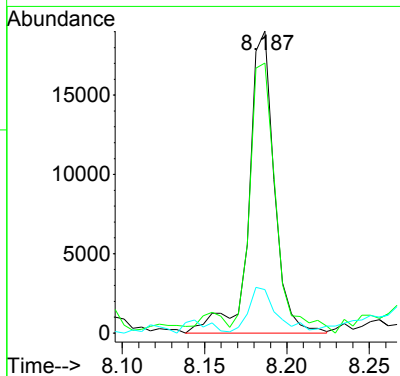
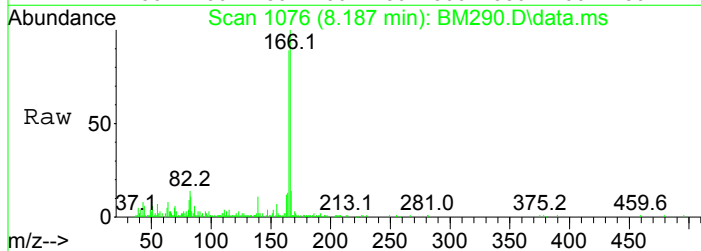
| Tgt Ion | Resp  | Lower | Upper |
|---------|-------|-------|-------|
| 168     | 16509 |       |       |
| 139     | 42.7  | 18.7  | 58.7  |





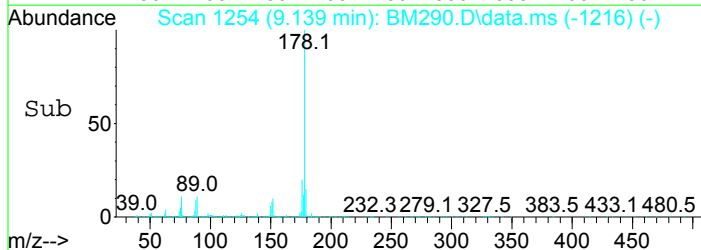
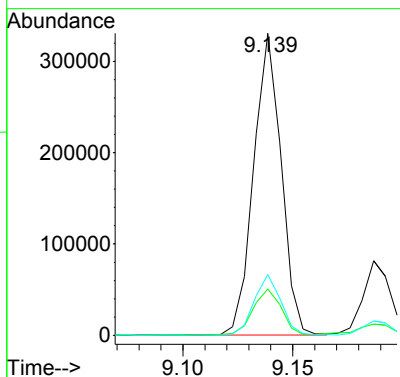
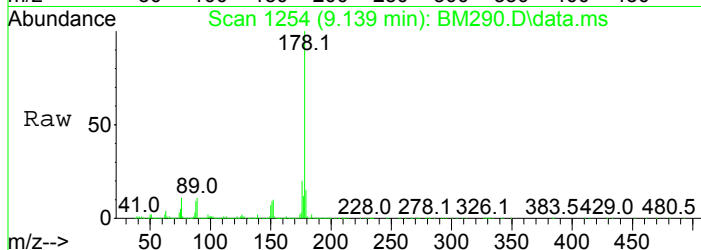
#83  
 Fluorene  
 Concen: 2.68 ppm  
 RT: 8.187 min Scan# 1076  
 Delta R.T. 0.003 min  
 Lab File: BM290.D  
 Acq: 31 Oct 2017 5:13 pm

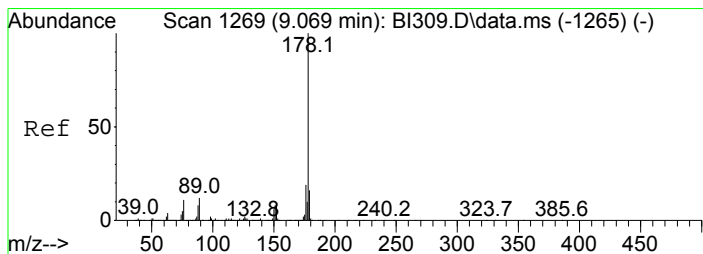
| Tgt Ion | Resp | Lower | Upper |
|---------|------|-------|-------|
| 166     | 100  |       |       |
| 165     | 87.4 | 63.1  | 123.1 |
| 167     | 11.0 | 0.0   | 43.6  |



#111  
 Phenanthrene  
 Concen: 27.78 ppm  
 RT: 9.139 min Scan# 1254  
 Delta R.T. 0.003 min  
 Lab File: BM290.D  
 Acq: 31 Oct 2017 5:13 pm

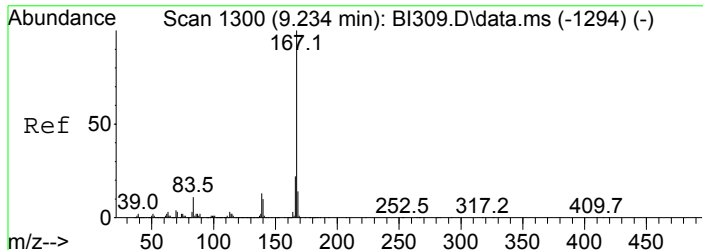
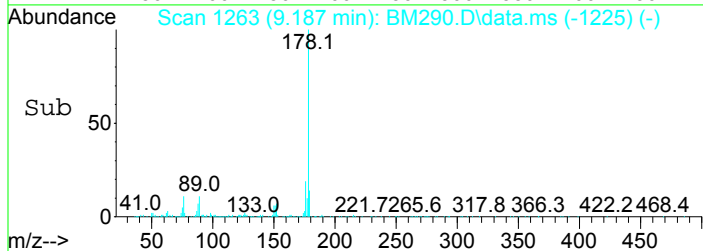
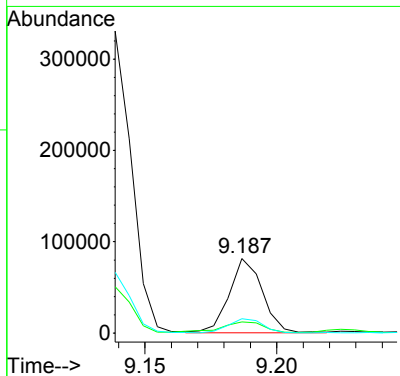
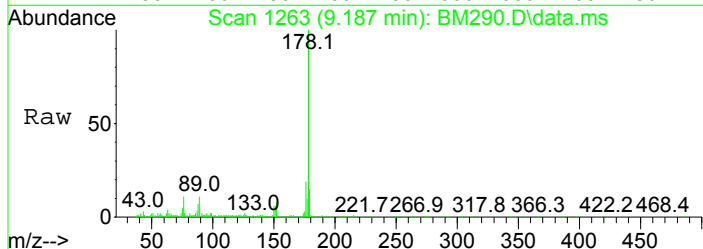
| Tgt Ion | Resp | Lower | Upper |
|---------|------|-------|-------|
| 178     | 100  |       |       |
| 179     | 14.9 | 0.0   | 34.5  |
| 176     | 20.1 | 0.0   | 39.5  |





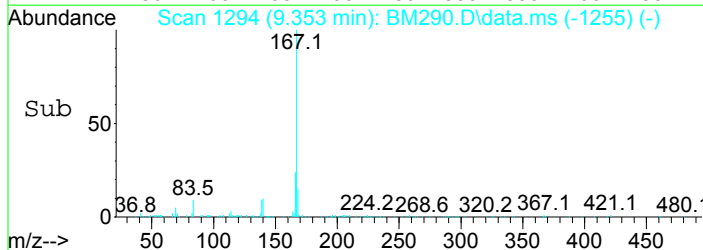
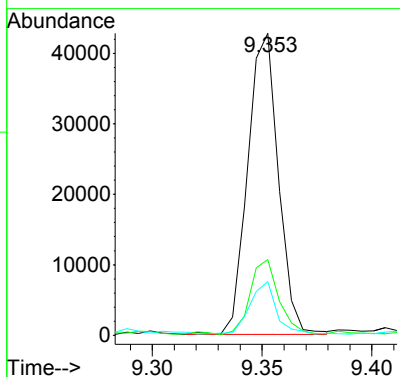
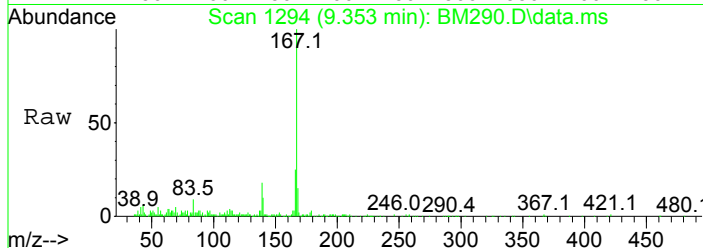
#112  
 Anthracene  
 Concen: 6.90 ppm  
 RT: 9.187 min Scan# 1263  
 Delta R.T. 0.001 min  
 Lab File: BM290.D  
 Acq: 31 Oct 2017 5:13 pm

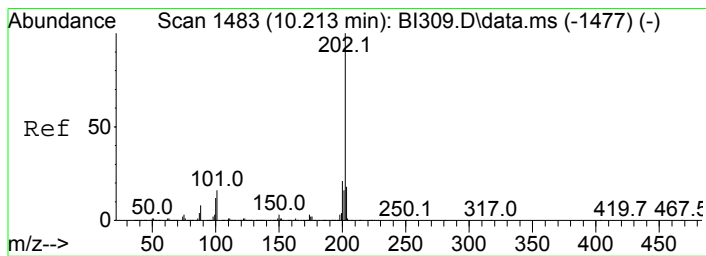
| Tgt Ion | Resp  | Lower | Upper |
|---------|-------|-------|-------|
| 178     | 71285 |       |       |
| 179     | 11.9  | 0.0   | 35.2  |
| 176     | 18.7  | 0.0   | 38.7  |



#113  
 Carbazole  
 Concen: 4.09 ppm  
 RT: 9.353 min Scan# 1294  
 Delta R.T. 0.007 min  
 Lab File: BM290.D  
 Acq: 31 Oct 2017 5:13 pm

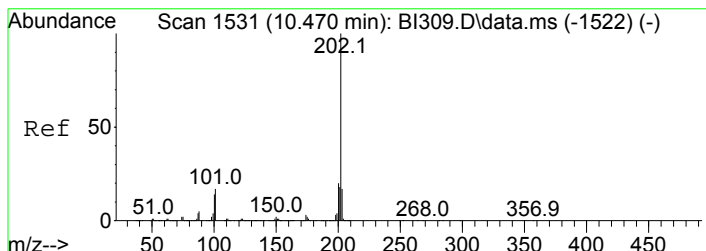
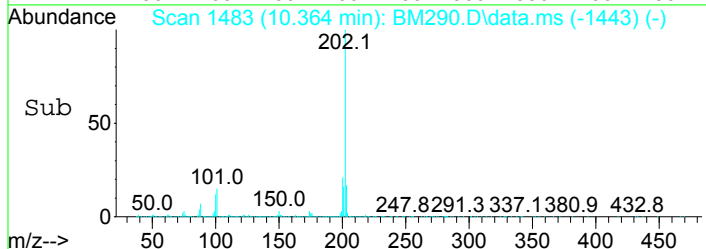
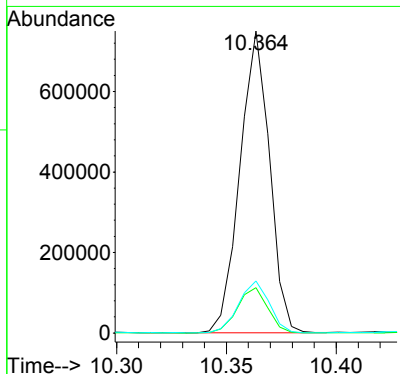
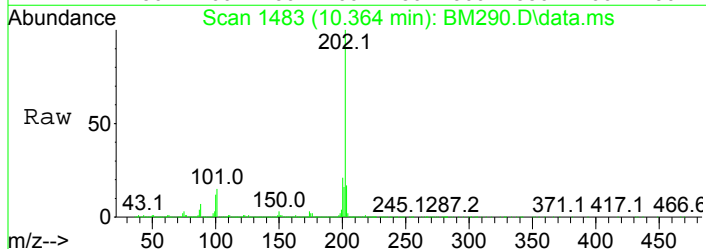
| Tgt Ion | Resp  | Lower | Upper |
|---------|-------|-------|-------|
| 167     | 41632 |       |       |
| 166     | 24.8  | 2.2   | 42.2  |
| 139     | 17.1  | 0.0   | 33.2  |





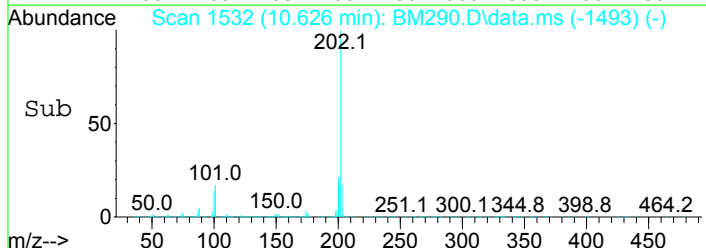
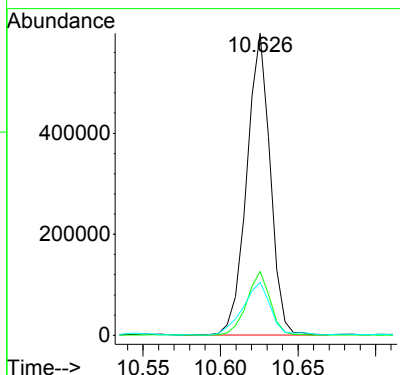
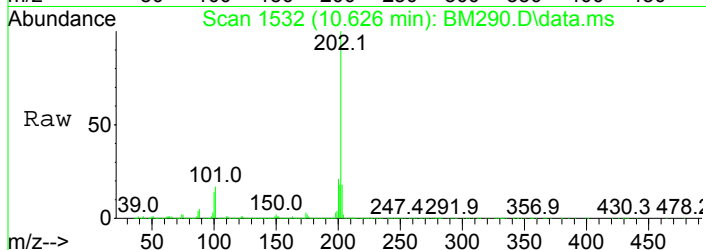
#116  
 Fluoranthene  
 Concen: 62.34 ppm  
 RT: 10.364 min Scan# 1483  
 Delta R.T. 0.014 min  
 Lab File: BM290.D  
 Acq: 31 Oct 2017 5:13 pm

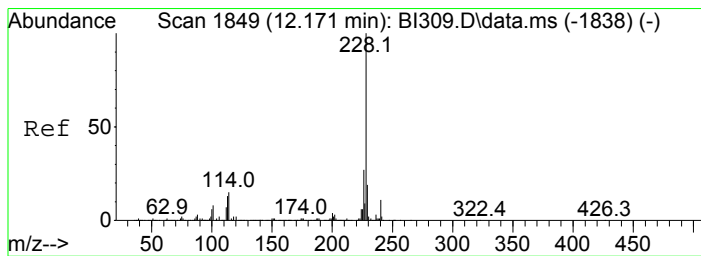
| Tgt Ion | Resp | Lower | Upper |
|---------|------|-------|-------|
| 202     | 100  |       |       |
| 101     | 15.0 | 0.0   | 33.9  |
| 203     | 17.2 | 0.0   | 37.5  |



#123  
 Pyrene  
 Concen: 55.43 ppm  
 RT: 10.626 min Scan# 1532  
 Delta R.T. 0.010 min  
 Lab File: BM290.D  
 Acq: 31 Oct 2017 5:13 pm

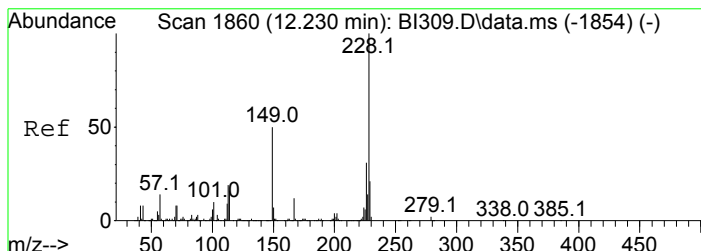
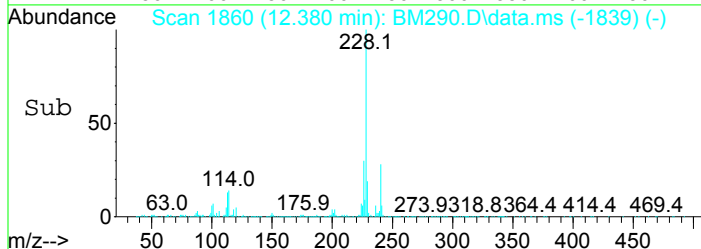
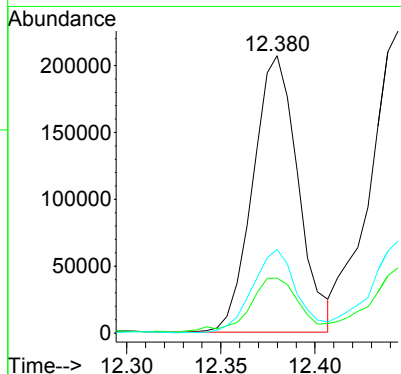
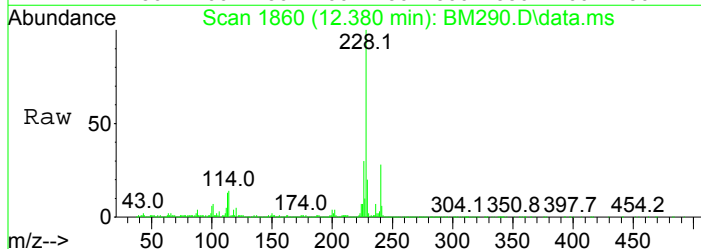
| Tgt Ion | Resp | Lower | Upper |
|---------|------|-------|-------|
| 202     | 100  |       |       |
| 200     | 21.1 | 0.8   | 40.8  |
| 203     | 17.5 | 0.0   | 38.1  |





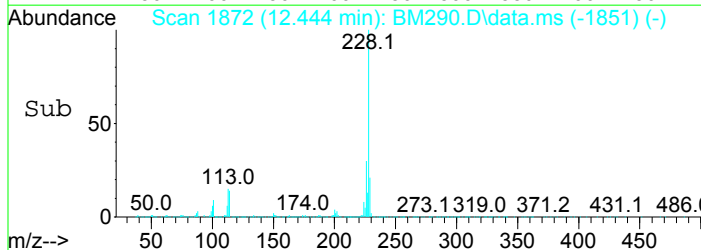
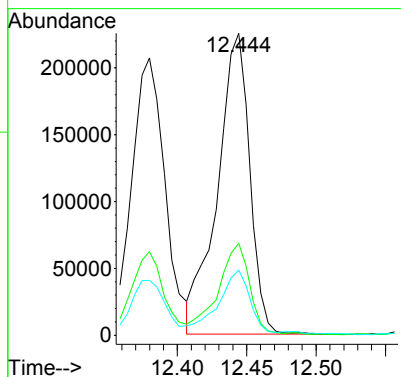
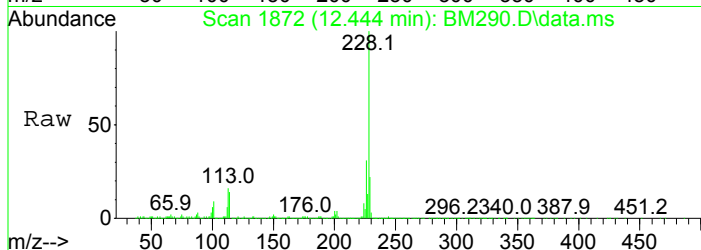
#132  
 Benzo(a)anthracene  
 Concen: 31.60 ppm  
 RT: 12.380 min Scan# 1860  
 Delta R.T. 0.013 min  
 Lab File: BM290.D  
 Acq: 31 Oct 2017 5:13 pm

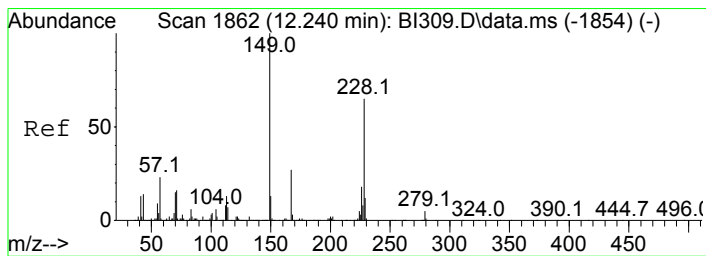
| Tgt Ion | Resp | Lower | Upper |
|---------|------|-------|-------|
| 228     | 100  |       |       |
| 229     | 18.9 | 0.0   | 39.1  |
| 226     | 29.9 | 7.2   | 47.2  |



#133  
 Chrysene  
 Concen: 34.51 ppm  
 RT: 12.444 min Scan# 1872  
 Delta R.T. 0.012 min  
 Lab File: BM290.D  
 Acq: 31 Oct 2017 5:13 pm

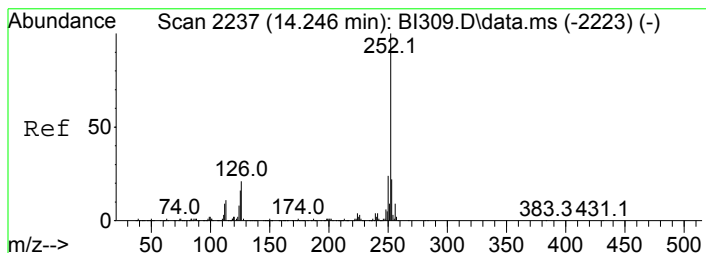
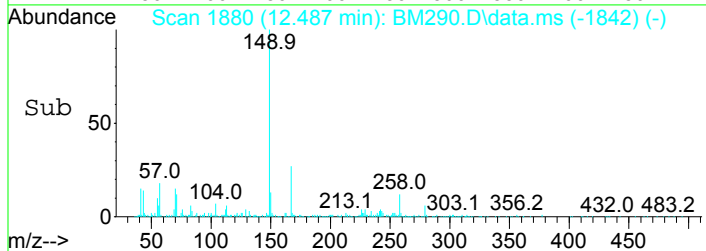
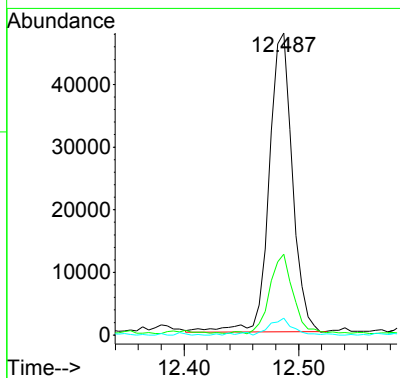
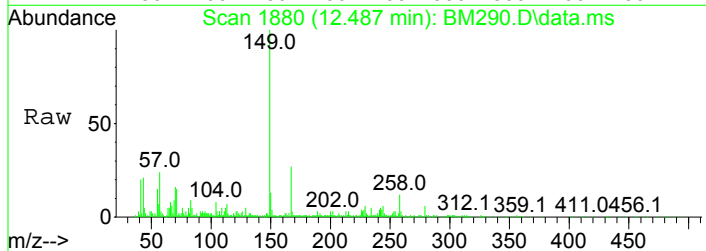
| Tgt Ion | Resp | Lower | Upper |
|---------|------|-------|-------|
| 228     | 100  |       |       |
| 226     | 30.3 | 8.9   | 48.9  |
| 229     | 20.9 | 0.1   | 40.1  |





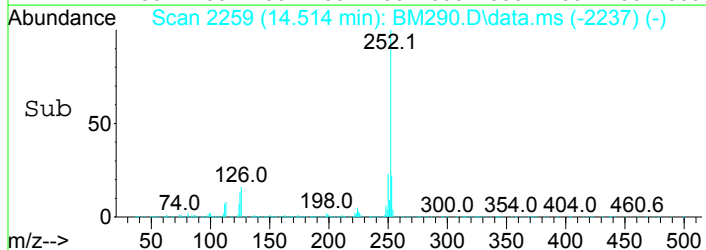
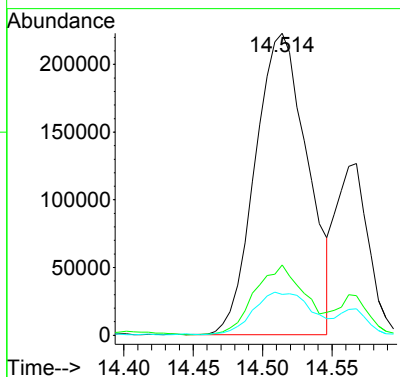
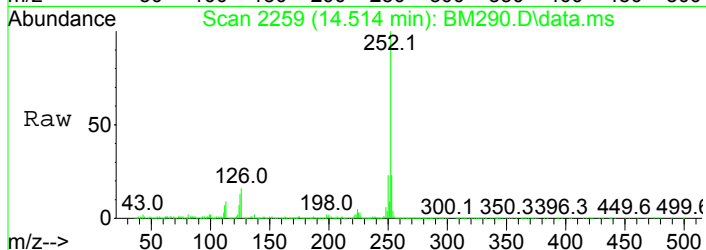
#134  
 bis(2-Ethylhexyl)phthalate  
 Concen: 8.16 ppm  
 RT: 12.487 min Scan# 1880  
 Delta R.T. 0.005 min  
 Lab File: BM290.D  
 Acq: 31 Oct 2017 5:13 pm

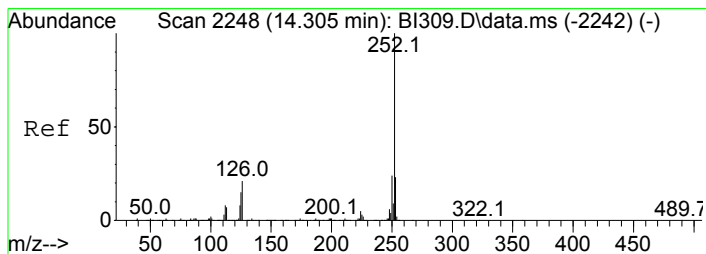
| Tgt Ion | Resp | Lower | Upper |
|---------|------|-------|-------|
| 149     | 100  |       |       |
| 167     | 25.7 | 5.6   | 45.6  |
| 279     | 5.3  | 0.0   | 25.9  |



#138  
 Benzo(b)Fluoranthene  
 Concen: 51.55 ppm  
 RT: 14.514 min Scan# 2259  
 Delta R.T. 0.018 min  
 Lab File: BM290.D  
 Acq: 31 Oct 2017 5:13 pm

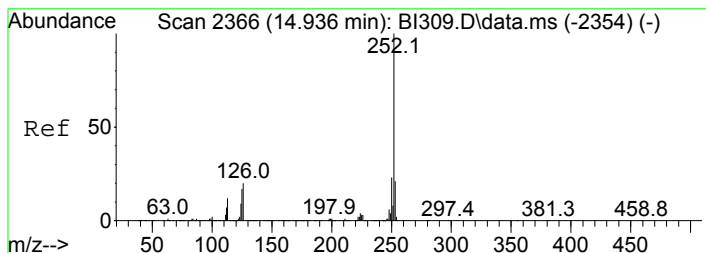
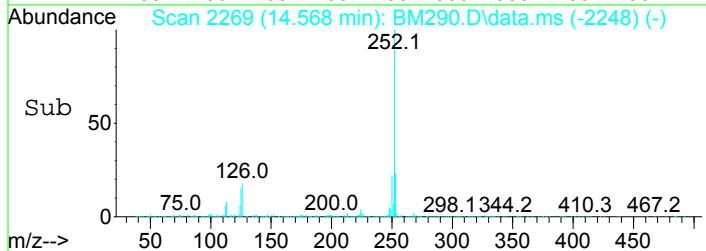
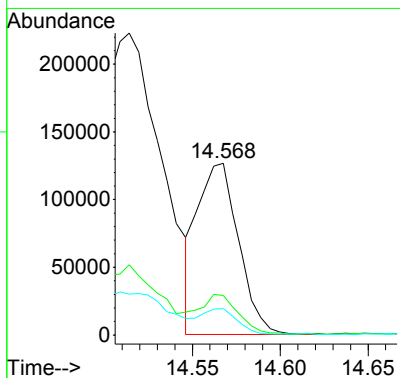
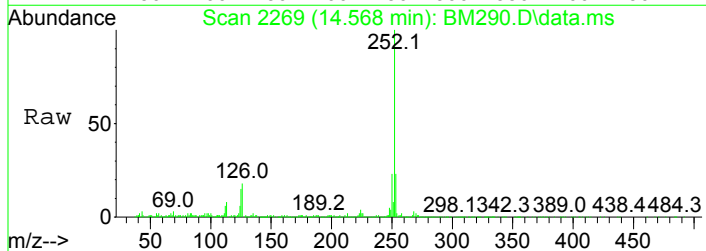
| Tgt Ion | Resp | Lower | Upper |
|---------|------|-------|-------|
| 252     | 100  |       |       |
| 253     | 23.2 | 4.0   | 44.0  |
| 125     | 12.5 | 0.0   | 35.3  |





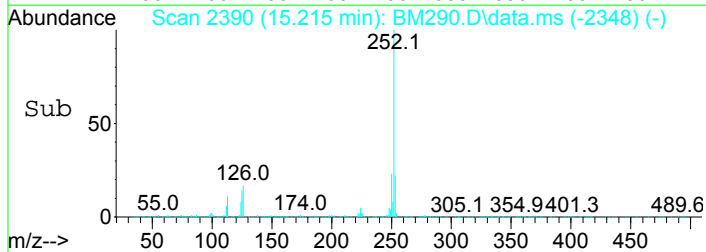
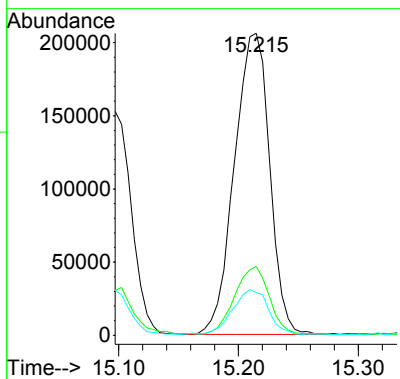
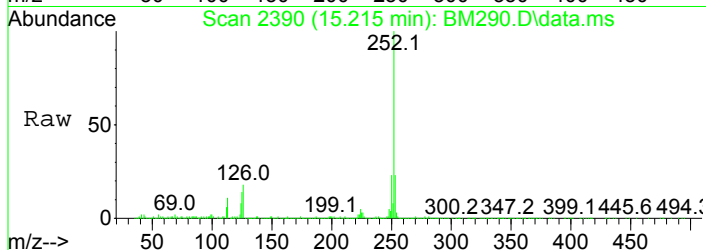
#139  
 Benzo(k)fluoranthene  
 Concen: 18.86 ppm  
 RT: 14.568 min Scan# 2269  
 Delta R.T. 0.014 min  
 Lab File: BM290.D  
 Acq: 31 Oct 2017 5:13 pm

| Tgt Ion | Resp | Lower | Upper |
|---------|------|-------|-------|
| 252     | 100  |       |       |
| 253     | 22.7 | 0.1   | 40.1  |
| 125     | 14.7 | 0.0   | 31.8  |

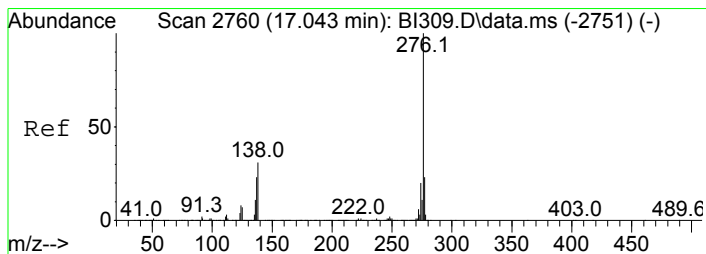


#140  
 Benzo(a)pyrene  
 Concen: 42.15 ppm  
 RT: 15.215 min Scan# 2390  
 Delta R.T. 0.026 min  
 Lab File: BM290.D  
 Acq: 31 Oct 2017 5:13 pm

| Tgt Ion | Resp | Lower | Upper |
|---------|------|-------|-------|
| 252     | 100  |       |       |
| 253     | 22.3 | 1.1   | 41.1  |
| 125     | 13.8 | 0.0   | 33.8  |

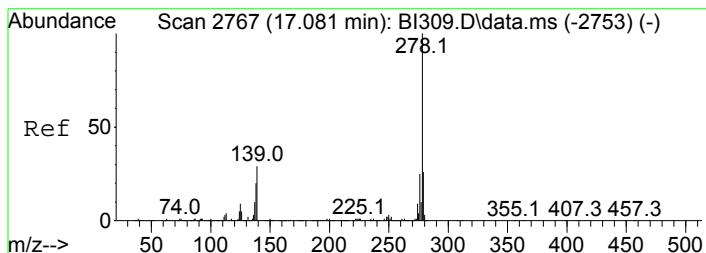
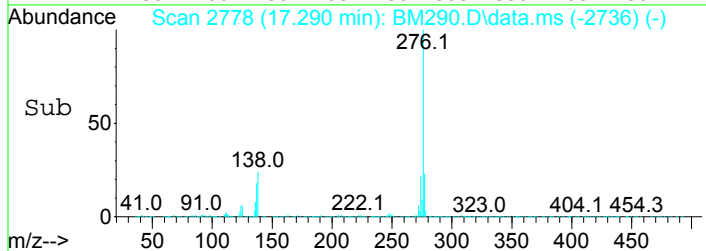
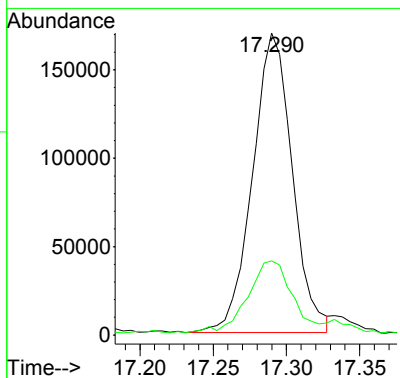
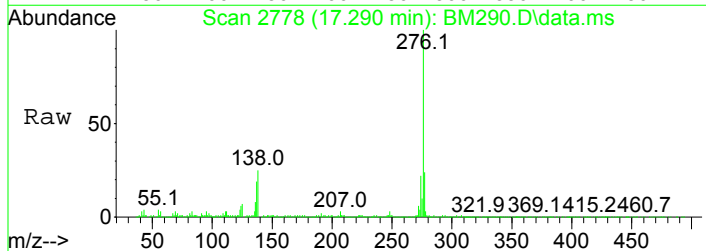






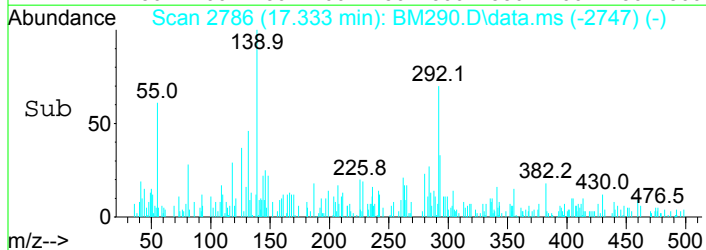
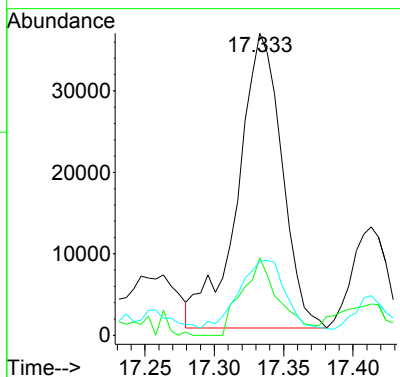
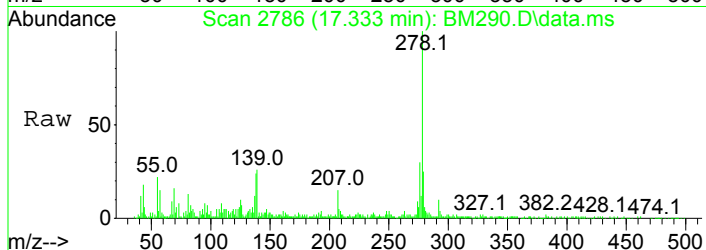
#142  
 Indeno(1,2,3-cd)Pyrene  
 Concen: 32.75 ppm  
 RT: 17.290 min Scan# 2778  
 Delta R.T. 0.024 min  
 Lab File: BM290.D  
 Acq: 31 Oct 2017 5:13 pm

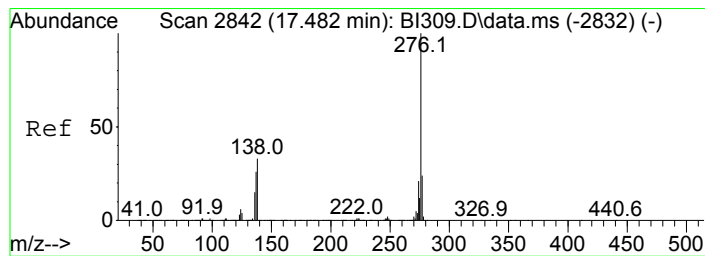
| Tgt Ion | Resp | Lower | Upper |
|---------|------|-------|-------|
| 276     | 100  |       |       |
| 138     | 23.0 | 2.3   | 42.3  |



#143  
 Dibenz(a,h)anthracene  
 Concen: 7.74 ppm  
 RT: 17.333 min Scan# 2786  
 Delta R.T. 0.011 min  
 Lab File: BM290.D  
 Acq: 31 Oct 2017 5:13 pm

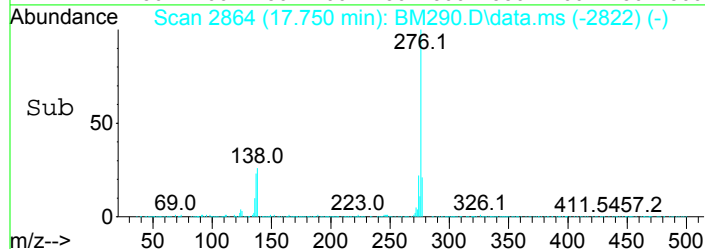
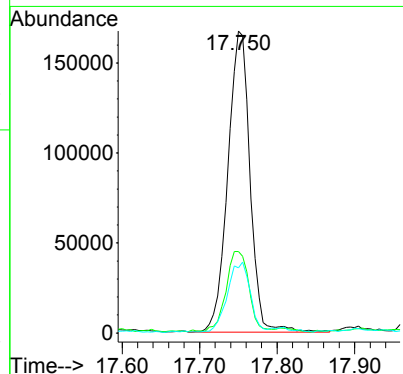
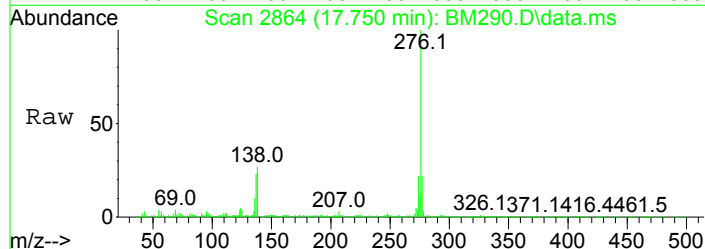
| Tgt Ion | Resp | Lower | Upper |
|---------|------|-------|-------|
| 278     | 100  |       |       |
| 139     | 23.0 | 0.0   | 37.7  |
| 279     | 23.2 | 3.8   | 43.8  |





#144  
 Benzo(g,h,i)perylene  
 Concen: 34.85 ppm  
 RT: 17.750 min Scan# 2864  
 Delta R.T. 0.027 min  
 Lab File: BM290.D  
 Acq: 31 Oct 2017 5:13 pm

| Tgt Ion | Resp   | Lower | Upper |
|---------|--------|-------|-------|
| 276     | 332547 |       |       |
| 138     | 26.5   | 4.2   | 44.2  |
| 277     | 21.1   | 3.9   | 43.9  |



Data Path : I:\ACQUADATA\5973D\Data\103017\  
 Data File : BM241.D  
 Acq On : 30 Oct 2017 10:58 am  
 Operator : J.Misiurewicz  
 Sample : RQ1711100-01  
 Misc : 301663 8270D BLK  
 ALS Vial : 5 Sample Multiplier: 1

Integration Parameters: RTEINT.P  
 Integrator: RTE  
 Smoothing : OFF Filtering: 5  
 Sampling : 1 Min Area: 25000 Area counts  
 Start Thrs: 0.2 Max Peaks: 100  
 Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >  
 Peak separation: 5

Method : I:\ACQUADATA\5973D\Methods\8270102617D.M  
 Title : 8270 BNA ANALYSIS

Signal : TIC: BM241.D\data.ms

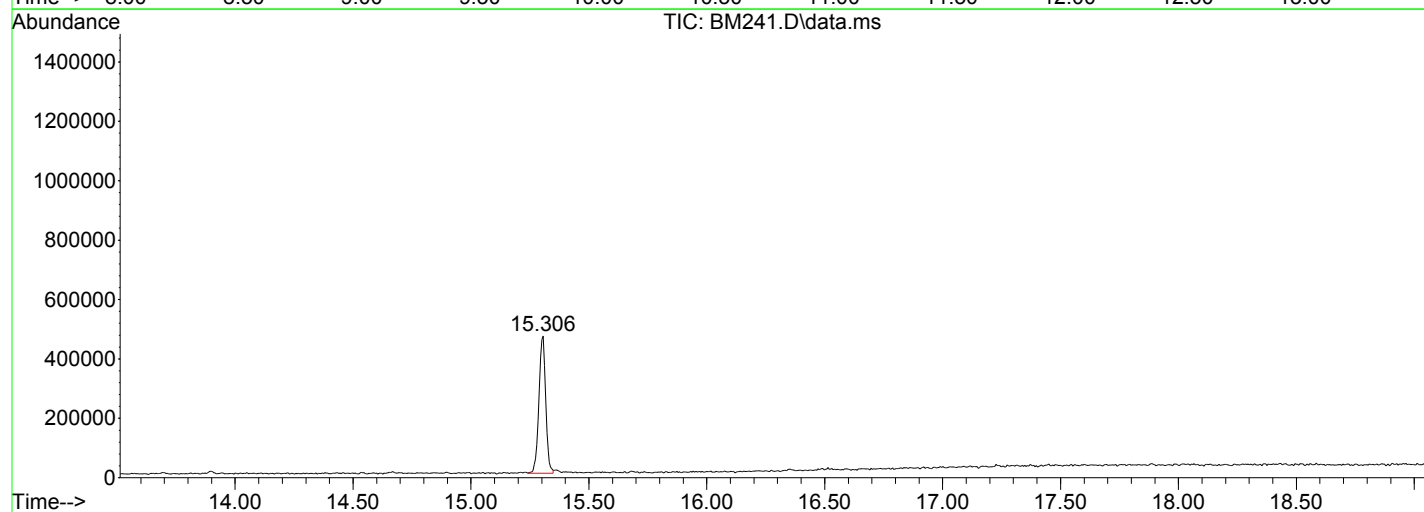
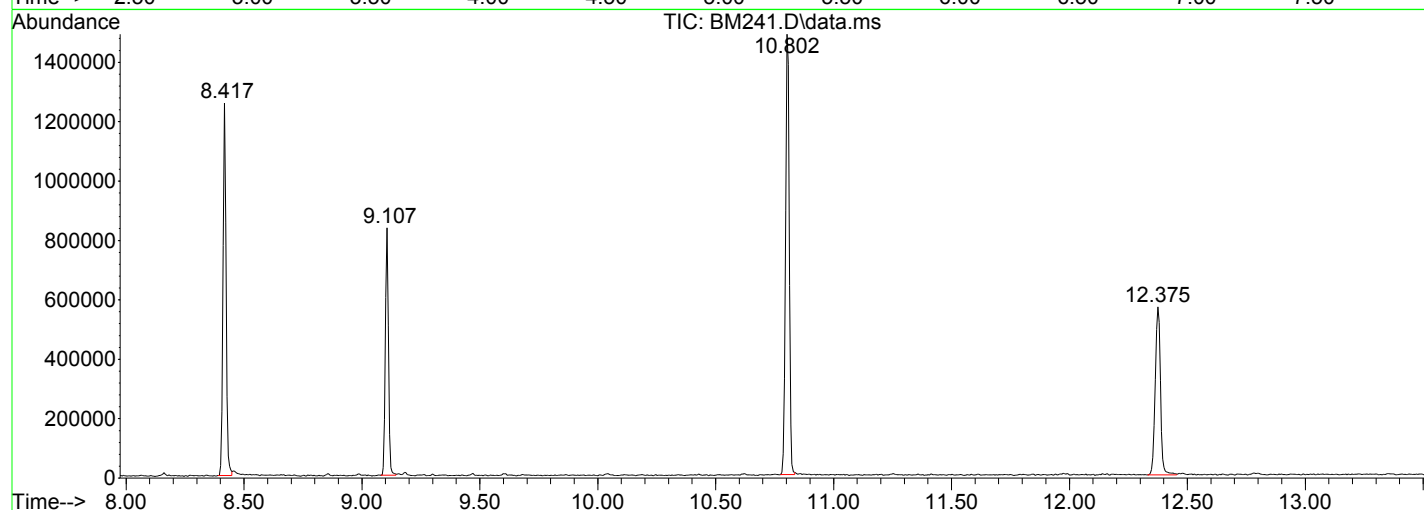
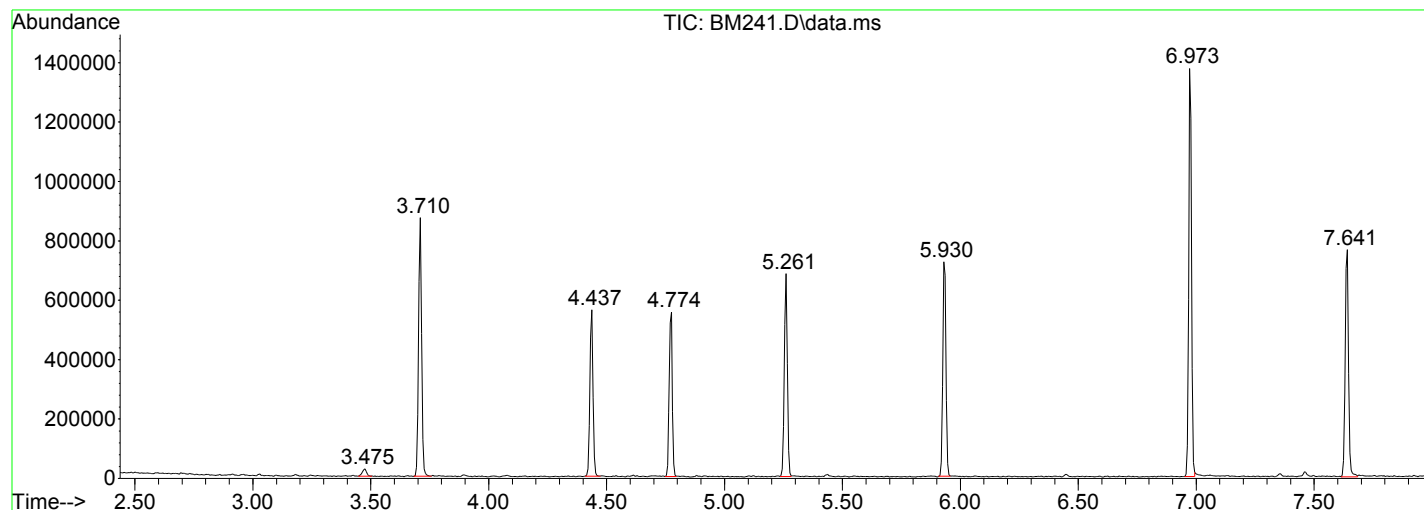
| peak # | R.T. min | first scan | max scan | last scan | PK TY | peak height | corr. area | corr. % max. | % of total |
|--------|----------|------------|----------|-----------|-------|-------------|------------|--------------|------------|
| 1      | 3.475    | 190        | 195      | 200       | rVB2  | 25120       | 31404      | 1.95%        | 0.305%     |
| 2      | 3.710    | 234        | 239      | 247       | rBV   | 871634      | 776130     | 48.29%       | 7.536%     |
| 3      | 4.437    | 370        | 375      | 381       | rBV   | 560905      | 504665     | 31.40%       | 4.900%     |
| 4      | 4.774    | 433        | 438      | 442       | rBV   | 553827      | 510816     | 31.78%       | 4.960%     |
| 5      | 5.261    | 524        | 529      | 533       | rBV   | 682540      | 600717     | 37.38%       | 5.833%     |
| 6      | 5.930    | 650        | 654      | 659       | rBV   | 721899      | 658593     | 40.98%       | 6.395%     |
| 7      | 6.973    | 845        | 849      | 853       | rBV   | 1374501     | 1192652    | 74.21%       | 11.581%    |
| 8      | 7.641    | 969        | 974      | 982       | rBV   | 765493      | 738379     | 45.94%       | 7.170%     |
| 9      | 8.417    | 1114       | 1119     | 1125      | rBV   | 1254267     | 1132923    | 70.49%       | 11.001%    |
| 10     | 9.107    | 1243       | 1248     | 1255      | rBV   | 832911      | 752186     | 46.80%       | 7.304%     |
| 11     | 10.802   | 1560       | 1565     | 1571      | rBV   | 1482856     | 1607130    | 100.00%      | 15.605%    |
| 12     | 12.375   | 1851       | 1859     | 1874      | rBV   | 564879      | 877006     | 54.57%       | 8.516%     |
| 13     | 15.306   | 2395       | 2407     | 2415      | rBV   | 461562      | 915899     | 56.99%       | 8.894%     |

Sum of corrected areas: 10298500

Data Path : I:\ACQUDATA\5973D\Data\103017\  
Data File : BM241.D  
Acq On : 30 Oct 2017 10:58 am  
Operator : J.Misiurewicz  
Sample : RQ1711100-01  
Misc : 301663 8270D BLK  
ALS Vial : 5 Sample Multiplier: 1

Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
Quant Title : 8270 BNA ANALYSIS

TIC Library : C:\DATABASE\NIST08.L  
TIC Integration Parameters: TEBINT.P



Data Path : I:\ACQUDATA\5973D\Data\103017\  
Data File : BM241.D  
Acq On : 30 Oct 2017 10:58 am  
Operator : J.Misiurewicz  
Sample : RQ1711100-01  
Misc : 301663 8270D BLK  
ALS Vial : 5 Sample Multiplier: 1

Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
Quant Title : 8270 BNA ANALYSIS

TIC Library : C:\DATABASE\NIST08.L  
TIC Integration Parameters: TEBINT.P

No Library Search Compounds Detected

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Data Path : I:\ACQUDATA\5973D\Data\103017\  
 Data File : BM241.D  
 Acq On : 30 Oct 2017 10:58 am  
 Operator : J.Misiurewicz  
 Sample : RQ1711100-01  
 Misc : 301663 8270D BLK  
 ALS Vial : 5 Sample Multiplier: 1

Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
 Quant Title : 8270 BNA ANALYSIS

TIC Library : C:\DATABASE\NIST08.L  
 TIC Integration Parameters: TEBINT.P

| TIC Top Hit name | RT | EstConc | Units | Response | --Internal Standard-- |    |      |      |
|------------------|----|---------|-------|----------|-----------------------|----|------|------|
|                  |    |         |       |          | #                     | RT | Resp | Conc |

---

Data Path : I:\ACQUDATA\5973D\Data\103017\  
 Data File : BM241.D  
 Acq On : 30 Oct 2017 10:58 am  
 Operator : J.Misiurewicz  
 Sample : RQ1711100-01  
 Misc : 301663 8270D BLK  
 ALS Vial : 5 Sample Multiplier: 1

Quant Time: Oct 30 11:39:40 2017  
 Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
 Quant Title : 8270 BNA ANALYSIS  
 QLast Update : Thu Oct 26 14:29:15 2017  
 Response via : Initial Calibration

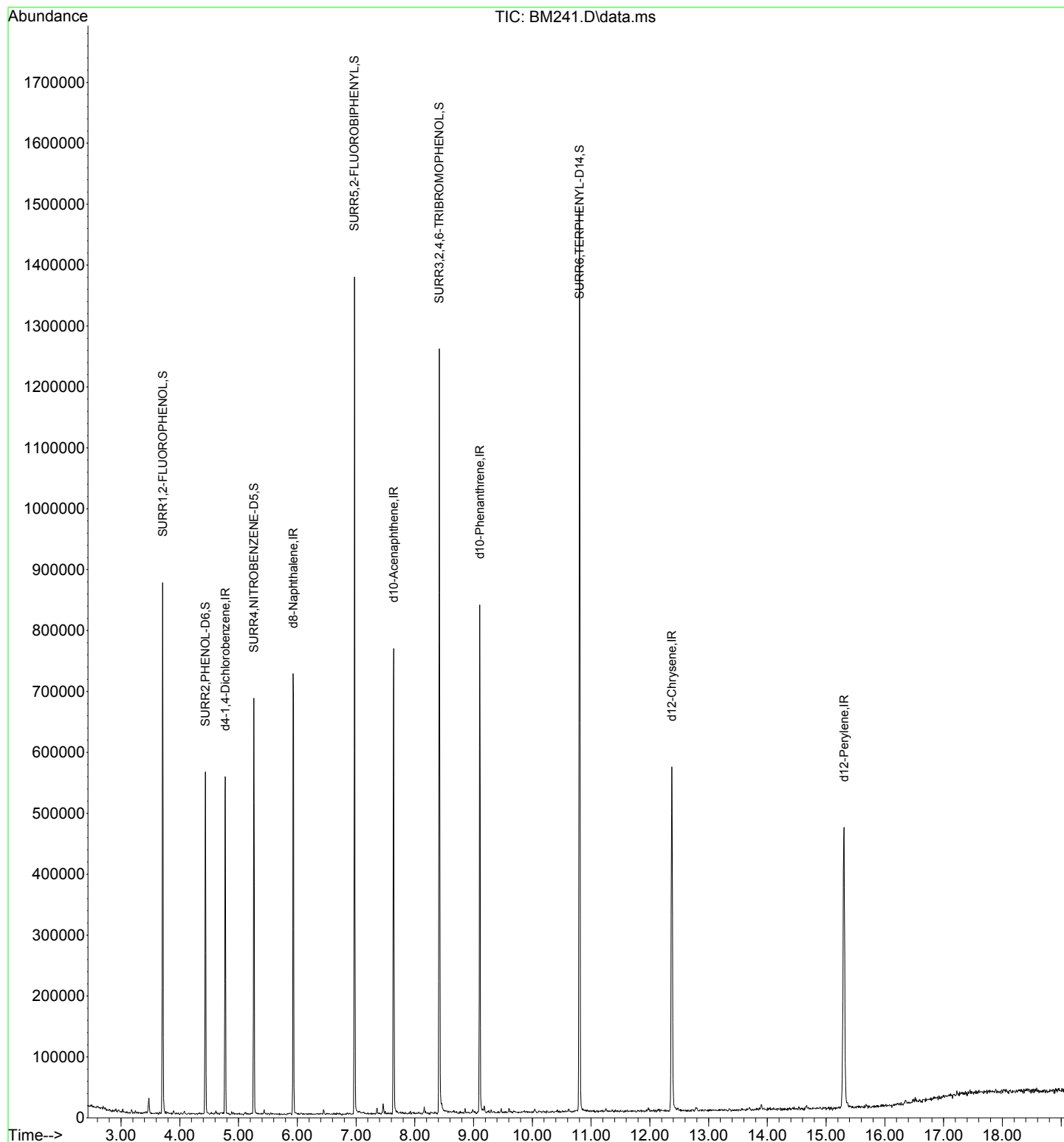
| Compound                           | R.T.           | QIon | Response   | Conc   | Units | Dev(Min) |
|------------------------------------|----------------|------|------------|--------|-------|----------|
| <b>Internal Standards</b>          |                |      |            |        |       |          |
| 1) d4-1,4-Dichlorobenzene          | 4.774          | 152  | 80664      | 40.00  | ppm   | 0.00     |
| 33) d8-Naphthalene                 | 5.930          | 136  | 307523     | 40.00  | ppm   | 0.00     |
| 57) d10-Acenaphthene               | 7.641          | 164  | 151922     | 40.00  | ppm   | 0.00     |
| 91) d10-Phenanthrene               | 9.107          | 188  | 283022     | 40.00  | ppm   | 0.00     |
| 117) d12-Chrysene                  | 12.375         | 240  | 282132     | 40.00  | ppm   | 0.00     |
| 135) d12-Perylene                  | 15.306         | 264  | 304527     | 40.00  | ppm   | 0.00     |
| <b>System Monitoring Compounds</b> |                |      |            |        |       |          |
| 7) SURR1,2-FLUOROPHENOL            | 3.710          | 112  | 222996     | 82.56  | ppm   | 0.00     |
| Spiked Amount 200.000              | Range 10 - 105 |      | Recovery = | 41.28% |       |          |
| 12) SURR2,PHENOL-D6                | 4.437          | 99   | 178610     | 55.98  | ppm   | 0.00     |
| Spiked Amount 200.000              | Range 10 - 107 |      | Recovery = | 27.99% |       |          |
| 34) SURR4,NITROBENZENE-D5          | 5.261          | 82   | 200170     | 72.31  | ppm   | 0.00     |
| Spiked Amount 100.000              | Range 37 - 117 |      | Recovery = | 72.31% |       |          |
| 63) SURR5,2-FLUOROBIPHENYL         | 6.973          | 172  | 396077     | 68.94  | ppm   | 0.00     |
| Spiked Amount 100.000              | Range 39 - 119 |      | Recovery = | 68.94% |       |          |
| 88) SURR3,2,4,6-TRIBROMOPH...      | 8.417          | 330  | 144687     | 142.44 | ppm   | 0.00     |
| Spiked Amount 200.000              | Range 28 - 157 |      | Recovery = | 71.22% |       |          |
| 124) SURR6,TERPHENYL-D14           | 10.802         | 244  | 506700     | 79.00  | ppm   | 0.00     |
| Spiked Amount 100.000              | Range 40 - 133 |      | Recovery = | 79.00% |       |          |

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : I:\ACQUDATA\5973D\Data\103017\  
Data File : BM241.D  
Acq On : 30 Oct 2017 10:58 am  
Operator : J.Misiurewicz  
Sample : RQ1711100-01  
Misc : 301663 8270D BLK  
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Oct 30 11:39:40 2017  
Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
Quant Title : 8270 BNA ANALYSIS  
QLast Update : Thu Oct 26 14:29:15 2017  
Response via : Initial Calibration





Data Path : I:\ACQUDATA\5973D\Data\103017\  
 Data File : BM241.D  
 Acq On : 30 Oct 2017 10:58 am  
 Operator : J.Misiurewicz  
 Sample : RQ1711100-01  
 Misc : 301663 8270D BLK  
 ALS Vial : 5 Sample Multiplier: 1

Quant Time: Oct 31 10:15:11 2017  
 Quant Method : I:\ACQUDATA\5973D\Methods\PHEN102517D.M  
 Quant Title : 8270 BNA ANALYSIS  
 QLast Update : Thu Oct 26 13:20:52 2017  
 Response via : Initial Calibration

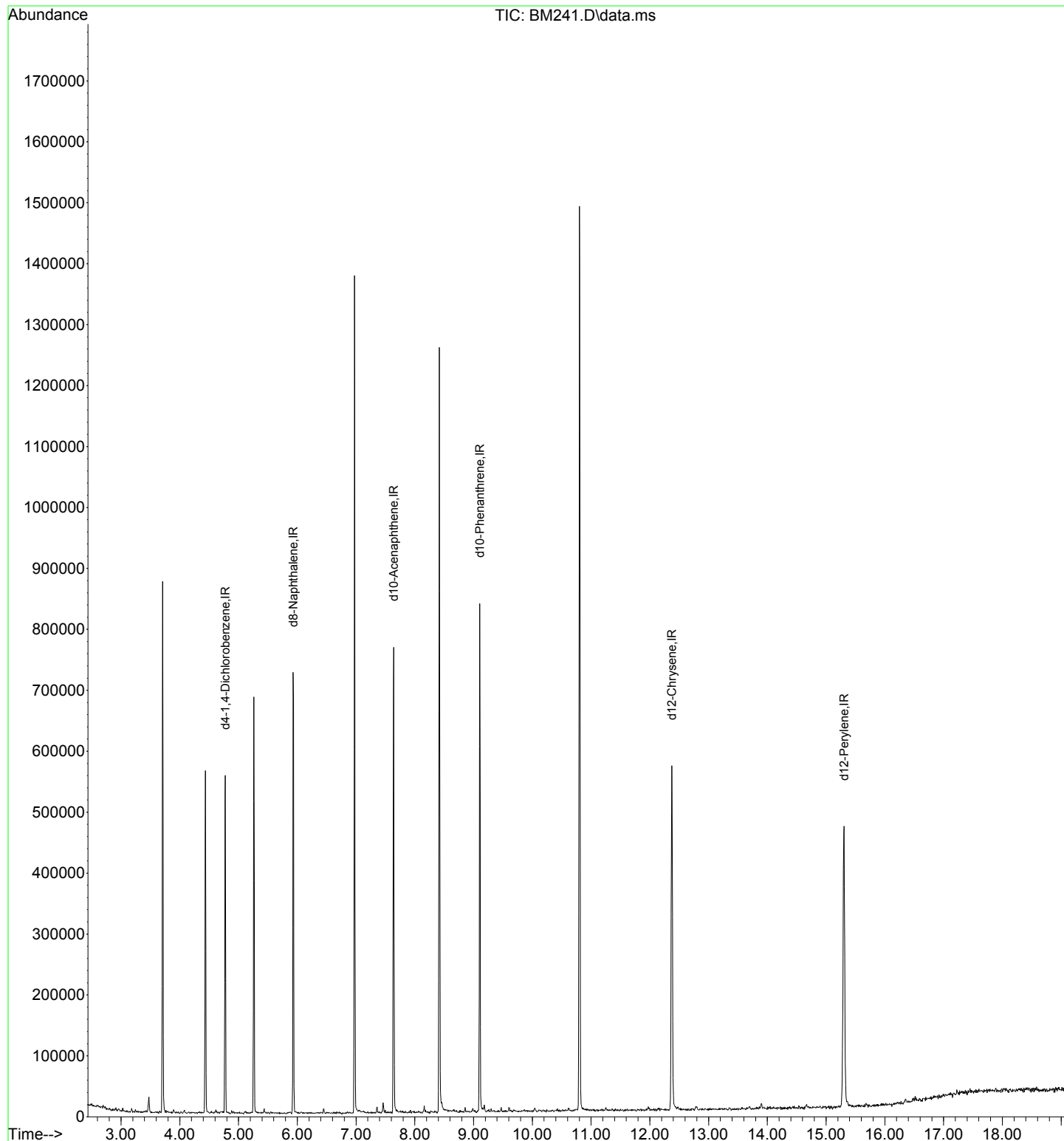
| Compound                  | R.T.   | QIon | Response | Conc  | Units | Dev(Min) |
|---------------------------|--------|------|----------|-------|-------|----------|
| Internal Standards        |        |      |          |       |       |          |
| 1) d4-1,4-Dichlorobenzene | 4.774  | 152  | 80664    | 40.00 | ppm   | 0.00     |
| 2) d8-Naphthalene         | 5.930  | 136  | 308169   | 40.00 | ppm   | 0.00     |
| 6) d10-Acenaphthene       | 7.641  | 164  | 151922   | 40.00 | ppm   | 0.00     |
| 13) d10-Phenanthrene      | 9.107  | 188  | 283022   | 40.00 | ppm   | 0.00     |
| 14) d12-Chrysene          | 12.375 | 240  | 282935   | 40.00 | ppm   | 0.01     |
| 15) d12-Perylene          | 15.306 | 264  | 304473   | 40.00 | ppm   | 0.02     |

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : I:\ACQUDATA\5973D\Data\103017\  
Data File : BM241.D  
Acq On : 30 Oct 2017 10:58 am  
Operator : J.Misiurewicz  
Sample : RQ1711100-01  
Misc : 301663 8270D BLK  
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Oct 31 10:15:11 2017  
Quant Method : I:\ACQUDATA\5973D\Methods\PHEN102517D.M  
Quant Title : 8270 BNA ANALYSIS  
QLast Update : Thu Oct 26 13:20:52 2017  
Response via : Initial Calibration



Data Path : I:\ACQUDATA\5973D\Data\103017\  
 Data File : BM242.D  
 Acq On : 30 Oct 2017 11:26 am  
 Operator : J.Misiurewicz  
 Sample : RQ1711100-02  
 Misc : 301663 8270D LCS  
 ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 31 07:51:18 2017  
 Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
 Quant Title : 8270 BNA ANALYSIS  
 QLast Update : Thu Oct 26 14:29:15 2017  
 Response via : Initial Calibration

| Compound                  | R.T.   | QIon | Response | Conc  | Units | Dev(Min) |
|---------------------------|--------|------|----------|-------|-------|----------|
| Internal Standards        |        |      |          |       |       |          |
| 1) d4-1,4-Dichlorobenzene | 4.774  | 152  | 90851    | 40.00 | ppm   | 0.00     |
| 33) d8-Naphthalene        | 5.935  | 136  | 344190   | 40.00 | ppm   | 0.00     |
| 57) d10-Acenaphthene      | 7.641  | 164  | 172060   | 40.00 | ppm   | 0.00     |
| 91) d10-Phenanthrene      | 9.107  | 188  | 299533   | 40.00 | ppm   | 0.00     |
| 117) d12-Chrysene         | 12.385 | 240  | 317524   | 40.00 | ppm   | 0.00     |
| 135) d12-Perylene         | 15.311 | 264  | 320410   | 40.00 | ppm   | 0.00     |

| System Monitoring Compounds   |         |       |          |          |     |         |
|-------------------------------|---------|-------|----------|----------|-----|---------|
| 7) SURR1,2-FLUOROPHENOL       | 3.710   | 112   | 66732    | 21.94    | ppm | 0.00    |
| Spiked Amount                 | 200.000 | Range | 10 - 105 | Recovery | =   | 10.97%  |
| 12) SURR2,PHENOL-D6           | 4.437   | 99    | 107530   | 29.92    | ppm | 0.00    |
| Spiked Amount                 | 200.000 | Range | 10 - 107 | Recovery | =   | 14.96%  |
| 34) SURR4,NITROBENZENE-D5     | 5.261   | 82    | 239479   | 77.29    | ppm | 0.00    |
| Spiked Amount                 | 100.000 | Range | 37 - 117 | Recovery | =   | 77.29%  |
| 63) SURR5,2-FLUOROBIPHENYL    | 6.978   | 172   | 492139   | 75.64    | ppm | 0.00    |
| Spiked Amount                 | 100.000 | Range | 39 - 119 | Recovery | =   | 75.64%  |
| 88) SURR3,2,4,6-TRIBROMOPH... | 8.417   | 330   | 46947    | 40.81    | ppm | 0.00    |
| Spiked Amount                 | 200.000 | Range | 28 - 157 | Recovery | =   | 20.41%# |
| 124) SURR6,TERPHENYL-D14      | 10.807  | 244   | 586428   | 81.24    | ppm | 0.00    |
| Spiked Amount                 | 100.000 | Range | 40 - 133 | Recovery | =   | 81.24%  |

| Target Compounds              |       |     |        |         |     | Qvalue |
|-------------------------------|-------|-----|--------|---------|-----|--------|
| 2) Pyridine                   | 2.774 | 79  | 117913 | 39.981  | ppm | 95     |
| 3) N-Nitrosodimethylamine     | 2.736 | 74  | 82626  | 52.127  | ppm | 94     |
| 10) Benzaldehyde              | 4.405 | 106 | 175235 | 98.573  | ppm | 95     |
| 11) Aniline                   | 4.491 | 93  | 251529 | 52.877  | ppm | 99     |
| 13) Phenol                    | 4.453 | 94  | 55937  | 14.912  | ppm | 97     |
| 14) bis(2-Clethyl)Ether       | 4.534 | 93  | 196502 | 65.926  | ppm | 95     |
| 16) 2-Chlorophenol            | 4.592 | 128 | 76019  | 24.460  | ppm | 98     |
| 17) 1,3-Diclbzene             | 4.726 | 146 | 183204 | 54.153  | ppm | 95     |
| 18) 1,4-Dichlorobenzene       | 4.790 | 146 | 191620 | 56.722  | ppm | 96     |
| 19) 1,2-Diclbzene             | 4.924 | 146 | 188177 | 57.759  | ppm | 98     |
| 20) Benzyl Alcohol            | 4.887 | 79  | 165773 | 64.412  | ppm | 97     |
| 22) 2,2'-oxybis(1-Chloropr... | 4.999 | 45  | 281142 | 65.353  | ppm | 97     |
| 23) 2-Methylphenol            | 4.977 | 108 | 154089 | 59.046  | ppm | 95     |
| 24) 3+4-Methylphenol          | 5.111 | 108 | 137834 | 46.807  | ppm | 86     |
| 25) Acetophenone              | 5.122 | 105 | 627849 | 152.705 | ppm | 99     |
| 26) N-Nitroso-Di-n-propyla... | 5.117 | 70  | 166032 | 73.261  | ppm | 91     |
| 30) Hexachloroethane          | 5.223 | 117 | 73330  | 52.142  | ppm | 95     |
| 32) Alpha-terpinol            | 5.956 | 121 | 93265  | 79.222  | ppm | 96     |
| 35) Nitrobenzene              | 5.282 | 77  | 221932 | 64.357  | ppm | 97     |
| 37) Isophorone                | 5.496 | 82  | 424417 | 68.057  | ppm | 98     |
| 38) 2-Nitrophenol             | 5.571 | 139 | 33517  | 21.669  | ppm | 92     |
| 40) 2,4-Dimethylphenol        | 5.603 | 107 | 229303 | 78.375  | ppm | 96     |
| 41) bis(-2-Chloroethoxy)Me... | 5.694 | 93  | 269654 | 73.858  | ppm | 100    |
| 42) 2,4-Dichlorophenol        | 5.801 | 162 | 64222  | 26.321  | ppm | 95     |
| 44) 1,2,4-Trichlorobenzene    | 5.876 | 180 | 158811 | 57.144  | ppm | 91     |
| 45) Naphthalene               | 5.956 | 128 | 562203 | 64.253  | ppm | 100    |
| 46) 4-Chloroaniline           | 6.004 | 127 | 247063 | 67.421  | ppm | 97     |
| 48) Hexachlorobutadiene       | 6.069 | 225 | 90230  | 57.433  | ppm | 96     |
| 50) 4-Chloro-3-methylphenol   | 6.470 | 107 | 150495 | 62.576  | ppm | 95     |
| 52) Caprolactam               | 6.336 | 113 | 24284  | 29.253  | ppm | 95     |
| 55) 2-Methylnaphthalene       | 6.620 | 142 | 374773 | 64.108  | ppm | 96     |
| 56) 1-Methylnaphthalene       | 6.716 | 142 | 359241 | 67.961  | ppm | 96     |
| 58) Hexachlorocyclopentadiene | 6.769 | 237 | 82209  | 47.608  | ppm | 96     |

Data Path : I:\ACQUDATA\5973D\Data\103017\  
 Data File : BM242.D  
 Acq On : 30 Oct 2017 11:26 am  
 Operator : J.Misiurewicz  
 Sample : RQ1711100-02  
 Misc : 301663 8270D LCS  
 ALS Vial : 6 Sample Multiplier: 1

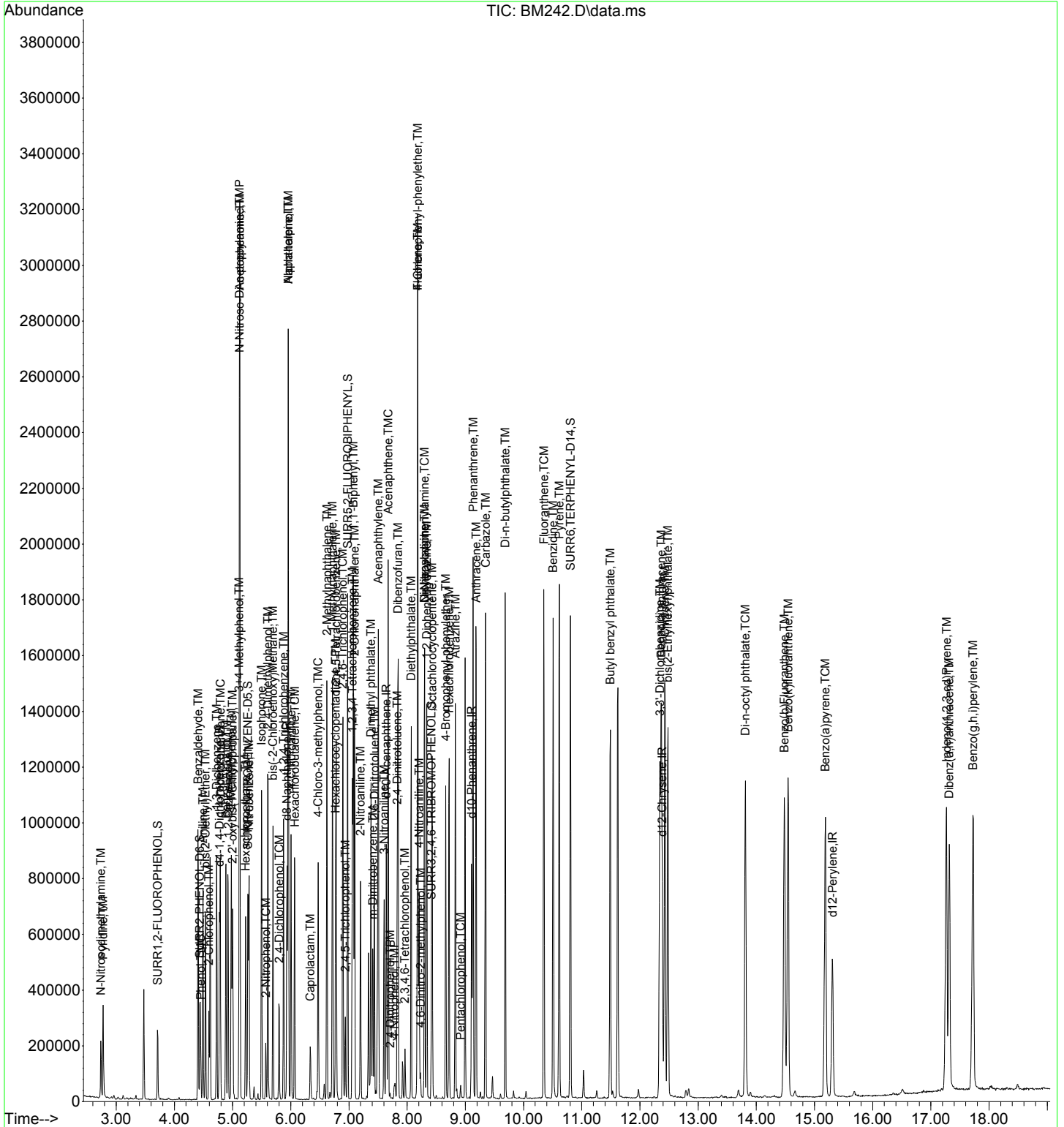
Quant Time: Oct 31 07:51:18 2017  
 Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
 Quant Title : 8270 BNA ANALYSIS  
 QLast Update : Thu Oct 26 14:29:15 2017  
 Response via : Initial Calibration

| Compound                       | R.T.   | QIon | Response | Conc    | Units | Dev(Min) |
|--------------------------------|--------|------|----------|---------|-------|----------|
| 59) 1,2,4,5-Tetrachloroben...  | 6.780  | 216  | 181311   | 64.863  | ppm   | 95       |
| 60) 1,2,3,4-Tetrachloroben...  | 7.058  | 216  | 176522   | 69.695  | ppm   | 94       |
| 61) 2,4,6-Trichlorophenol      | 6.892  | 196  | 33710    | 18.706  | ppm   | 95       |
| 62) 2,4,5-Trichlorophenol      | 6.935  | 196  | 38367    | 21.649  | ppm   | 96       |
| 65) 1,1'-Biphenyl              | 7.074  | 154  | 514240   | 71.886  | ppm   | 98       |
| 66) 2-Chloronaphthalene        | 7.096  | 162  | 376215   | 67.344  | ppm   | 99       |
| 67) 2-Nitroaniline             | 7.197  | 65   | 119159   | 77.985  | ppm   | 96       |
| 69) m-Dinitrobenzene           | 7.411  | 168  | 67268    | 77.328  | ppm   | 95       |
| 70) Acenaphthylene             | 7.502  | 152  | 668232   | 76.419  | ppm   | 99       |
| 71) Dimethyl phthalate         | 7.379  | 163  | 433358   | 71.435  | ppm   | 98       |
| 72) 2,6-Dinitrotoluene         | 7.438  | 165  | 106695   | 70.527  | ppm   | 95       |
| 73) Acenaphthene               | 7.673  | 153  | 421068   | 72.361  | ppm   | 100      |
| 74) 3-Nitroaniline             | 7.604  | 138  | 105913   | 71.375  | ppm   | 98       |
| 75) 2,4-Dinitrophenol          | 7.705  | 184  | 1838     | 8.848   | ppm   | 98       |
| 76) Dibenzofuran               | 7.844  | 168  | 578047   | 74.806  | ppm   | 100      |
| 77) 2,4-Dinitrotoluene         | 7.828  | 165  | 137475   | 71.097  | ppm   | 96       |
| 78) 4-Nitrophenol              | 7.780  | 65   | 7386     | 5.828   | ppm   | 88       |
| 82) 2,3,4,6-Tetrachlorophenol  | 7.962  | 232  | 20564    | 14.506  | ppm   | 92       |
| 83) Fluorene                   | 8.181  | 166  | 457979   | 72.519  | ppm   | 97       |
| 84) 4-Chlorophenyl-phenyle...  | 8.181  | 204  | 211843   | 64.117  | ppm   | 94       |
| 85) Diethylphthalate           | 8.069  | 149  | 443170   | 69.308  | ppm   | 100      |
| 86) 4-Nitroaniline             | 8.208  | 138  | 136079   | 81.541  | ppm   | 97       |
| 90) Octachlorocyclopentene     | 8.427  | 307  | 86172    | 80.608  | ppm   | 97       |
| 93) 4,6-Dinitro-2-methylph...  | 8.229  | 198  | 11842    | 15.232  | ppm   | 95       |
| 94) Diphenylamine              | 8.299  | 169  | 376603   | 84.192  | ppm   | 98       |
| 95) 1,2 Diphenylhydrazine      | 8.336  | 77   | 488822   | 77.964  | ppm   | 95       |
| 96) N-Nitrosodiphenylamine     | 8.299  | 169  | 376603   | 84.189  | ppm   | 98       |
| 101) 4-Bromophenyl-phenylether | 8.663  | 248  | 119973   | 63.033  | ppm   | 93       |
| 102) Hexachlorobenzene         | 8.722  | 284  | 156024   | 75.637  | ppm   | 97       |
| 104) Atrazine                  | 8.828  | 215  | 74997    | 125.336 | ppm   | 95       |
| 105) Pentachlorophenol         | 8.919  | 266  | 5202     | 7.650   | ppm   | 99       |
| 111) Phenanthrene              | 9.133  | 178  | 660613   | 80.744  | ppm   | 99       |
| 112) Anthracene                | 9.187  | 178  | 669601   | 82.526  | ppm   | 99       |
| 113) Carbazole                 | 9.347  | 167  | 702578   | 87.923  | ppm   | 97       |
| 114) Di-n-butylphthalate       | 9.684  | 149  | 844763   | 81.414  | ppm   | 100      |
| 116) Fluoranthene              | 10.348 | 202  | 762683   | 86.107  | ppm   | 98       |
| 122) Benzidine                 | 10.508 | 184  | 665224   | 113.070 | ppm   | 99       |
| 123) Pyrene                    | 10.615 | 202  | 806537   | 82.659  | ppm   | 99       |
| 128) Butyl benzyl phthalate    | 11.492 | 149  | 402774   | 83.141  | ppm   | 98       |
| 131) 3,3'-Dichlorobenzidine    | 12.343 | 252  | 318806   | 80.732  | ppm   | 97       |
| 132) Benzo(a)anthracene        | 12.364 | 228  | 766875   | 81.650  | ppm   | 98       |
| 133) Chrysene                  | 12.428 | 228  | 741459   | 82.024  | ppm   | 99       |
| 134) bis(2-Ethylhexyl)phtha... | 12.482 | 149  | 564273   | 80.173  | ppm   | 96       |
| 136) Di-n-octyl phthalate      | 13.813 | 149  | 956263   | 86.702  | ppm   | 99       |
| 138) Benzo(b)Fluoranthene      | 14.482 | 252  | 786605   | 80.946  | ppm   | 100      |
| 139) Benzo(k)fluoranthene      | 14.546 | 252  | 783983   | 83.772  | ppm   | 97       |
| 140) Benzo(a)pyrene            | 15.188 | 252  | 733009   | 86.051  | ppm   | 98       |
| 142) Indeno(1,2,3-cd)Pyrene    | 17.269 | 276  | 738506   | 87.919  | ppm   | 96       |
| 143) Dibenz(a,h)anthracene     | 17.317 | 278  | 570902   | 63.939  | ppm   | 96       |
| 144) Benzo(g,h,i)perylene      | 17.723 | 276  | 791254   | 96.464  | ppm   | 96       |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : I:\ACQUDATA\5973D\Data\103017\  
Data File : BM242.D  
Acq On : 30 Oct 2017 11:26 am  
Operator : J.Misiurewicz  
Sample : RQ1711100-02  
Misc : 301663 8270D LCS  
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 31 07:51:18 2017  
Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
Quant Title : 8270 BNA ANALYSIS  
QLast Update : Thu Oct 26 14:29:15 2017  
Response via : Initial Calibration



Data Path : I:\ACQUDATA\5973D\Data\103017\  
 Data File : BM242.D  
 Acq On : 30 Oct 2017 11:26 am  
 Operator : J.Misiurewicz  
 Sample : RQ1711100-02  
 Misc : 301663 8270D LCS  
 ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 31 10:15:13 2017  
 Quant Method : I:\ACQUDATA\5973D\Methods\PHEN102517D.M  
 Quant Title : 8270 BNA ANALYSIS  
 QLast Update : Thu Oct 26 13:20:52 2017  
 Response via : Initial Calibration

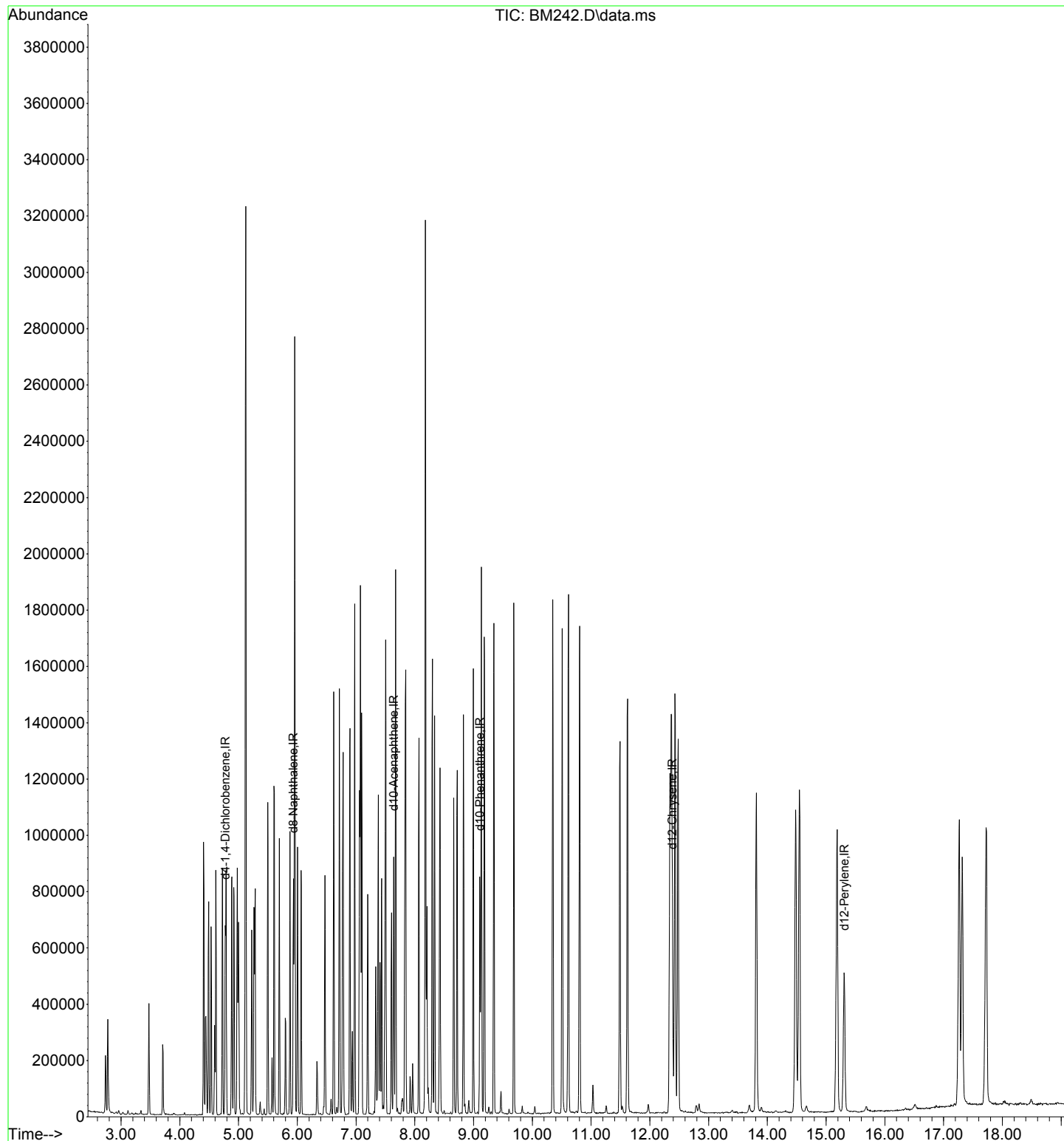
| Compound                  | R.T.   | QIon | Response | Conc  | Units | Dev(Min) |
|---------------------------|--------|------|----------|-------|-------|----------|
| Internal Standards        |        |      |          |       |       |          |
| 1) d4-1,4-Dichlorobenzene | 4.774  | 152  | 90851    | 40.00 | ppm   | 0.00     |
| 2) d8-Naphthalene         | 5.935  | 136  | 344722   | 40.00 | ppm   | 0.00     |
| 6) d10-Acenaphthene       | 7.641  | 164  | 172060   | 40.00 | ppm   | 0.00     |
| 13) d10-Phenanthrene      | 9.107  | 188  | 299533   | 40.00 | ppm   | 0.00     |
| 14) d12-Chrysene          | 12.385 | 240  | 317524   | 40.00 | ppm   | 0.02     |
| 15) d12-Perylene          | 15.311 | 264  | 320410   | 40.00 | ppm   | 0.03     |

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : I:\ACQUDATA\5973D\Data\103017\  
Data File : BM242.D  
Acq On : 30 Oct 2017 11:26 am  
Operator : J.Misiurewicz  
Sample : RQ1711100-02  
Misc : 301663 8270D LCS  
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 31 10:15:13 2017  
Quant Method : I:\ACQUDATA\5973D\Methods\PHEN102517D.M  
Quant Title : 8270 BNA ANALYSIS  
QLast Update : Thu Oct 26 13:20:52 2017  
Response via : Initial Calibration



Data Path : I:\ACQUDATA\5973D\Data\103017\  
 Data File : BM243.D  
 Acq On : 30 Oct 2017 11:55 am  
 Operator : J.Misiurewicz  
 Sample : RQ1711100-03  
 Misc : 301663 8270D LCSD  
 ALS Vial : 7 Sample Multiplier: 1

Quant Time: Oct 31 07:51:25 2017  
 Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
 Quant Title : 8270 BNA ANALYSIS  
 QLast Update : Thu Oct 26 14:29:15 2017  
 Response via : Initial Calibration

| Compound                      | R.T.    | QIon  | Response | Conc     | Units | Dev(Min) |        |
|-------------------------------|---------|-------|----------|----------|-------|----------|--------|
| Internal Standards            |         |       |          |          |       |          |        |
| 1) d4-1,4-Dichlorobenzene     | 4.774   | 152   | 91820    | 40.00    | ppm   | 0.00     |        |
| 33) d8-Naphthalene            | 5.935   | 136   | 345435   | 40.00    | ppm   | 0.00     |        |
| 57) d10-Acenaphthene          | 7.641   | 164   | 176932   | 40.00    | ppm   | 0.00     |        |
| 91) d10-Phenanthrene          | 9.107   | 188   | 306422   | 40.00    | ppm   | 0.00     |        |
| 117) d12-Chrysene             | 12.385  | 240   | 326848   | 40.00    | ppm   | 0.00     |        |
| 135) d12-Perylene             | 15.306  | 264   | 328164   | 40.00    | ppm   | 0.00     |        |
| System Monitoring Compounds   |         |       |          |          |       |          |        |
| 7) SURR1,2-FLUOROPHENOL       | 3.710   | 112   | 293816   | 95.57    | ppm   | 0.00     |        |
| Spiked Amount                 | 200.000 | Range | 10 - 105 | Recovery | =     | 47.78%   |        |
| 12) SURR2,PHENOL-D6           | 4.437   | 99    | 252277   | 69.47    | ppm   | 0.00     |        |
| Spiked Amount                 | 200.000 | Range | 10 - 107 | Recovery | =     | 34.73%   |        |
| 34) SURR4,NITROBENZENE-D5     | 5.261   | 82    | 265455   | 85.37    | ppm   | 0.00     |        |
| Spiked Amount                 | 100.000 | Range | 37 - 117 | Recovery | =     | 85.37%   |        |
| 63) SURR5,2-FLUOROBIPHENYL    | 6.978   | 172   | 534574   | 79.90    | ppm   | 0.00     |        |
| Spiked Amount                 | 100.000 | Range | 39 - 119 | Recovery | =     | 79.90%   |        |
| 88) SURR3,2,4,6-TRIBROMOPH... | 8.422   | 330   | 195215   | 165.01   | ppm   | 0.00     |        |
| Spiked Amount                 | 200.000 | Range | 28 - 157 | Recovery | =     | 82.50%   |        |
| 124) SURR6,TERPHENYL-D14      | 10.808  | 244   | 641973   | 86.40    | ppm   | 0.00     |        |
| Spiked Amount                 | 100.000 | Range | 40 - 133 | Recovery | =     | 86.40%   |        |
| Target Compounds              |         |       |          |          |       |          |        |
|                               |         |       |          |          |       |          | Qvalue |
| 2) Pyridine                   | 2.774   | 79    | 97716    | 32.783   | ppm   |          | 98     |
| 3) N-Nitrosodimethylamine     | 2.736   | 74    | 84202    | 52.560   | ppm   |          | 97     |
| 10) Benzaldehyde              | 4.405   | 106   | 187014   | 104.089  | ppm   |          | 94     |
| 11) Aniline                   | 4.491   | 93    | 266679   | 55.470   | ppm   |          | 100    |
| 13) Phenol                    | 4.453   | 94    | 130495   | 34.421   | ppm   |          | 96     |
| 14) bis(2-Clethyl)Ether       | 4.534   | 93    | 217034   | 72.046   | ppm   |          | 95     |
| 16) 2-Chlorophenol            | 4.592   | 128   | 240892   | 76.691   | ppm   |          | 99     |
| 17) 1,3-Diclbzene             | 4.726   | 146   | 207649   | 60.730   | ppm   |          | 99     |
| 18) 1,4-Dichlorobenzene       | 4.790   | 146   | 219518   | 64.294   | ppm   |          | 97     |
| 19) 1,2-Diclbzene             | 4.924   | 146   | 210207   | 63.840   | ppm   |          | 99     |
| 20) Benzyl Alcohol            | 4.887   | 79    | 180612   | 69.437   | ppm   |          | 97     |
| 22) 2,2'-oxybis(1-Chloropr... | 4.999   | 45    | 312271   | 71.823   | ppm   |          | 100    |
| 23) 2-Methylphenol            | 4.978   | 108   | 201684   | 76.468   | ppm   |          | 94     |
| 24) 3+4-Methylphenol          | 5.111   | 108   | 195914   | 65.829   | ppm   |          | 88     |
| 25) Acetophenone              | 5.127   | 105   | 691132   | 166.322  | ppm   |          | 94     |
| 26) N-Nitroso-Di-n-propyla... | 5.122   | 70    | 191392   | 83.559   | ppm   |          | 88     |
| 30) Hexachloroethane          | 5.224   | 117   | 80815    | 56.857   | ppm   |          | 95     |
| 32) Alpha-terpinol            | 5.962   | 121   | 104479   | 87.811   | ppm   |          | 93     |
| 35) Nitrobenzene              | 5.282   | 77    | 244951   | 70.777   | ppm   |          | 100    |
| 37) Isophorone                | 5.502   | 82    | 479822   | 76.664   | ppm   |          | 99     |
| 38) 2-Nitrophenol             | 5.571   | 139   | 137525   | 88.592   | ppm   |          | 96     |
| 39) Benzoic Acid              | 5.657   | 105   | 11603    | 7.140    | ppm   |          | 91     |
| 40) 2,4-Dimethylphenol        | 5.609   | 107   | 262531   | 89.409   | ppm   |          | 98     |
| 41) bis(-2-Chloroethoxy)Me... | 5.694   | 93    | 301321   | 82.234   | ppm   |          | 100    |
| 42) 2,4-Dichlorophenol        | 5.801   | 162   | 208508   | 85.149   | ppm   |          | 95     |
| 44) 1,2,4-Trichlorobenzene    | 5.876   | 180   | 181609   | 65.112   | ppm   |          | 95     |
| 45) Naphthalene               | 5.956   | 128   | 628203   | 71.537   | ppm   |          | 99     |
| 46) 4-Chloroaniline           | 6.004   | 127   | 274346   | 74.596   | ppm   |          | 99     |
| 48) Hexachlorobutadiene       | 6.063   | 225   | 103329   | 65.533   | ppm   |          | 95     |
| 50) 4-Chloro-3-methylphenol   | 6.470   | 107   | 220835   | 91.493   | ppm   |          | 98     |
| 52) Caprolactam               | 6.352   | 113   | 23433    | 28.126   | ppm   |          | 94     |
| 55) 2-Methylnaphthalene       | 6.620   | 142   | 414479   | 70.645   | ppm   |          | 97     |
| 56) 1-Methylnaphthalene       | 6.716   | 142   | 401657   | 75.711   | ppm   |          | 98     |



Data Path : I:\ACQUDATA\5973D\Data\103017\  
 Data File : BM243.D  
 Acq On : 30 Oct 2017 11:55 am  
 Operator : J.Misiurewicz  
 Sample : RQ1711100-03  
 Misc : 301663 8270D LCSD  
 ALS Vial : 7 Sample Multiplier: 1

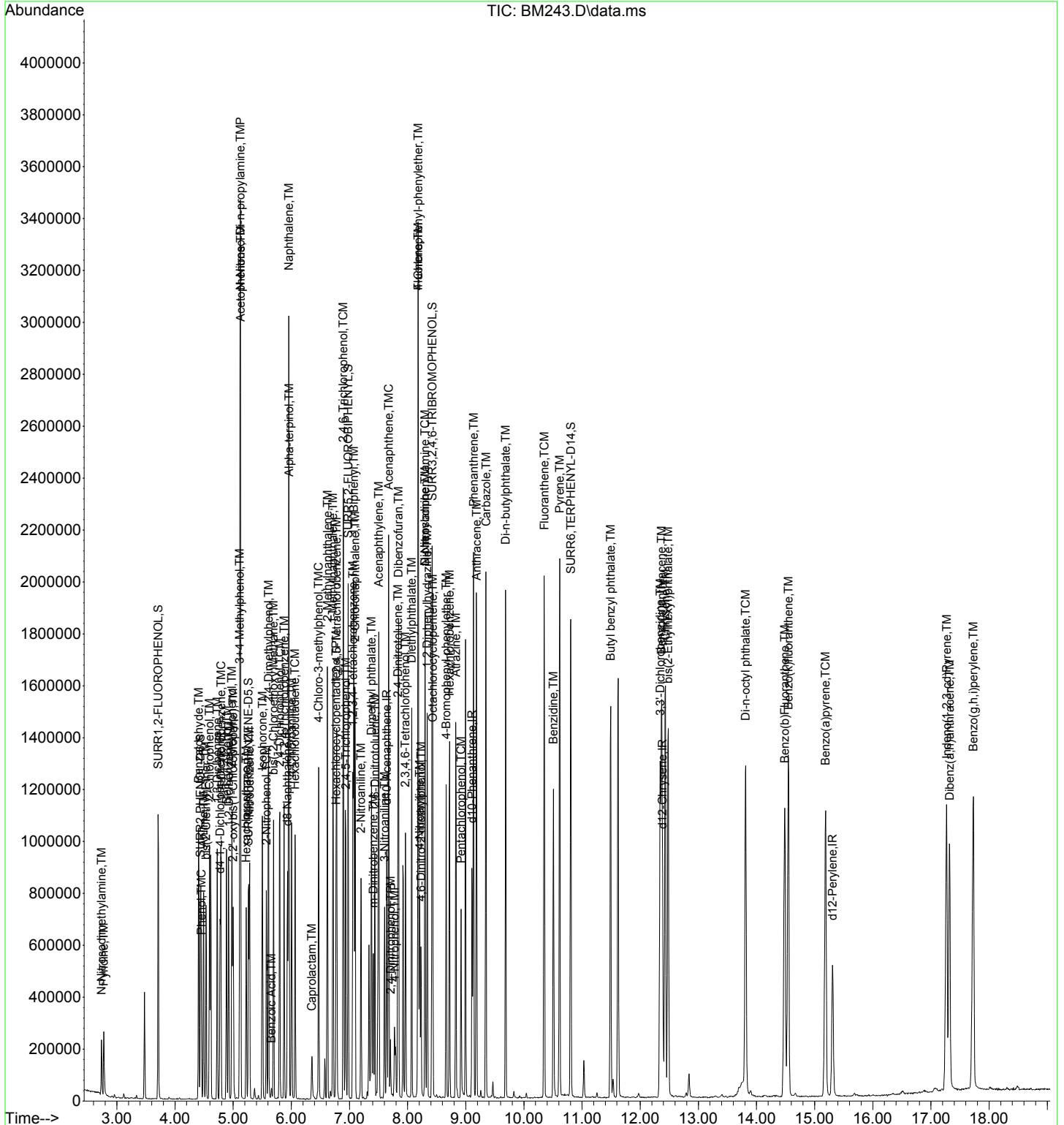
Quant Time: Oct 31 07:51:25 2017  
 Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
 Quant Title : 8270 BNA ANALYSIS  
 QLast Update : Thu Oct 26 14:29:15 2017  
 Response via : Initial Calibration

| Compound                       | R.T.   | QIon | Response | Conc    | Units | Dev(Min) |
|--------------------------------|--------|------|----------|---------|-------|----------|
| 58) Hexachlorocyclopentadiene  | 6.769  | 237  | 96113    | 54.128  | ppm   | 98       |
| 59) 1,2,4,5-Tetrachloroben...  | 6.780  | 216  | 201758   | 70.190  | ppm   | 98       |
| 60) 1,2,3,4-Tetrachloroben...  | 7.058  | 216  | 197394   | 75.789  | ppm   | 93       |
| 61) 2,4,6-Trichlorophenol      | 6.892  | 196  | 156651   | 84.532  | ppm   | 94       |
| 62) 2,4,5-Trichlorophenol      | 6.935  | 196  | 162470   | 89.150  | ppm   | 98       |
| 65) 1,1'-Biphenyl              | 7.074  | 154  | 558491   | 75.922  | ppm   | 98       |
| 66) 2-Chloronaphthalene        | 7.096  | 162  | 416584   | 72.517  | ppm   | 98       |
| 67) 2-Nitroaniline             | 7.197  | 65   | 137345   | 87.412  | ppm   | 95       |
| 69) m-Dinitrobenzene           | 7.411  | 168  | 75805    | 84.742  | ppm   | 94       |
| 70) Acenaphthylene             | 7.502  | 152  | 738521   | 82.132  | ppm   | 99       |
| 71) Dimethyl phthalate         | 7.379  | 163  | 474216   | 76.018  | ppm   | 98       |
| 72) 2,6-Dinitrotoluene         | 7.438  | 165  | 115728   | 74.392  | ppm   | 97       |
| 73) Acenaphthene               | 7.673  | 153  | 474197   | 79.248  | ppm   | 99       |
| 74) 3-Nitroaniline             | 7.604  | 138  | 117117   | 76.752  | ppm   | 97       |
| 75) 2,4-Dinitrophenol          | 7.705  | 184  | 32948    | 48.179  | ppm   | 91       |
| 76) Dibenzofuran               | 7.844  | 168  | 655085   | 82.442  | ppm   | 97       |
| 77) 2,4-Dinitrotoluene         | 7.834  | 165  | 152446   | 76.668  | ppm   | 97       |
| 78) 4-Nitrophenol              | 7.775  | 65   | 46018    | 35.308  | ppm   | 99       |
| 82) 2,3,4,6-Tetrachlorophenol  | 7.962  | 232  | 114180   | 78.328  | ppm   | 90       |
| 83) Fluorene                   | 8.181  | 166  | 507383   | 78.130  | ppm   | 98       |
| 84) 4-Chlorophenyl-phenyle...  | 8.181  | 204  | 235474   | 69.306  | ppm   | 95       |
| 85) Diethylphthalate           | 8.069  | 149  | 498504   | 75.815  | ppm   | 98       |
| 86) 4-Nitroaniline             | 8.208  | 138  | 146489   | 85.362  | ppm   | 95       |
| 90) Octachlorocyclopentene     | 8.433  | 307  | 98532    | 89.631  | ppm   | 96       |
| 93) 4,6-Dinitro-2-methylph...  | 8.229  | 198  | 76769    | 75.504  | ppm   | 89       |
| 94) Diphenylamine              | 8.299  | 169  | 429485   | 93.855  | ppm   | 99       |
| 95) 1,2 Diphenylhydrazine      | 8.336  | 77   | 525096   | 81.866  | ppm   | 96       |
| 96) N-Nitrosodiphenylamine     | 8.299  | 169  | 429485   | 93.853  | ppm   | 99       |
| 101) 4-Bromophenyl-phenylether | 8.663  | 248  | 131182   | 67.373  | ppm   | 93       |
| 102) Hexachlorobenzene         | 8.722  | 284  | 172670   | 81.825  | ppm   | 97       |
| 104) Atrazine                  | 8.829  | 215  | 80470    | 131.459 | ppm   | 91       |
| 105) Pentachlorophenol         | 8.919  | 266  | 78846    | 68.499  | ppm   | 95       |
| 111) Phenanthrene              | 9.133  | 178  | 735474   | 87.873  | ppm   | 98       |
| 112) Anthracene                | 9.187  | 178  | 749235   | 90.264  | ppm   | 100      |
| 113) Carbazole                 | 9.347  | 167  | 767623   | 93.904  | ppm   | 99       |
| 114) Di-n-butylphthalate       | 9.684  | 149  | 929939   | 87.608  | ppm   | 99       |
| 116) Fluoranthene              | 10.348 | 202  | 844071   | 93.153  | ppm   | 98       |
| 122) Benzidine                 | 10.508 | 184  | 476524   | 78.686  | ppm   | 96       |
| 123) Pyrene                    | 10.615 | 202  | 894683   | 89.077  | ppm   | 98       |
| 128) Butyl benzyl phthalate    | 11.492 | 149  | 443486   | 88.933  | ppm   | 98       |
| 131) 3,3'-Dichlorobenzidine    | 12.343 | 252  | 331708   | 81.603  | ppm   | 94       |
| 132) Benzo(a)anthracene        | 12.369 | 228  | 847081   | 87.617  | ppm   | 97       |
| 133) Chrysene                  | 12.434 | 228  | 815421   | 87.633  | ppm   | 98       |
| 134) bis(2-Ethylhexyl)phtha... | 12.482 | 149  | 636891   | 87.909  | ppm   | 98       |
| 136) Di-n-octyl phthalate      | 13.813 | 149  | 1105522  | 97.867  | ppm   | 99       |
| 138) Benzo(b)Fluoranthene      | 14.487 | 252  | 868635   | 87.275  | ppm   | 96       |
| 139) Benzo(k)fluoranthene      | 14.546 | 252  | 869528   | 90.717  | ppm   | 97       |
| 140) Benzo(a)pyrene            | 15.188 | 252  | 811766   | 93.045  | ppm   | 98       |
| 142) Indeno(1,2,3-cd)Pyrene    | 17.269 | 276  | 794457   | 92.345  | ppm   | 94       |
| 143) Dibenz(a,h)anthracene     | 17.322 | 278  | 621836   | 67.998  | ppm   | 96       |
| 144) Benzo(g,h,i)perylene      | 17.729 | 276  | 866529   | 103.145 | ppm   | 97       |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : I:\ACQUDATA\5973D\Data\103017\  
Data File : BM243.D  
Acq On : 30 Oct 2017 11:55 am  
Operator : J.Misiurewicz  
Sample : RQ1711100-03  
Misc : 301663 8270D LCSD  
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Oct 31 07:51:25 2017  
Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
Quant Title : 8270 BNA ANALYSIS  
QLast Update : Thu Oct 26 14:29:15 2017  
Response via : Initial Calibration



Data Path : I:\ACQUDATA\5973D\Data\103017\  
 Data File : BM243.D  
 Acq On : 30 Oct 2017 11:55 am  
 Operator : J.Misiurewicz  
 Sample : RQ1711100-03  
 Misc : 301663 8270D LCSD  
 ALS Vial : 7 Sample Multiplier: 1

Quant Time: Oct 31 10:15:15 2017  
 Quant Method : I:\ACQUDATA\5973D\Methods\PHEN102517D.M  
 Quant Title : 8270 BNA ANALYSIS  
 QLast Update : Thu Oct 26 13:20:52 2017  
 Response via : Initial Calibration

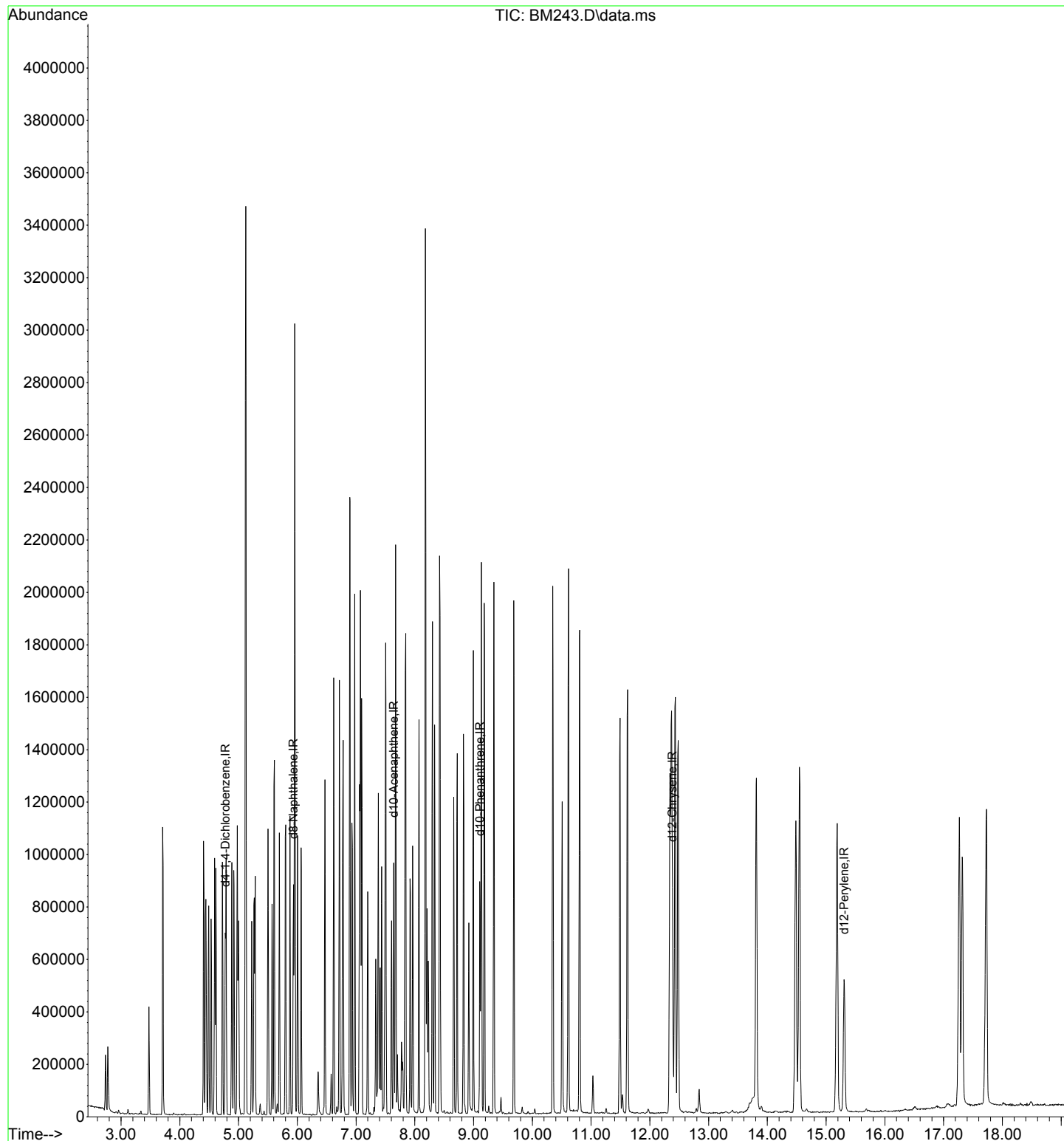
| Compound                  | R.T.   | QIon | Response | Conc  | Units | Dev(Min) |
|---------------------------|--------|------|----------|-------|-------|----------|
| Internal Standards        |        |      |          |       |       |          |
| 1) d4-1,4-Dichlorobenzene | 4.774  | 152  | 91820    | 40.00 | ppm   | 0.00     |
| 2) d8-Naphthalene         | 5.935  | 136  | 346548   | 40.00 | ppm   | 0.00     |
| 6) d10-Acenaphthene       | 7.641  | 164  | 176932   | 40.00 | ppm   | 0.00     |
| 13) d10-Phenanthrene      | 9.107  | 188  | 306422   | 40.00 | ppm   | 0.00     |
| 14) d12-Chrysene          | 12.385 | 240  | 326966   | 40.00 | ppm   | 0.02     |
| 15) d12-Perylene          | 15.306 | 264  | 328164   | 40.00 | ppm   | 0.02     |

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

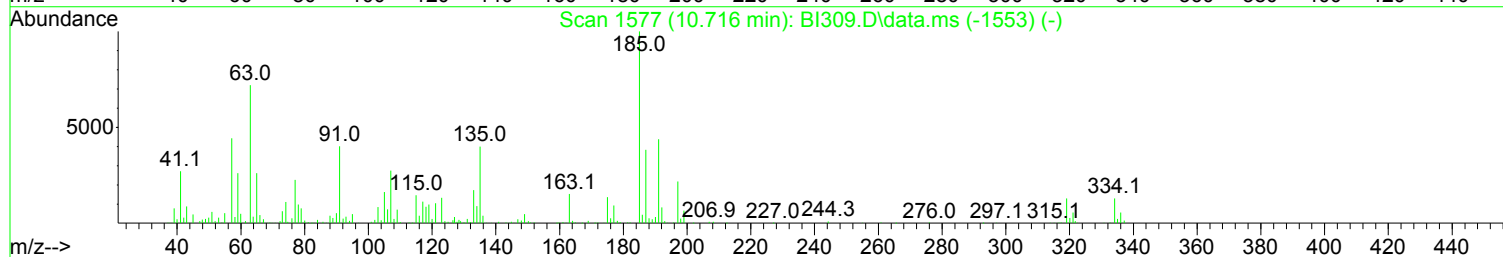
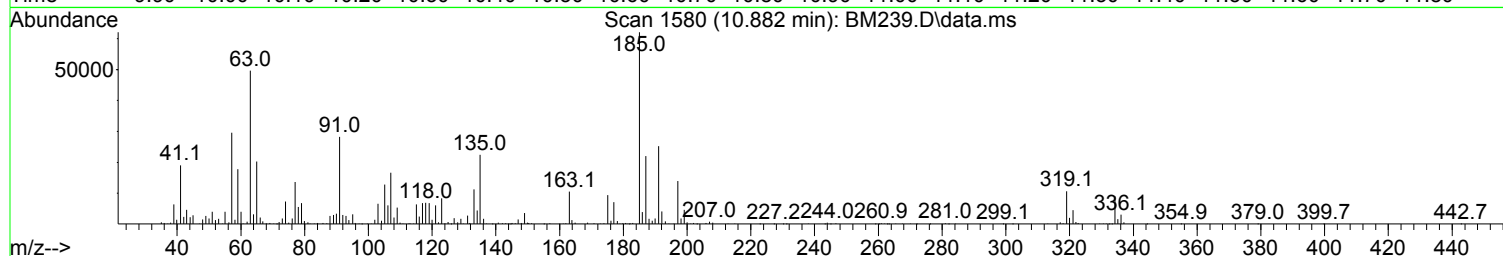
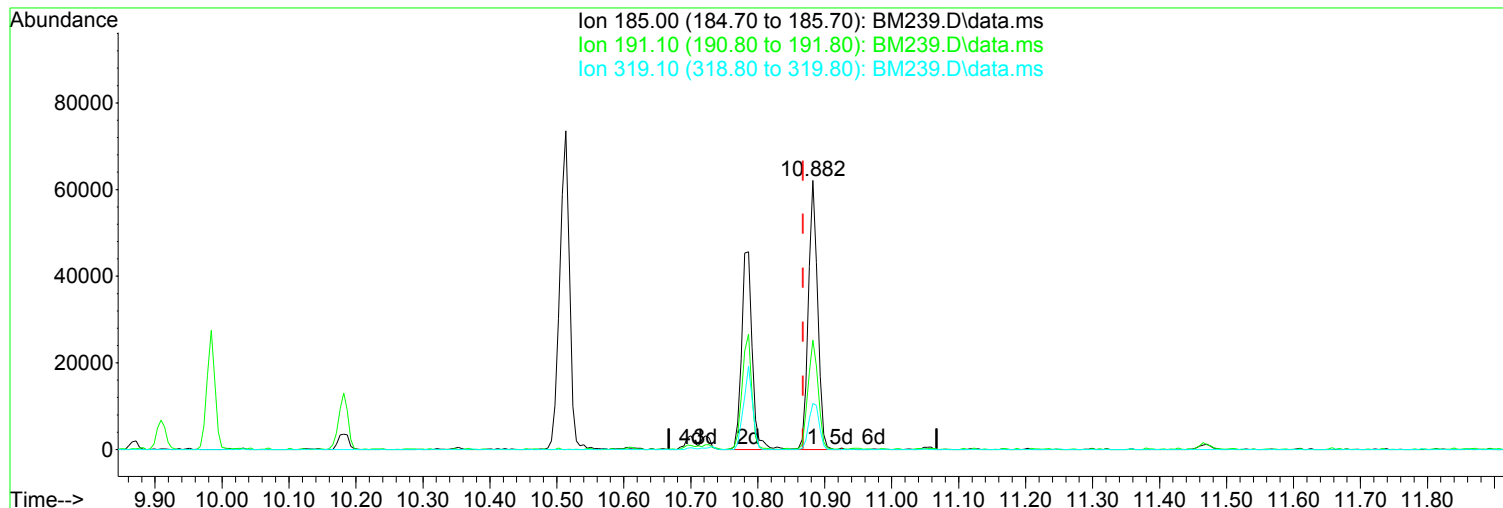
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Data File : BM243.D  
Acq On : 30 Oct 2017 11:55 am  
Operator : J.Misiurewicz  
Sample : RQ1711100-03  
Misc : 301663 8270D LCSD  
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Oct 31 10:15:15 2017  
Quant Method : I:\ACQUDATA\5973D\Methods\PHEN102517D.M  
Quant Title : 8270 BNA ANALYSIS  
QLast Update : Thu Oct 26 13:20:52 2017  
Response via : Initial Calibration



Data Path : I:\ACQUDATA\5973D\Data\103017\  
 Data File : BM239.D  
 Acq On : 30 Oct 2017 10:01 am  
 Operator : J.Misiurewicz  
 Sample : CCV  
 Misc : 80 ppm STD 8270D  
 ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 30 10:35:59 2017  
 Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
 Quant Title : 8270 BNA ANALYSIS  
 QLast Update : Thu Oct 26 14:29:15 2017  
 Response via : Initial Calibration



TIC: BM239.D\data.ms

(125) Aramite (TM)

Manual Integration:

10.882min (+ 0.015) 77.60 ppm m

After

response 110095

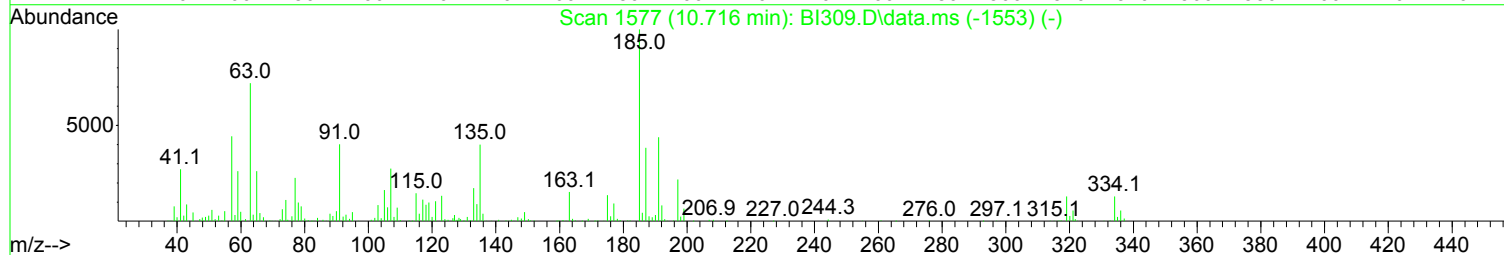
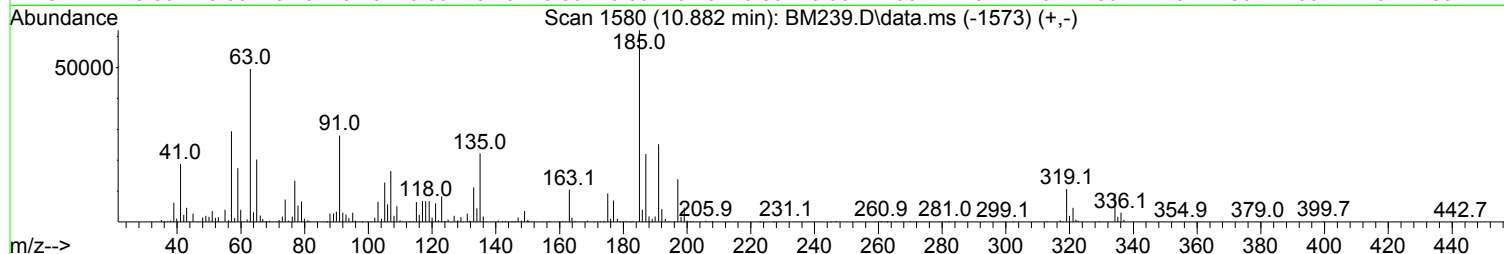
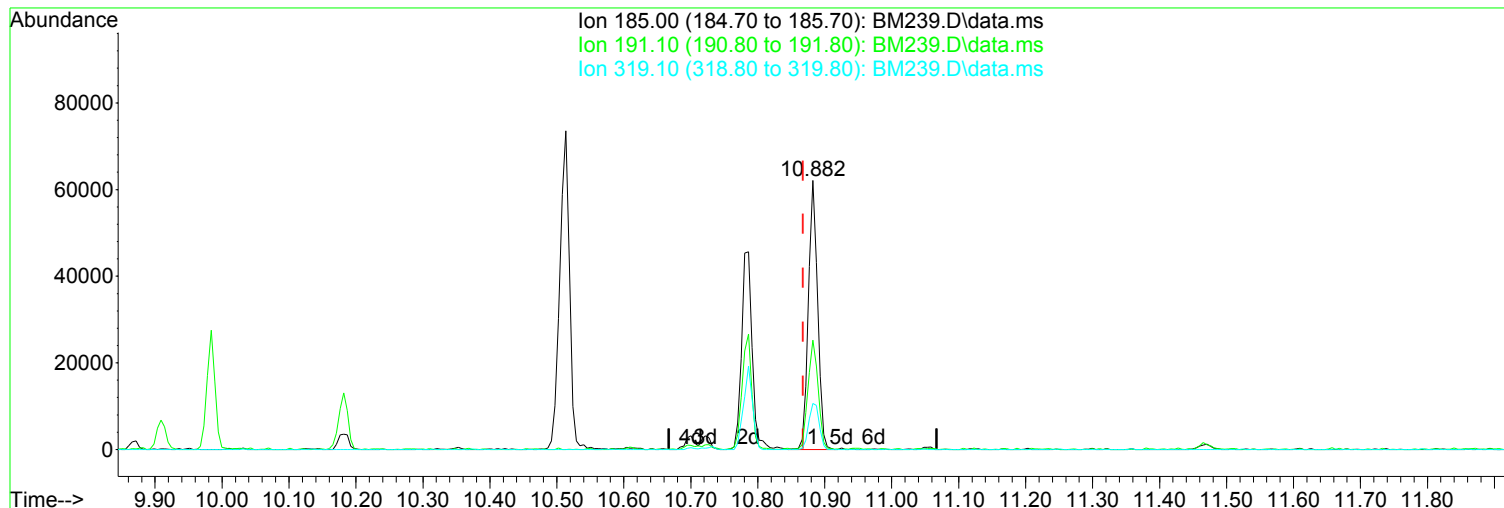
Split Peak.

| Ion    | Exp%   | Act%   |
|--------|--------|--------|
| 185.00 | 100.00 | 100.00 |
| 191.10 | 51.80  | 40.71  |
| 319.10 | 22.50  | 17.16  |
| 0.00   | 0.00   | 0.00   |

10/30/17

Data Path : I:\ACQUDATA\5973D\Data\103017\  
Data File : BM239.D  
Acq On : 30 Oct 2017 10:01 am  
Operator : J.Misiurewicz  
Sample : CCV  
Misc : 80 ppm STD 8270D  
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 30 10:35:59 2017  
Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
Quant Title : 8270 BNA ANALYSIS  
QLast Update : Thu Oct 26 14:29:15 2017  
Response via : Initial Calibration



TIC: BM239.D\data.ms

(125) Aramite (TM)

Manual Integration:

10.882min (+ 0.015) 42.12 ppm

Before

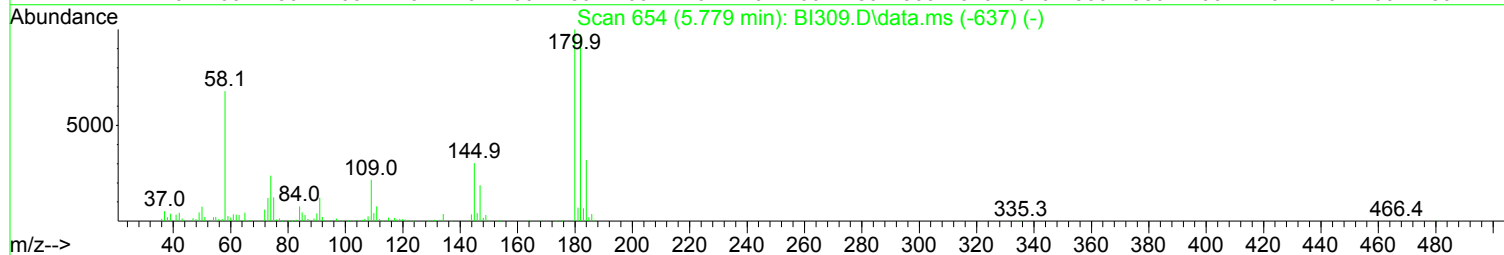
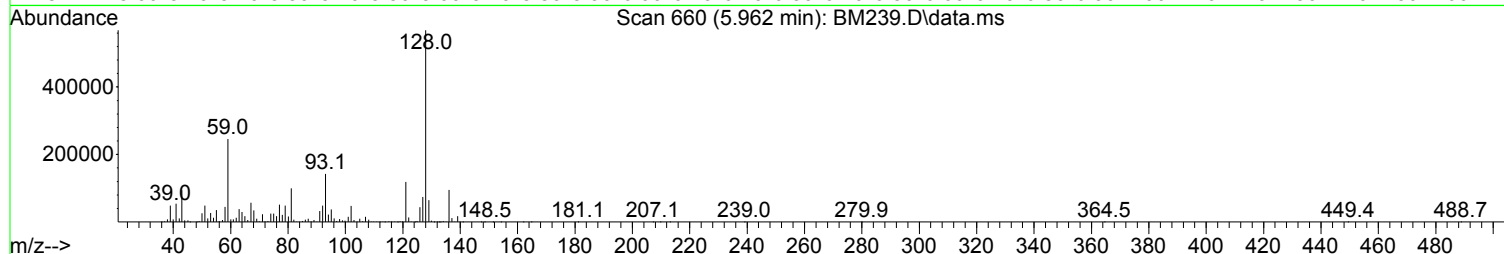
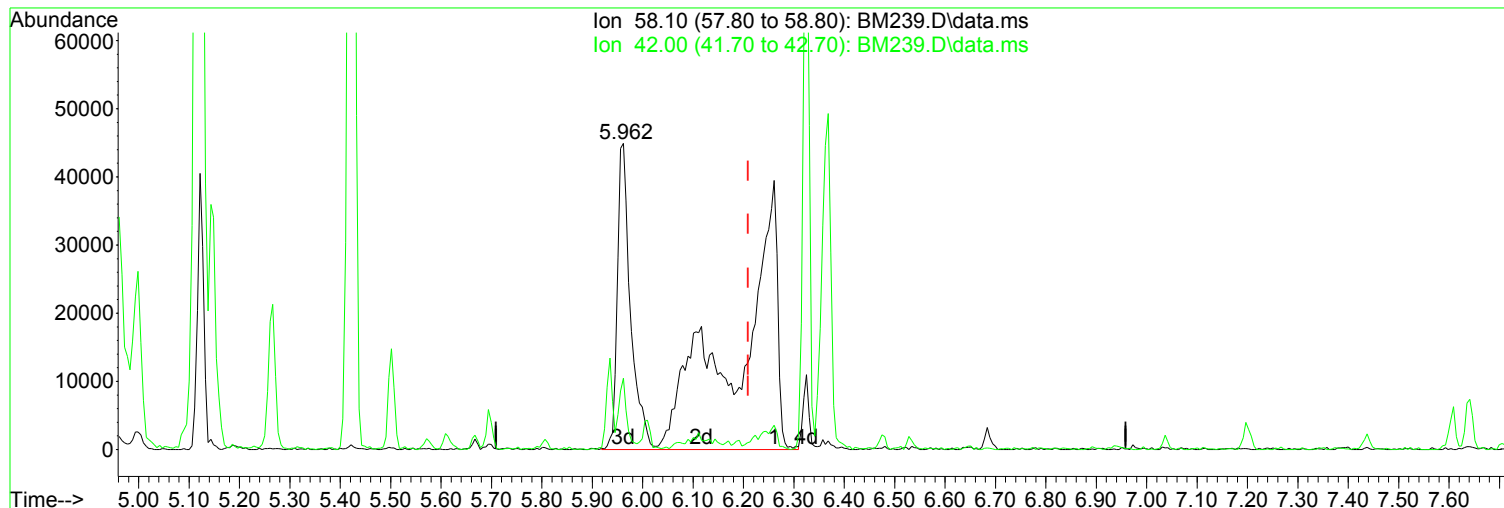
response 59758

| Ion    | Exp%   | Act%   |
|--------|--------|--------|
| 185.00 | 100.00 | 100.00 |
| 191.10 | 51.80  | 40.37  |
| 319.10 | 22.50  | 17.16  |
| 0.00   | 0.00   | 0.00   |

10/30/17

Data Path : I:\ACQUDATA\5973D\Data\103017\  
Data File : BM239.D  
Acq On : 30 Oct 2017 10:01 am  
Operator : J.Misiurewicz  
Sample : CCV  
Misc : 80 ppm STD 8270D  
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 30 10:35:59 2017  
Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
Quant Title : 8270 BNA ANALYSIS  
QLast Update : Thu Oct 26 14:29:15 2017  
Response via : Initial Calibration



(43) a,a-Dimethylphenethylamine (TM)

Manual Integration:

5.962min (-0.248) 40.08 ppm m

After

response 293348

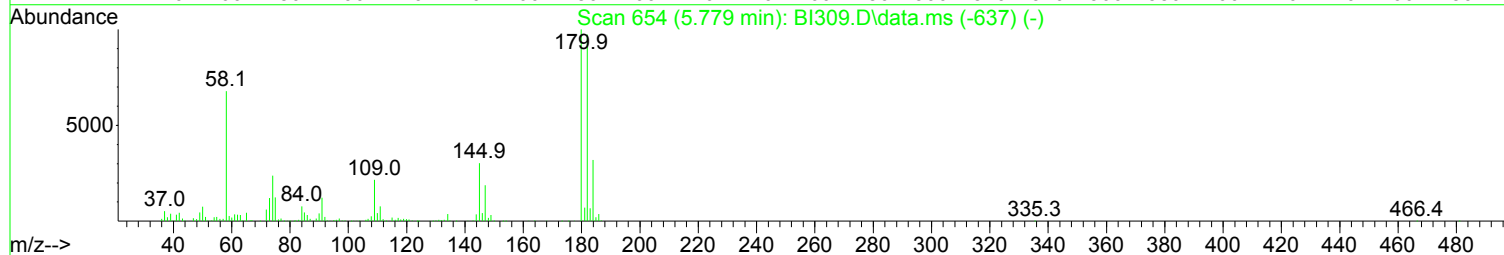
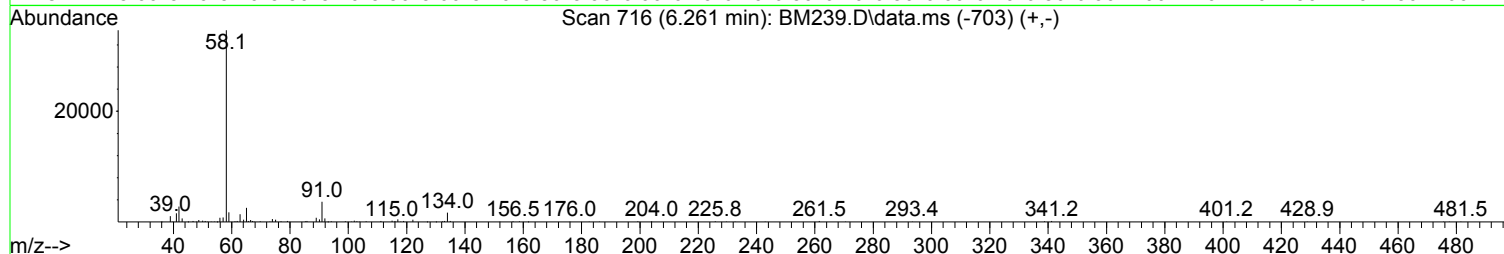
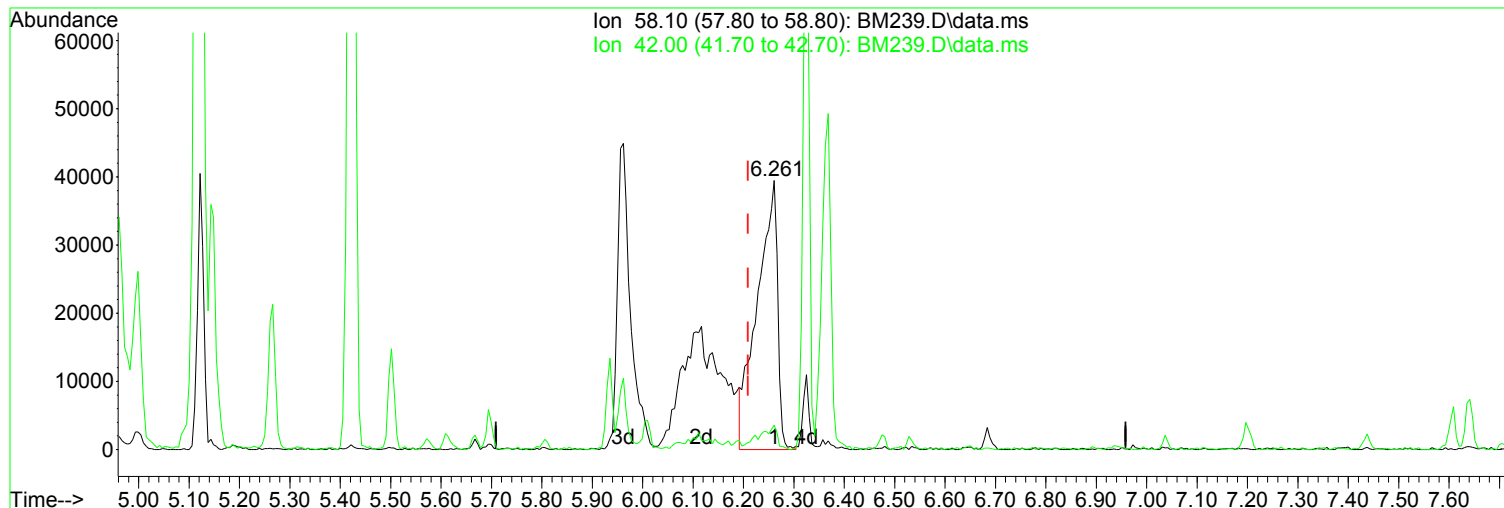
Poor integration.

| Ion   | Exp%   | Act%   |
|-------|--------|--------|
| 58.10 | 100.00 | 100.00 |
| 42.00 | 8.90   | 23.31  |
| 0.00  | 0.00   | 0.00   |
| 0.00  | 0.00   | 0.00   |

10/30/17

Data Path : I:\ACQUDATA\5973D\Data\103017\  
Data File : BM239.D  
Acq On : 30 Oct 2017 10:01 am  
Operator : J.Misiurewicz  
Sample : CCV  
Misc : 80 ppm STD 8270D  
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 30 10:35:59 2017  
Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
Quant Title : 8270 BNA ANALYSIS  
QLast Update : Thu Oct 26 14:29:15 2017  
Response via : Initial Calibration



(43) a,a-Dimethylphenethylamine (TM)

Manual Integration:

6.261min (+ 0.052) 15.02 ppm

Before

response 109963

| Ion   | Exp%   | Act%   |          |
|-------|--------|--------|----------|
| 58.10 | 100.00 | 100.00 | 10/30/17 |
| 42.00 | 8.90   | 7.98   |          |
| 0.00  | 0.00   | 0.00   |          |
| 0.00  | 0.00   | 0.00   |          |



Data Path : I:\ACQUDATA\5973D\Data\103017\  
 Data File : BM239.D  
 Acq On : 30 Oct 2017 10:01 am  
 Operator : J.Misiurewicz  
 Sample : CCV  
 Misc : 80 ppm STD 8270D  
 ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 30 10:35:59 2017  
 Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
 Quant Title : 8270 BNA ANALYSIS  
 QLast Update : Thu Oct 26 14:29:15 2017  
 Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 20% Max. Rel. Area : 200%

|    | Compound                       | AvgRF | CCRF  | %Dev  | Area% | Dev(min) |
|----|--------------------------------|-------|-------|-------|-------|----------|
| 1  | IR d4-1,4-Dichlorobenzene      | 1.000 | 1.000 | 0.0   | 111   | 0.00     |
| 2  | TM Pyridine                    | 1.298 | 1.348 | -3.9  | 110   | 0.00     |
| 3  | TM N-Nitrosodimethylamine      | 0.698 | 0.740 | -6.0  | 113   | 0.00     |
| 4  | TM 2-Picoline                  | 1.382 | 1.395 | -0.9  | 111   | 0.00     |
| 5  | TM N-Nitrosomethylamine        | 0.745 | 0.711 | 4.6   | 107   | 0.00     |
| 6  | TM Methyl Methansulfonate      | 0.702 | 0.685 | 2.4   | 106   | 0.00     |
| 7  | S SURR1,2-FLUOROPHENOL         | 1.339 | 1.348 | -0.7  | 110   | 0.00     |
| 8  | TM N-Nitrosodiethylamine       | 0.610 | 0.602 | 1.3   | 108   | 0.00     |
| 9  | TM Ethyl Mathanesulfonate      | 0.968 | 0.939 | 3.0   | 104   | 0.00     |
| 10 | TM Benzaldehyde                | 0.783 | 0.818 | -4.5  | 130   | 0.00     |
| 11 | TM Aniline                     | 2.094 | 2.108 | -0.7  | 108   | 0.00     |
| 12 | S SURR2, PHENOL-D6             | 1.582 | 1.609 | -1.7  | 111   | 0.00     |
| 13 | TMC Phenol                     | 1.652 | 1.672 | -1.2  | 111   | 0.00     |
| 14 | TM bis(2-Clethyl)Ether         | 1.312 | 1.360 | -3.7  | 115   | 0.00     |
| 15 | TM Pentachloroethane           | 0.494 | 0.494 | 0.0   | 109   | 0.00     |
| 16 | TM 2-Chlorophenol              | 1.368 | 1.387 | -1.4  | 112   | 0.00     |
| 17 | TM 1,3-Diclbzence              | 1.490 | 1.461 | 1.9   | 106   | 0.00     |
| 18 | TMC 1,4-Dichlorobenzene        | 1.487 | 1.473 | 0.9   | 105   | 0.00     |
| 19 | TM 1,2-Diclbzence              | 1.434 | 1.453 | -1.3  | 112   | 0.00     |
| 20 | TM Benzyl Alcohol              | 1.133 | 1.120 | 1.1   | 107   | 0.00     |
| 21 | T 1-Methyl-2-pyrrolidinone     | 0.833 | 0.886 | -6.4  | 111   | 0.00     |
| 22 | TM 2,2'-oxybis(1-Chloropropane | 1.894 | 1.895 | -0.1  | 114   | 0.00     |
| 23 | TM 2-Methylphenol              | 1.149 | 1.154 | -0.4  | 110   | 0.00     |
| 24 | TM 3+4-Methylphenol            | 1.297 | 1.320 | -1.8  | 115   | 0.00     |
| 25 | TM Acetophenone                | 1.810 | 1.811 | -0.1  | 112   | 0.00     |
| 26 | TMP N-Nitroso-Di-n-propylamine | 0.998 | 0.994 | 0.4   | 113   | 0.00     |
| 27 | TM N-Nitrosopyrrolidine        | 0.663 | 0.683 | -3.0  | 116   | 0.00     |
| 28 | TM N-Nitrosomorpholine         | 0.836 | 0.822 | 1.7   | 113   | 0.00     |
| 29 | TM o-Toluidine                 | 2.021 | 2.057 | -1.8  | 113   | 0.00     |
| 30 | TM Hexachloroethane            | 0.619 | 0.616 | 0.5   | 111   | 0.00     |
| 31 | TM o,o,o-Triethylphosphorothio | 0.569 | 0.593 | -4.2  | 110   | 0.00     |
| 32 | TM Alpha-terpinol              | 0.518 | 0.522 | -0.8  | 100   | 0.00     |
| 33 | IR d8-Naphthalene              | 1.000 | 1.000 | 0.0   | 106   | 0.00     |
| 34 | S SURR4,NITROBENZENE-D5        | 0.360 | 0.376 | -4.4  | 113   | 0.00     |
| 35 | TM Nitrobenzene                | 0.401 | 0.426 | -6.2  | 116   | 0.00     |
| 36 | TM N-Nitrosopiperidine         | 0.240 | 0.237 | 1.3   | 107   | 0.00     |
| 37 | TM Isophorone                  | 0.725 | 0.750 | -3.4  | 113   | 0.00     |
| 38 | TCM 2-Nitrophenol              | 0.180 | 0.199 | -10.6 | 115   | 0.00     |
| 39 | TM Benzoic Acid                | 0.188 | 0.174 | 7.4   | 104   | 0.00     |
| 40 | TM 2,4-Dimethylphenol          | 0.340 | 0.348 | -2.4  | 109   | 0.00     |
| 41 | TM bis(-2-Chloroethoxy)Methane | 0.424 | 0.448 | -5.7  | 116   | 0.00     |
| 42 | TCM 2,4-Dichlorophenol         | 0.284 | 0.298 | -4.9  | 105   | 0.00     |
| 43 | TM a,a-Dimethylphenethylamine  | 0.774 | 0.775 | -0.1  | 104   | -0.25    |
| 44 | TM 1,2,4-Trichlorobenzene      | 0.323 | 0.324 | -0.3  | 102   | 0.00     |
| 45 | TM Naphthalene                 | 1.017 | 1.039 | -2.2  | 104   | 0.00     |
| 46 | TM 4-Chloroaniline             | 0.426 | 0.441 | -3.5  | 105   | 0.00     |
| 47 | TM 2,6-Dichlorophenol          | 0.282 | 0.291 | -3.2  | 104   | 0.00     |
| 48 | TCM Hexachlorobutadiene        | 0.183 | 0.182 | 0.5   | 101   | 0.00     |
| 49 | TM Hexachloropropene           | 0.216 | 0.224 | -3.7  | 102   | 0.00     |
| 50 | TMC 4-Chloro-3-methylphenol    | 0.279 | 0.300 | -7.5  | 107   | 0.00     |
| 51 | TM N-N-di-n-butylamine         | 0.253 | 0.230 | 9.1   | 101   | 0.00     |

Data Path : I:\ACQUDATA\5973D\Data\103017\  
 Data File : BM239.D  
 Acq On : 30 Oct 2017 10:01 am  
 Operator : J.Misiurewicz  
 Sample : CCV  
 Misc : 80 ppm STD 8270D  
 ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 30 10:35:59 2017  
 Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
 Quant Title : 8270 BNA ANALYSIS  
 QLast Update : Thu Oct 26 14:29:15 2017  
 Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 20% Max. Rel. Area : 200%

|     | Compound | AvgRF                      | CCRF  | %D    | %Dev  | Area%           | Dev(min) |                     |
|-----|----------|----------------------------|-------|-------|-------|-----------------|----------|---------------------|
| 52  | TM       | Caprolactam                | 0.096 | 0.098 | -2.1  | 104             | 0.00     |                     |
| 53  | TM       | p-Phenylenediamine         | 0.164 | 0.054 | 67.1# | 38#             | 0.00     | OK spk amount wrong |
| 54  | TM       | Safrole                    | 0.260 | 0.273 | -5.0  | 104             | 0.00     |                     |
| 55  | TM       | 2-Methylnaphthalene        | 0.679 | 0.697 | -2.7  | 104             | 0.00     |                     |
| 56  | TM       | 1-Methylnaphthalene        | 0.614 | 0.644 | -4.9  | 107             | 0.00     |                     |
| 57  | IR       | d10-Acenaphthene           | 1.000 | 1.000 | 0.0   | 122             | 0.00     |                     |
| 58  | TPM      | Hexachlorocyclopentadiene  | 0.401 | 0.385 | 4.0   | 103             | 0.00     |                     |
| 59  | TM       | 1,2,4,5-Tetrachlorobenzene | 0.650 | 0.633 | 2.6   | 109             | 0.00     |                     |
| 60  | TM       | 1,2,3,4-Tetrachlorobenzene | 0.589 | 0.558 | 5.3   | 109             | 0.00     |                     |
| 61  | TCM      | 2,4,6-Trichlorophenol      | 0.419 | 0.412 | 1.7   | 108             | 0.00     |                     |
| 62  | TM       | 2,4,5-Trichlorophenol      | 0.412 | 0.392 | 4.9   | 112             | 0.00     |                     |
| 63  | S        | SURR5,2-FLUOROBIPHENYL     | 1.513 | 1.468 | 3.0   | 112             | 0.00     |                     |
| 64  | TM       | Isosafrole                 | 0.261 | 0.248 | 5.0   | 110             | 0.00     |                     |
| 65  | TM       | 1,1'-Biphenyl              | 1.663 | 1.604 | 3.5   | 110             | 0.00     |                     |
| 66  | TM       | 2-Chloronaphthalene        | 1.299 | 1.271 | 2.2   | 116             | 0.00     |                     |
| 67  | TM       | 2-Nitroaniline             | 0.355 | 0.360 | -1.4  | 117             | 0.00     |                     |
| 68  | TM       | 1,4-Naphthoquinone         | 0.137 | 0.138 | -0.7  | 122             | 0.00     |                     |
| 69  | TM       | m-Dinitrobenzene           | 0.202 | 0.203 | -0.5  | 112             | 0.00     |                     |
| 70  | TM       | Acenaphthylene             | 2.033 | 2.006 | 1.3   | 117             | 0.00     |                     |
| 71  | TM       | Dimethyl phthalate         | 1.410 | 1.340 | 5.0   | 114             | 0.00     |                     |
| 72  | TM       | 2,6-Dinitrotoluene         | 0.352 | 0.346 | 1.7   | 113             | 0.00     |                     |
| 73  | TMC      | Acenaphthene               | 1.353 | 1.307 | 3.4   | 107             | 0.00     |                     |
| 74  | TM       | 3-Nitroaniline             | 0.345 | 0.359 | -4.1  | 114             | 0.00     |                     |
| 75  | TPM      | 2,4-Dinitrophenol          | 0.161 | 0.136 | 18.1  | <del>15.5</del> | 88       | 0.00                |
| 76  | TM       | Dibenzofuran               | 1.796 | 1.758 | 2.1   | 113             | 0.00     |                     |
| 77  | TM       | 2,4-Dinitrotoluene         | 0.450 | 0.463 | -2.9  | 109             | 0.00     |                     |
| 78  | TMP      | 4-Nitrophenol              | 0.295 | 0.291 | 1.4   | 114             | 0.01     |                     |
| 79  | TM       | Pentachlorobenzene         | 0.575 | 0.558 | 3.0   | 111             | 0.00     |                     |
| 80  | TM       | 1-Naphthylamine            | 1.052 | 0.984 | 6.5   | 111             | 0.00     |                     |
| 81  | TM       | 2-Naphthylamine            | 1.120 | 1.093 | 2.4   | 108             | 0.00     |                     |
| 82  | TM       | 2,3,4,6-Tetrachlorophenol  | 0.330 | 0.306 | 7.3   | 109             | 0.00     |                     |
| 83  | TM       | Fluorene                   | 1.468 | 1.446 | 1.5   | 117             | 0.00     |                     |
| 84  | TM       | 4-Chlorophenyl-phenylether | 0.768 | 0.740 | 3.6   | 116             | 0.00     |                     |
| 85  | TM       | Diethylphthalate           | 1.487 | 1.435 | 3.5   | 113             | 0.00     |                     |
| 86  | TM       | 4-Nitroaniline             | 0.388 | 0.383 | 1.3   | 106             | 0.00     |                     |
| 87  | TM       | 5-Nitro-o-toluidine        | 0.406 | 0.416 | -2.5  | 112             | 0.00     |                     |
| 88  | S        | SURR3,2,4,6-TRIBROMOPHENOL | 0.267 | 0.249 | 6.7   | 109             | 0.00     |                     |
| 89  | TM       | Sulfotepp                  | 0.243 | 0.238 | 2.1   | 112             | 0.00     |                     |
| 90  | TM       | Octachlorocyclopentene     | 0.249 | 0.245 | 1.6   | 105             | 0.00     |                     |
| 91  | IR       | d10-Phenanthrene           | 1.000 | 1.000 | 0.0   | 110             | 0.00     |                     |
| 92  | TM       | Thionazin                  | 0.123 | 0.121 | 1.6   | 112             | 0.00     |                     |
| 93  | TM       | 4,6-Dinitro-2-methylphenol | 0.128 | 0.128 | 3.9   | <del>0.0</del>  | 109      | 0.00                |
| 94  | TM       | Diphenylamine              | 0.597 | 0.587 | 1.7   | 110             | 0.00     |                     |
| 95  | TM       | 1,2 Diphenylhydrazine      | 0.837 | 0.788 | 5.9   | 103             | 0.00     |                     |
| 96  | TCM      | N-Nitrosodiphenylamine     | 0.597 | 0.587 | 1.7   | 110             | 0.00     |                     |
| 97  | TM       | 1,3,5-Trinitrobenzene      | 0.065 | 0.067 | -3.1  | 114             | 0.00     |                     |
| 98  | TM       | Diallate                   | 0.277 | 0.262 | 5.4   | 113             | 0.00     |                     |
| 99  | TM       | Phorate                    | 0.138 | 0.138 | 0.0   | 111             | 0.00     |                     |
| 100 | TM       | Phenacetin                 | 0.397 | 0.406 | -2.3  | 116             | 0.00     |                     |
| 101 | TM       | 4-Bromophenyl-phenylether  | 0.254 | 0.235 | 7.5   | 113             | 0.00     |                     |

Data Path : I:\ACQUADATA\5973D\Data\103017\  
 Data File : BM239.D  
 Acq On : 30 Oct 2017 10:01 am  
 Operator : J.Misiurewicz  
 Sample : CCV  
 Misc : 80 ppm STD 8270D  
 ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 30 10:35:59 2017  
 Quant Method : I:\ACQUADATA\5973D\Methods\8270102617D.M  
 Quant Title : 8270 BNA ANALYSIS  
 QLast Update : Thu Oct 26 14:29:15 2017  
 Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 20% Max. Rel. Area : 200%

| Compound                           | AvgRF | CCRF  | %D   | %Dev            | Area% | Dev(min) |
|------------------------------------|-------|-------|------|-----------------|-------|----------|
| 102 TM Hexachlorobenzene           | 0.275 | 0.254 |      | 7.6             | 109   | 0.00     |
| 103 TM Dimethoate                  | 0.243 | 0.245 |      | -0.8            | 106   | 0.00     |
| 104 TM Atrazine                    | 0.080 | 0.078 |      | 2.5             | 142   | 0.00     |
| 105 TCM Pentachlorophenol          | 0.150 | 0.108 | 26.5 | <del>28.0</del> | 76    | 0.00     |
| 106 TM 4-Aminobiphenyl             | 0.668 | 0.683 |      | -2.2            | 112   | 0.00     |
| 107 TM Pentachloronitrobenzene     | 0.100 | 0.103 |      | -3.0            | 113   | 0.00     |
| 108 TM Pronamide                   | 0.342 | 0.354 |      | -3.5            | 113   | 0.00     |
| 109 TM Dinoseb                     | 0.180 | 0.171 |      | 5.0             | 104   | 0.00     |
| 110 TM Disulfoton                  | 0.314 | 0.297 |      | 5.4             | 106   | 0.00     |
| 111 TM Phenanthrene                | 1.093 | 1.059 |      | 3.1             | 107   | 0.00     |
| 112 TM Anthracene                  | 1.084 | 1.079 |      | 0.5             | 108   | 0.00     |
| 113 TM Carbazole                   | 1.067 | 1.064 |      | 0.3             | 107   | 0.00     |
| 114 TM Di-n-butylphthalate         | 1.386 | 1.417 |      | -2.2            | 107   | 0.00     |
| 115 TM 4-Nitroquinonline-1-oxide   | 0.084 | 0.083 |      | 1.2             | 103   | 0.00     |
| 116 TCM Fluoranthene               | 1.183 | 1.235 |      | -4.4            | 117   | 0.00     |
| 117 IR d12-Chrysene                | 1.000 | 1.000 |      | 0.0             | 123   | 0.00     |
| 118 TM Methyl Parathion            | 0.192 | 0.200 |      | -4.2            | 103   | 0.00     |
| 119 TM Ethyl Parathion             | 0.151 | 0.157 |      | -4.0            | 114   | 0.00     |
| 120 TM Methapyrilene               | 0.324 | 0.304 |      | 6.2             | 110   | 0.00     |
| 121 TM Isodrin                     | 0.120 | 0.114 |      | 5.0             | 110   | 0.00     |
| 122 TM Benzidine                   | 0.741 | 0.710 |      | 4.2             | 101   | 0.00     |
| 123 TM Pyrene                      | 1.229 | 1.216 |      | 1.1             | 114   | 0.00     |
| 124 S SURR6, TERPHENYL-D14         | 0.909 | 0.875 |      | 3.7             | 112   | 0.00     |
| 125 TM Aramite                     | 0.153 | 0.148 |      | 3.3             | 116   | 0.01     |
| 126 TM p-(Dimethylamino)azobenzene | 0.341 | 0.336 |      | 1.5             | 115   | 0.00     |
| 127 TM Chlorobenzilate             | 0.404 | 0.399 |      | 1.2             | 116   | 0.00     |
| 128 TM Butyl benzyl phthalate      | 0.610 | 0.620 |      | -1.6            | 118   | 0.00     |
| 129 TM 3,3-Dimethylbenzidine       | 0.705 | 0.712 |      | -1.0            | 110   | 0.00     |
| 130 TM 2-Acetylaminofluorene       | 0.499 | 0.507 |      | -1.6            | 111   | 0.00     |
| 131 TM 3,3'-Dichlorobenzidine      | 0.497 | 0.496 |      | 0.2             | 112   | 0.00     |
| 132 TM Benzo(a)anthracene          | 1.183 | 1.166 |      | 1.4             | 118   | 0.00     |
| 133 TM Chrysene                    | 1.139 | 1.116 |      | 2.0             | 116   | 0.00     |
| 134 TM bis(2-Ethylhexyl)phthalate  | 0.887 | 0.899 |      | -1.4            | 121   | 0.00     |
| 135 IR d12-Perylene                | 1.000 | 1.000 |      | 0.0             | 119   | 0.00     |
| 136 TCM Di-n-octyl phthalate       | 1.377 | 1.446 |      | -5.0            | 112   | 0.00     |
| 137 TM 7,12-Dimethylbenz(a)anthrac | 0.525 | 0.551 |      | -5.0            | 112   | 0.00     |
| 138 TM Benzo(b)Fluoranthene        | 1.213 | 1.270 |      | -4.7            | 113   | 0.00     |
| 139 TM Benzo(k)fluoranthene        | 1.168 | 1.238 |      | -6.0            | 113   | 0.00     |
| 140 TCM Benzo(a)pyrene             | 1.063 | 1.127 |      | -6.0            | 116   | 0.00     |
| 141 TM 3-Methylcholanthrene        | 0.608 | 0.627 |      | -3.1            | 118   | 0.00     |
| 142 TM Indeno(1,2,3-cd)Pyrene      | 1.049 | 1.086 |      | -3.5            | 122   | 0.00     |
| 143 TM Dibenz(a,h)anthracene       | 1.115 | 1.146 |      | -2.8            | 118   | 0.00     |
| 144 TM Benzo(g,h,i)perylene        | 1.024 | 1.058 |      | -3.3            | 118   | 0.00     |

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Data Path : I:\ACQUDATA\5973D\Data\103017\  
 Data File : BM239.D  
 Acq On : 30 Oct 2017 10:01 am  
 Operator : J.Misiurewicz  
 Sample : CCV  
 Misc : 80 ppm STD 8270D  
 ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 30 10:35:59 2017  
 Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
 Quant Title : 8270 BNA ANALYSIS  
 QLast Update : Thu Oct 26 14:29:15 2017  
 Response via : Initial Calibration

| Compound                  | R.T.   | QIon | Response | Conc  | Units | Dev(Min) |
|---------------------------|--------|------|----------|-------|-------|----------|
| Internal Standards        |        |      |          |       |       |          |
| 1) d4-1,4-Dichlorobenzene | 4.774  | 152  | 99861    | 40.00 | ppm   | 0.00     |
| 33) d8-Naphthalene        | 5.935  | 136  | 378468   | 40.00 | ppm   | 0.00     |
| 57) d10-Acenaphthene      | 7.641  | 164  | 197680   | 40.00 | ppm   | 0.00     |
| 91) d10-Phenanthrene      | 9.112  | 188  | 360868   | 40.00 | ppm   | 0.00     |
| 117) d12-Chrysene         | 12.385 | 240  | 371952   | 40.00 | ppm   | 0.00     |
| 135) d12-Perylene         | 15.311 | 264  | 364191   | 40.00 | ppm   | 0.00     |

|                               |         |       |          |          |     |        |
|-------------------------------|---------|-------|----------|----------|-----|--------|
| System Monitoring Compounds   |         |       |          |          |     |        |
| 7) SURR1,2-FLUOROPHENOL       | 3.715   | 112   | 269275   | 80.53    | ppm | 0.00   |
| Spiked Amount                 | 200.000 | Range | 10 - 105 | Recovery | =   | 40.27% |
| 12) SURR2,PHENOL-D6           | 4.443   | 99    | 321291   | 81.35    | ppm | 0.00   |
| Spiked Amount                 | 200.000 | Range | 10 - 107 | Recovery | =   | 40.67% |
| 34) SURR4,NITROBENZENE-D5     | 5.266   | 82    | 284424   | 83.48    | ppm | 0.00   |
| Spiked Amount                 | 100.000 | Range | 37 - 117 | Recovery | =   | 83.48% |
| 63) SURR5,2-FLUOROBIPHENYL    | 6.978   | 172   | 580502   | 77.66    | ppm | 0.00   |
| Spiked Amount                 | 100.000 | Range | 39 - 119 | Recovery | =   | 77.66% |
| 88) SURR3,2,4,6-TRIBROMOPH... | 8.422   | 330   | 98614    | 74.61    | ppm | 0.00   |
| Spiked Amount                 | 200.000 | Range | 28 - 157 | Recovery | =   | 37.31% |
| 124) SURR6,TERPHENYL-D14      | 10.807  | 244   | 650958   | 76.99    | ppm | 0.00   |
| Spiked Amount                 | 100.000 | Range | 40 - 133 | Recovery | =   | 76.99% |

| Target Compounds              |       |     |        |        |     | Qvalue |
|-------------------------------|-------|-----|--------|--------|-----|--------|
| 2) Pyridine                   | 2.768 | 79  | 269191 | 83.040 | ppm | 99     |
| 3) N-Nitrosodimethylamine     | 2.731 | 74  | 147784 | 84.821 | ppm | 96     |
| 4) 2-Picoline                 | 3.293 | 93  | 278584 | 80.718 | ppm | 97     |
| 5) N-Nitrosomethylamine       | 3.367 | 42  | 142071 | 76.435 | ppm | 93     |
| 6) Methyl Methansulfonate     | 3.587 | 80  | 136909 | 78.076 | ppm | 96     |
| 8) N-Nitrosodiethylamine      | 3.892 | 102 | 120312 | 78.984 | ppm | 93     |
| 9) Ethyl Mathanesulfonate     | 4.122 | 79  | 187515 | 77.579 | ppm | 97     |
| 10) Benzaldehyde              | 4.405 | 106 | 163382 | 83.613 | ppm | 91     |
| 11) Aniline                   | 4.491 | 93  | 421056 | 80.528 | ppm | 98     |
| 13) Phenol                    | 4.453 | 94  | 333914 | 80.985 | ppm | 99     |
| 14) bis(2-Clethyl)Ether       | 4.533 | 93  | 271703 | 82.931 | ppm | 98     |
| 15) Pentachloroethane         | 4.539 | 117 | 98575  | 79.903 | ppm | 93     |
| 16) 2-Chlorophenol            | 4.592 | 128 | 276980 | 81.079 | ppm | 97     |
| 17) 1,3-Diclbzene             | 4.726 | 146 | 291773 | 78.463 | ppm | 95     |
| 18) 1,4-Dichlorobenzene       | 4.790 | 146 | 294186 | 79.225 | ppm | 97     |
| 19) 1,2-Diclbzene             | 4.919 | 146 | 290248 | 81.050 | ppm | 94     |
| 20) Benzyl Alcohol            | 4.886 | 79  | 223775 | 79.104 | ppm | 98     |
| 21) 1-Methyl-2-pyrrolidinone  | 4.951 | 99  | 176980 | 85.107 | ppm | 96     |
| 22) 2,2'-oxybis(1-Chloropr... | 4.999 | 45  | 378430 | 80.031 | ppm | 89     |
| 23) 2-Methylphenol            | 4.988 | 108 | 230539 | 80.370 | ppm | 91     |
| 24) 3+4-Methylphenol          | 5.127 | 108 | 263713 | 81.475 | ppm | 100    |
| 25) Acetophenone              | 5.127 | 105 | 361669 | 80.028 | ppm | 85     |
| 26) N-Nitroso-Di-n-propyla... | 5.122 | 70  | 198569 | 79.712 | ppm | 93     |
| 27) N-Nitrosopyrrolidine      | 5.116 | 100 | 136486 | 82.515 | ppm | 63     |
| 28) N-Nitrosomorpholine       | 5.143 | 56  | 164124 | 78.672 | ppm | 94     |
| 29) o-Toluidine               | 5.159 | 106 | 410826 | 81.439 | ppm | 94     |
| 30) Hexachloroethane          | 5.223 | 117 | 123115 | 79.643 | ppm | 96     |
| 31) o,o,o-Triethylphosphor... | 5.667 | 198 | 118481 | 83.460 | ppm | 89     |
| 32) Alpha-terpinol            | 5.962 | 121 | 104180 | 80.509 | ppm | 97     |
| 35) Nitrobenzene              | 5.282 | 77  | 322744 | 85.115 | ppm | 93     |
| 36) N-Nitrosopiperidine       | 5.421 | 42  | 179657 | 79.170 | ppm | 99     |
| 37) Isophorone                | 5.502 | 82  | 567461 | 82.753 | ppm | 98     |
| 38) 2-Nitrophenol             | 5.571 | 139 | 150843 | 88.690 | ppm | 97     |

Data Path : I:\ACQUDATA\5973D\Data\103017\  
 Data File : BM239.D  
 Acq On : 30 Oct 2017 10:01 am  
 Operator : J.Misiurewicz  
 Sample : CCV  
 Misc : 80 ppm STD 8270D  
 ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 30 10:35:59 2017  
 Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
 Quant Title : 8270 BNA ANALYSIS  
 QLast Update : Thu Oct 26 14:29:15 2017  
 Response via : Initial Calibration

| Compound                      | R.T.  | QIon | Response | Conc    | Units | Dev(Min) |
|-------------------------------|-------|------|----------|---------|-------|----------|
| 39) Benzoic Acid              | 5.694 | 105  | 131387   | 73.791  | ppm   | 93       |
| 40) 2,4-Dimethylphenol        | 5.614 | 107  | 263690   | 81.965  | ppm   | 93       |
| 41) bis(-2-Chloroethoxy)Me... | 5.694 | 93   | 339097   | 84.467  | ppm   | 99       |
| 42) 2,4-Dichlorophenol        | 5.806 | 162  | 225369   | 84.001  | ppm   | 97       |
| 43) a,a-Dimethylphenethyla... | 5.962 | 58   | 293348m  | 40.079  | ppm   |          |
| 44) 1,2,4-Trichlorobenzene    | 5.876 | 180  | 245615   | 80.374  | ppm   | 97       |
| 45) Naphthalene               | 5.956 | 128  | 786213   | 81.716  | ppm   | 100      |
| 46) 4-Chloroaniline           | 6.010 | 127  | 333476   | 82.760  | ppm   | 98       |
| 47) 2,6-Dichlorophenol        | 6.015 | 162  | 220186   | 82.450  | ppm   | 96       |
| 48) Hexachlorobutadiene       | 6.069 | 225  | 137787   | 79.760  | ppm   | 96       |
| 49) Hexachloropropene         | 6.036 | 213  | 169233   | 82.736  | ppm   | 97       |
| 50) 4-Chloro-3-methylphenol   | 6.475 | 107  | 227115   | 85.882  | ppm   | 98       |
| 51) N-N-di-n-butylamine       | 6.325 | 84   | 174105   | 72.847  | ppm   | 96       |
| 52) Caprolactam               | 6.368 | 113  | 73957    | 81.021  | ppm   | 97       |
| 53) p-Phenylenediamine        | 6.363 | 80   | 40612    | 26.217  | ppm   | 92       |
| 54) Safrole                   | 6.534 | 162  | 206859   | 84.238  | ppm   | 96       |
| 55) 2-Methylnaphthalene       | 6.619 | 142  | 527945   | 82.130  | ppm   | 97       |
| 56) 1-Methylnaphthalene       | 6.716 | 142  | 487431   | 83.860  | ppm   | 98       |
| 58) Hexachlorocyclopentadiene | 6.769 | 237  | 152126   | 76.681  | ppm   | 96       |
| 59) 1,2,4,5-Tetrachloroben... | 6.780 | 216  | 250183   | 77.902  | ppm   | 96       |
| 60) 1,2,3,4-Tetrachloroben... | 7.058 | 216  | 220754   | 75.862  | ppm   | 97       |
| 61) 2,4,6-Trichlorophenol     | 6.898 | 196  | 163020   | 78.736  | ppm   | 96       |
| 62) 2,4,5-Trichlorophenol     | 6.940 | 196  | 154888   | 76.070  | ppm   | 98       |
| 64) Isosafrole                | 7.037 | 104  | 98045    | 75.897  | ppm   | 95       |
| 65) 1,1'-Biphenyl             | 7.074 | 154  | 634081   | 77.151  | ppm   | 99       |
| 66) 2-Chloronaphthalene       | 7.095 | 162  | 502683   | 78.321  | ppm   | 99       |
| 67) 2-Nitroaniline            | 7.202 | 65   | 142293   | 81.056  | ppm   | 95       |
| 68) 1,4-Naphthoquinone        | 7.272 | 158  | 54641    | 80.980  | ppm   | 88       |
| 69) m-Dinitrobenzene          | 7.411 | 168  | 80413    | 80.458  | ppm   | 92       |
| 70) Acenaphthylene            | 7.502 | 152  | 793072   | 78.942  | ppm   | 99       |
| 71) Dimethyl phthalate        | 7.379 | 163  | 529870   | 76.024  | ppm   | 98       |
| 72) 2,6-Dinitrotoluene        | 7.438 | 165  | 136938   | 78.787  | ppm   | 95       |
| 73) Acenaphthene              | 7.673 | 153  | 516589   | 77.271  | ppm   | 100      |
| 74) 3-Nitroaniline            | 7.609 | 138  | 141766   | 83.155  | ppm   | 98       |
| 75) 2,4-Dinitrophenol         | 7.711 | 184  | 53599    | 65.507  | ppm   | 79       |
| 76) Dibenzofuran              | 7.844 | 168  | 695099   | 78.296  | ppm   | 98       |
| 77) 2,4-Dinitrotoluene        | 7.834 | 165  | 183048   | 82.396  | ppm   | 95       |
| 78) 4-Nitrophenol             | 7.785 | 65   | 115238   | 79.138  | ppm   | 96       |
| 79) Pentachlorobenzene        | 7.801 | 250  | 220528   | 77.578  | ppm   | 98       |
| 80) 1-Naphthylamine           | 7.924 | 143  | 389129   | 74.832  | ppm   | 100      |
| 81) 2-Naphthylamine           | 8.005 | 143  | 432295   | 78.113  | ppm   | 98       |
| 82) 2,3,4,6-Tetrachlorophenol | 7.967 | 232  | 120977   | 74.280  | ppm   | 97       |
| 83) Fluorene                  | 8.181 | 166  | 571839   | 78.813  | ppm   | 98       |
| 84) 4-Chlorophenyl-phenyle... | 8.181 | 204  | 292512   | 77.058  | ppm   | 94       |
| 85) Diethylphthalate          | 8.074 | 149  | 567284   | 77.220  | ppm   | 99       |
| 86) 4-Nitroaniline            | 8.213 | 138  | 151457   | 78.994  | ppm   | 97       |
| 87) 5-Nitro-o-toluidine       | 8.203 | 152  | 164397   | 82.005  | ppm   | 93       |
| 89) Sulfotepp                 | 8.459 | 322  | 94138    | 78.495  | ppm   | 97       |
| 90) Octachlorocyclopentene    | 8.433 | 307  | 96918    | 78.910  | ppm   | 96       |
| 92) Thionazin                 | 8.154 | 107  | 87118    | 78.419  | ppm   | 92       |
| 93) 4,6-Dinitro-2-methylph... | 8.235 | 198  | 92211    | 76.864  | ppm   | 93       |
| 94) Diphenylamine             | 8.304 | 169  | 847630   | 157.286 | ppm   | 100      |
| 95) 1,2 Diphenylhydrazine     | 8.336 | 77   | 568633   | 75.279  | ppm   | 97       |
| 96) N-Nitrosodiphenylamine    | 8.304 | 169  | 847630   | 157.281 | ppm   | 100      |
| 97) 1,3,5-Trinitrobenzene     | 8.577 | 213  | 48433    | 83.089  | ppm   | # 76     |
| 98) Diallate                  | 8.582 | 86   | 189318   | 75.892  | ppm   | 99       |

Data Path : I:\ACQUDATA\5973D\Data\103017\  
 Data File : BM239.D  
 Acq On : 30 Oct 2017 10:01 am  
 Operator : J.Misiurewicz  
 Sample : CCV  
 Misc : 80 ppm STD 8270D  
 ALS Vial : 3 Sample Multiplier: 1

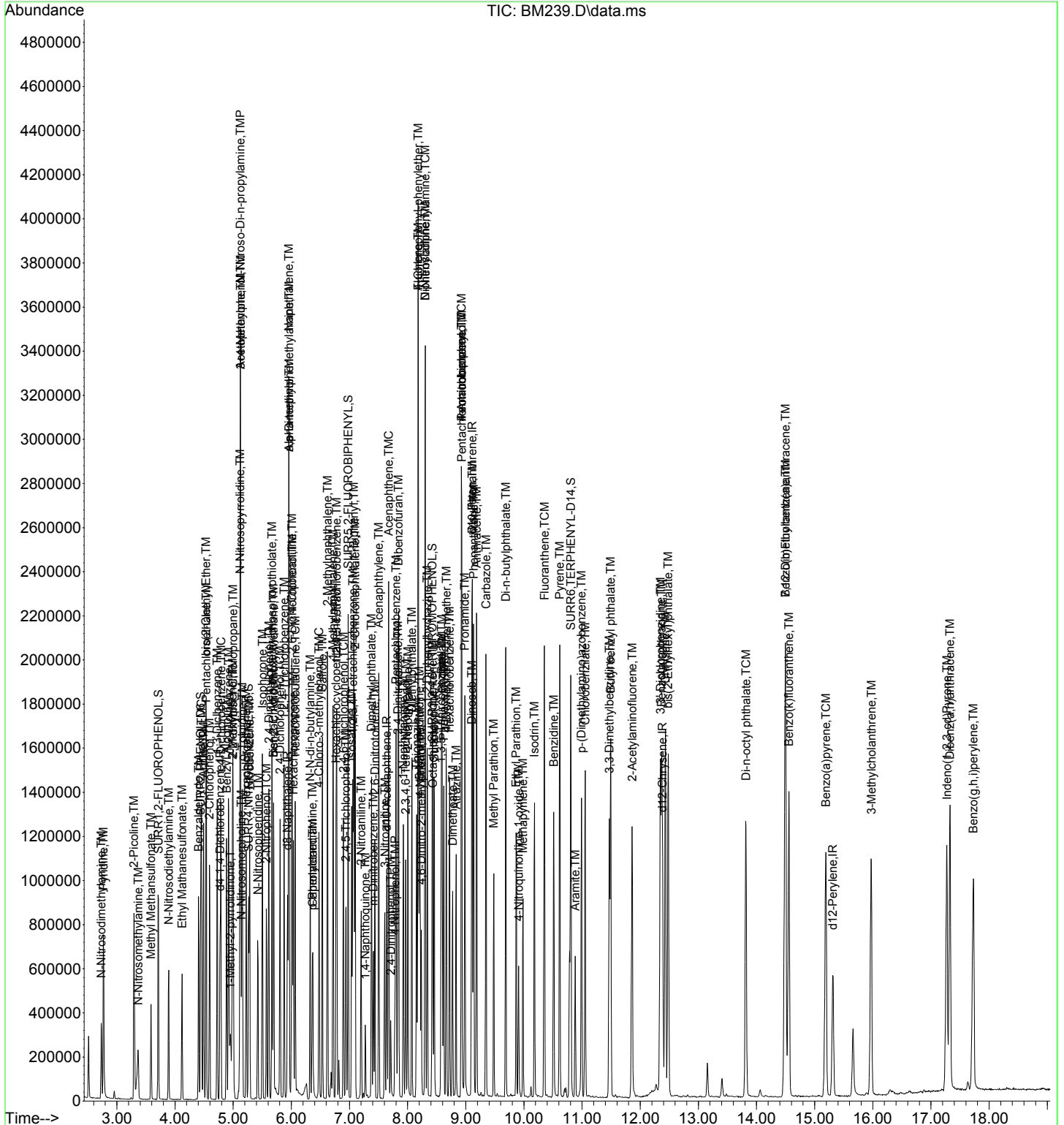
Quant Time: Oct 30 10:35:59 2017  
 Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
 Quant Title : 8270 BNA ANALYSIS  
 QLast Update : Thu Oct 26 14:29:15 2017  
 Response via : Initial Calibration

| Compound                       | R.T.   | QIon | Response | Conc   | Units | Dev(Min) |
|--------------------------------|--------|------|----------|--------|-------|----------|
| 99) Phorate                    | 8.593  | 121  | 99938    | 80.051 | ppm   | 98       |
| 100) Phenacetin                | 8.620  | 108  | 293147   | 81.827 | ppm   | 96       |
| 101) 4-Bromophenyl-phenylether | 8.668  | 248  | 169397   | 73.874 | ppm   | 97       |
| 102) Hexachlorobenzene         | 8.721  | 284  | 183088   | 73.672 | ppm   | 97       |
| 103) Dimethoate                | 8.775  | 87   | 176956   | 80.678 | ppm   | 97       |
| 104) Atrazine                  | 8.834  | 215  | 56277    | 78.065 | ppm   | 94       |
| 105) Pentachlorophenol         | 8.925  | 266  | 78103    | 58.803 | ppm   | 96       |
| 106) 4-Aminobiphenyl           | 8.925  | 169  | 492929   | 81.748 | ppm   | 99       |
| 107) Pentachloronitrobenzene   | 8.930  | 237  | 74479    | 82.257 | ppm   | 95       |
| 108) Pronamide                 | 8.984  | 173  | 255826   | 83.003 | ppm   | 99       |
| 109) Dinoseb                   | 9.101  | 211  | 123457   | 75.953 | ppm   | 98       |
| 110) Disulfoton                | 9.112  | 88   | 214532   | 75.721 | ppm   | 97       |
| 111) Phenanthrene              | 9.133  | 178  | 764282   | 77.538 | ppm   | 98       |
| 112) Anthracene                | 9.187  | 178  | 778620   | 79.652 | ppm   | 99       |
| 113) Carbazole                 | 9.347  | 167  | 767734   | 79.748 | ppm   | 98       |
| 114) Di-n-butylphthalate       | 9.690  | 149  | 1022573  | 81.800 | ppm   | 99       |
| 115) 4-Nitroquinonline-1-oxide | 9.909  | 190  | 59591    | 78.676 | ppm   | 94       |
| 116) Fluoranthene              | 10.353 | 202  | 891155   | 83.511 | ppm   | 99       |
| 118) Methyl Parathion          | 9.481  | 109  | 148522   | 83.288 | ppm   | 95       |
| 119) Ethyl Parathion           | 9.866  | 97   | 116698   | 83.126 | ppm   | 97       |
| 120) Methapyrilene             | 9.984  | 58   | 225801   | 74.913 | ppm   | 100      |
| 121) Isodrin                   | 10.182 | 193  | 84817    | 76.227 | ppm   | 92       |
| 122) Benzidine                 | 10.513 | 184  | 527864   | 76.594 | ppm   | 97       |
| 123) Pyrene                    | 10.615 | 202  | 904860   | 79.165 | ppm   | 99       |
| 125) Aramite                   | 10.882 | 185  | 110095m  | 77.601 | ppm   |          |
| 126) p-(Dimethylamino)azobe... | 10.989 | 120  | 249721   | 78.648 | ppm   | 98       |
| 127) Chlorobenzilate           | 11.053 | 139  | 296730   | 78.893 | ppm   | 97       |
| 128) Butyl benzyl phthalate    | 11.492 | 149  | 461560   | 81.334 | ppm   | 97       |
| 129) 3,3-Dimethylbenzidine     | 11.471 | 212  | 529632   | 80.814 | ppm   | 99       |
| 130) 2-Acetylaminofluorene     | 11.861 | 181  | 377394   | 81.308 | ppm   | 96       |
| 131) 3,3'-Dichlorobenzidine    | 12.348 | 252  | 369182   | 79.809 | ppm   | 98       |
| 132) Benzo(a)anthracene        | 12.369 | 228  | 867600   | 78.857 | ppm   | 99       |
| 133) Chrysene                  | 12.433 | 228  | 830545   | 78.434 | ppm   | 98       |
| 134) bis(2-Ethylhexyl)phtha... | 12.482 | 149  | 668961   | 81.139 | ppm   | 96       |
| 136) Di-n-octyl phthalate      | 13.819 | 149  | 1053517  | 84.037 | ppm   | 98       |
| 137) 7,12-Dimethylbenz(a)an... | 14.498 | 256  | 401293   | 83.930 | ppm   | 93       |
| 138) Benzo(b)Fluoranthene      | 14.498 | 252  | 925325   | 83.774 | ppm   | 99       |
| 139) Benzo(k)fluoranthene      | 14.557 | 252  | 901386   | 84.738 | ppm   | 95       |
| 140) Benzo(a)pyrene            | 15.193 | 252  | 820576   | 84.751 | ppm   | 97       |
| 141) 3-Methylcholanthrene      | 15.974 | 268  | 456888   | 82.566 | ppm   | 97       |
| 142) Indeno(1,2,3-cd)Pyrene    | 17.274 | 276  | 790985   | 82.846 | ppm   | 98       |
| 143) Dibenz(a,h)anthracene     | 17.327 | 278  | 834573   | 82.233 | ppm   | 96       |
| 144) Benzo(g,h,i)perylene      | 17.729 | 276  | 770569   | 82.649 | ppm   | 96       |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : I:\ACQUDATA\5973D\Data\103017\  
Data File : BM239.D  
Acq On : 30 Oct 2017 10:01 am  
Operator : J.Misiurewicz  
Sample : CCV  
Misc : 80 ppm STD 8270D  
ALS Vial : 3 Sample Multiplier: 1

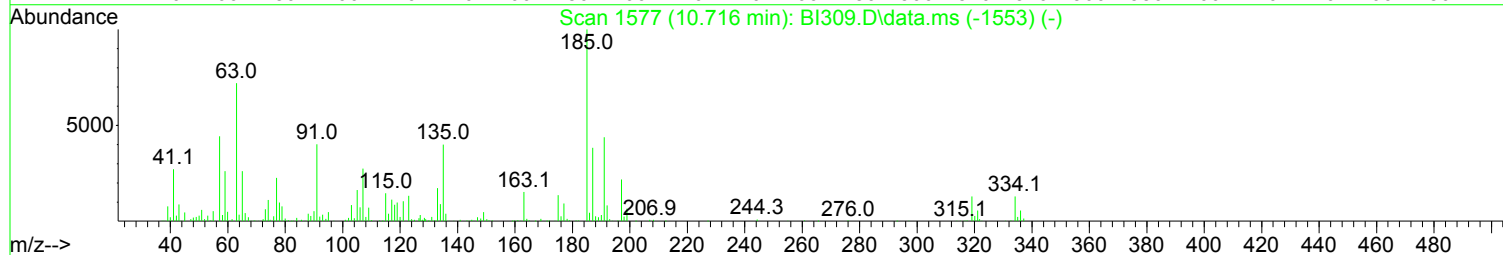
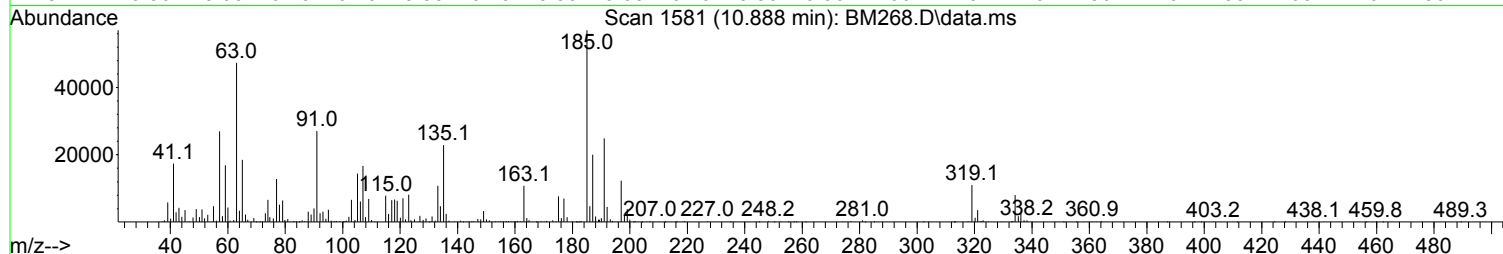
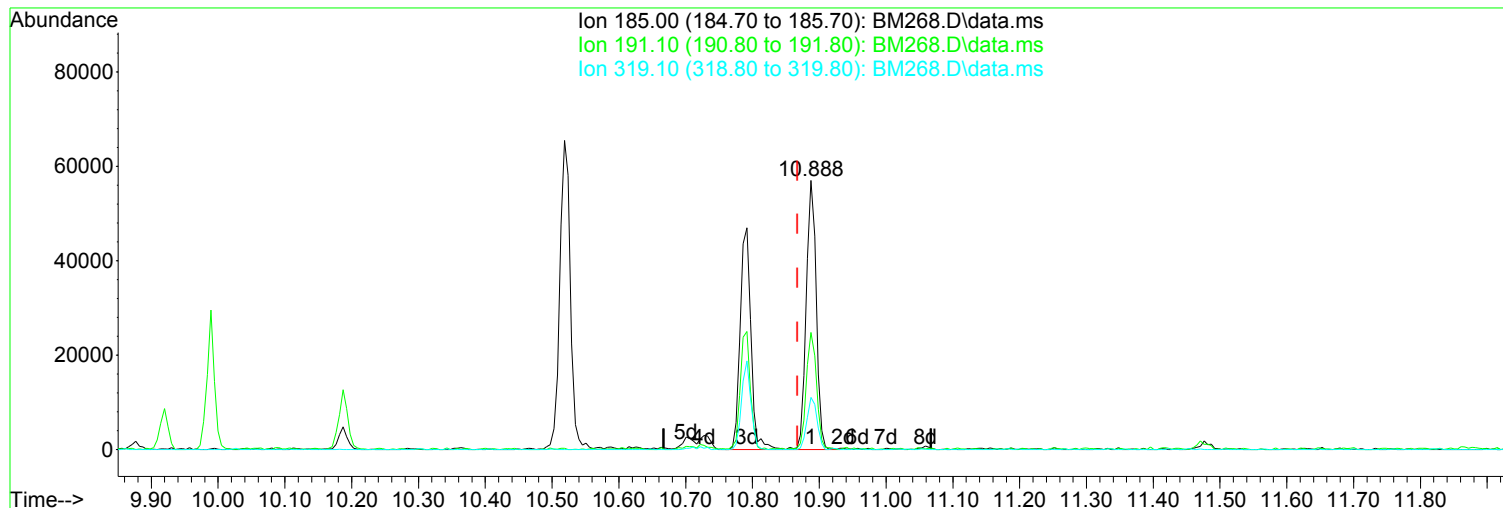
Quant Time: Oct 30 10:35:59 2017  
Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
Quant Title : 8270 BNA ANALYSIS  
QLast Update : Thu Oct 26 14:29:15 2017  
Response via : Initial Calibration





Data Path : I:\ACQUDATA\5973D\Data\103117\  
Data File : BM268.D  
Acq On : 31 Oct 2017 6:54 am  
Operator : J.Misiurewicz  
Sample : CCV  
Misc : 80 ppm STD 8270D  
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 31 07:14:45 2017  
Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
Quant Title : 8270 BNA ANALYSIS  
QLast Update : Thu Oct 26 14:29:15 2017  
Response via : Initial Calibration



TIC: BM268.D\data.ms

(125) Aramite (TM)

Manual Integration:

10.888min (+ 0.020) 79.72 ppm m

After

response 111180

Split Peak.

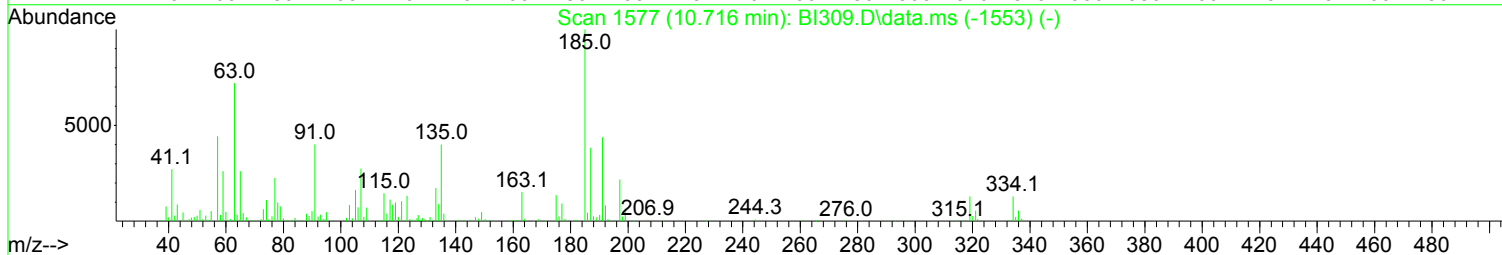
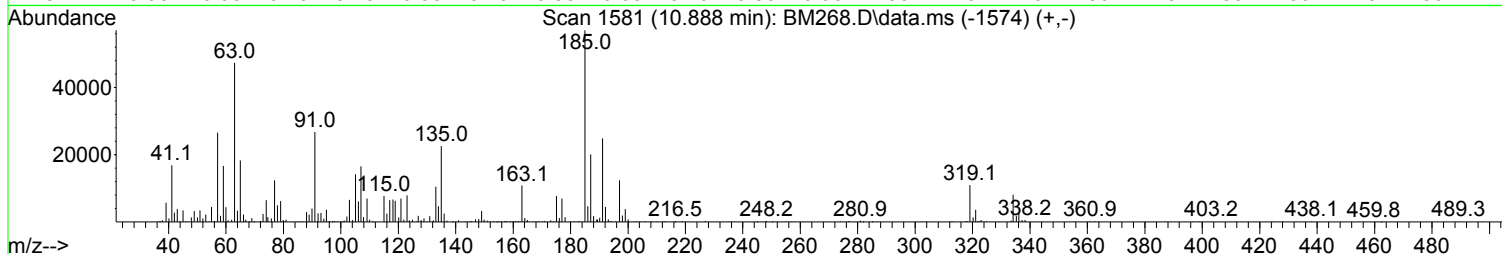
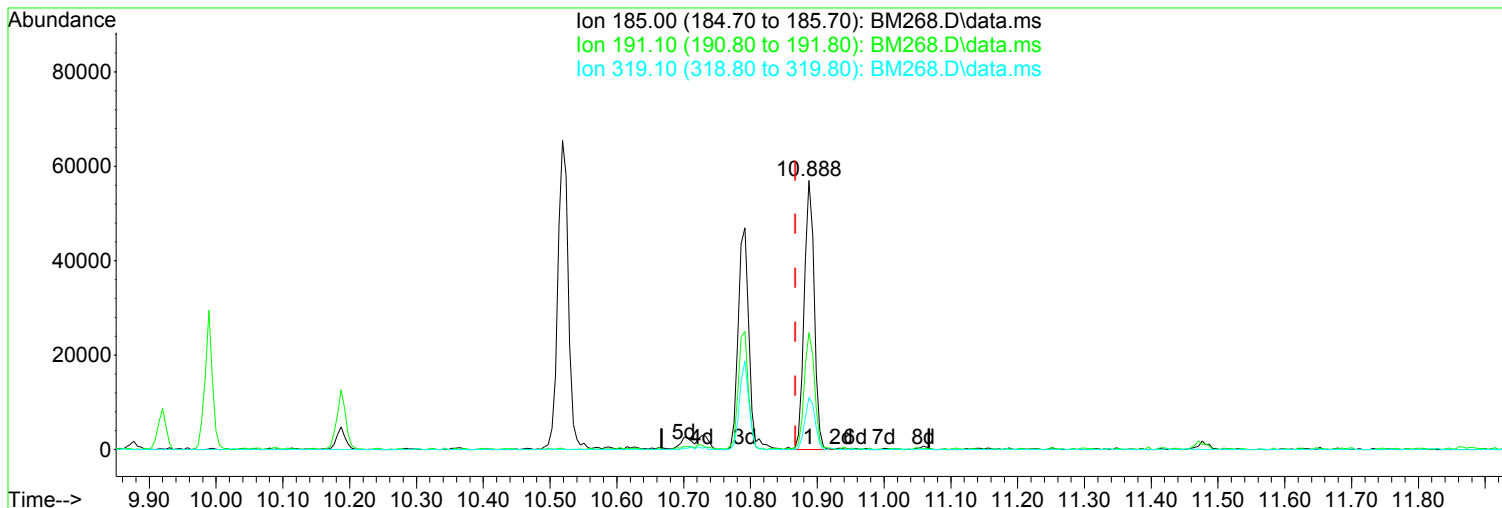
| Ion    | Exp%   | Act%   |
|--------|--------|--------|
| 185.00 | 100.00 | 100.00 |
| 191.10 | 51.80  | 43.57  |
| 319.10 | 22.50  | 19.37  |
| 0.00   | 0.00   | 0.00   |

11/01/17



Data Path : I:\ACQUDATA\5973D\Data\103117\  
 Data File : BM268.D  
 Acq On : 31 Oct 2017 6:54 am  
 Operator : J.Misiurewicz  
 Sample : CCV  
 Misc : 80 ppm STD 8270D  
 ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 31 07:14:45 2017  
 Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
 Quant Title : 8270 BNA ANALYSIS  
 QLast Update : Thu Oct 26 14:29:15 2017  
 Response via : Initial Calibration

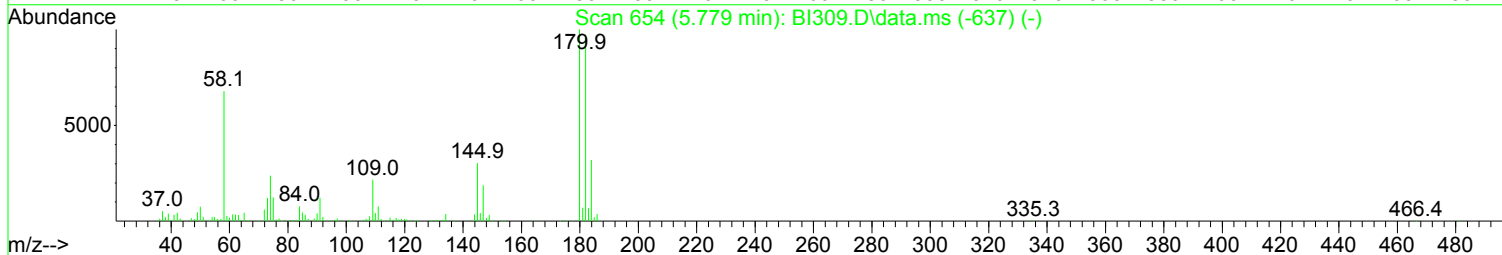
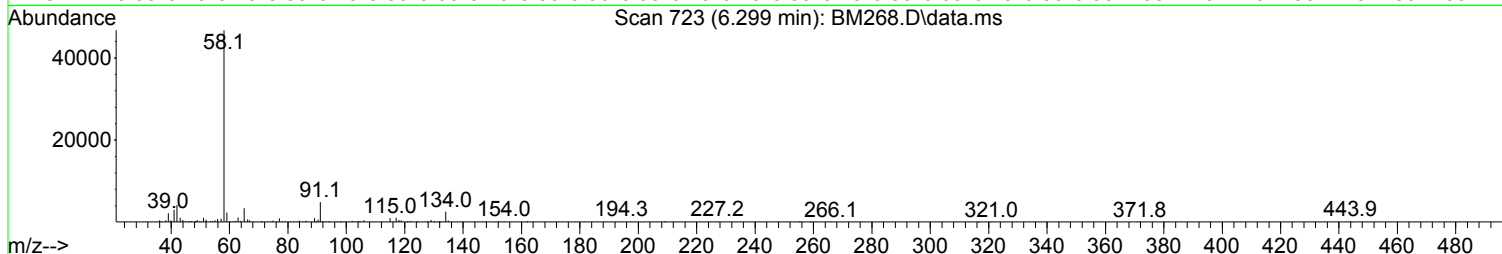
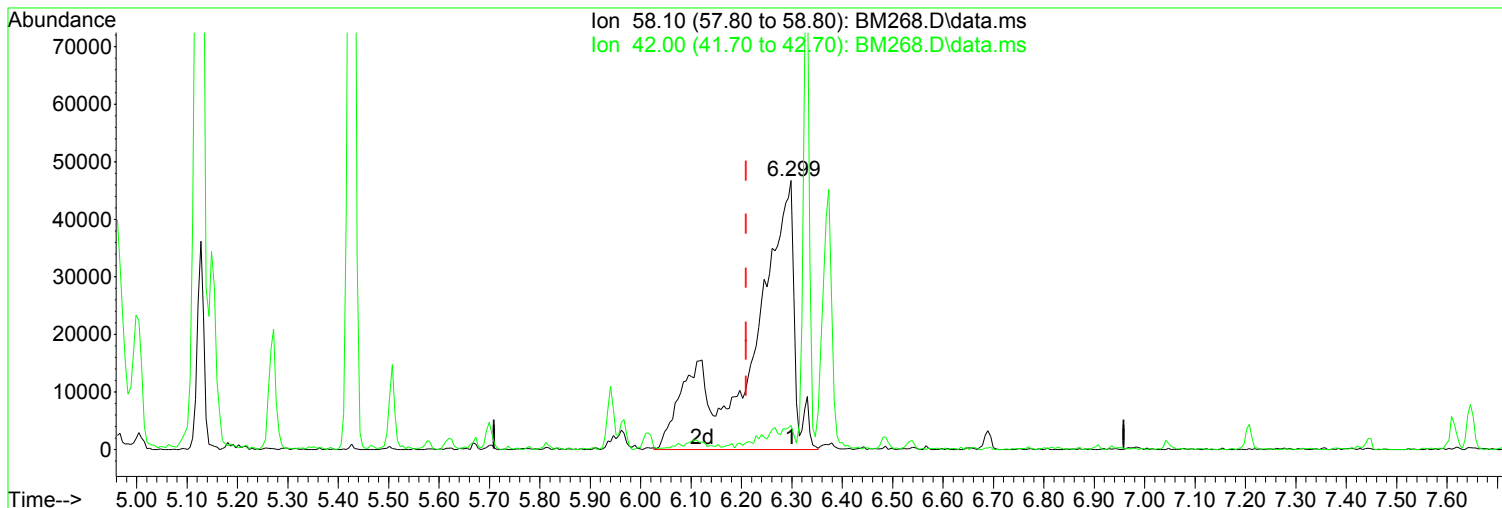


TIC: BM268.D\data.ms

| (125) Aramite (TM)  |           |        | Manual Integration: |
|---------------------|-----------|--------|---------------------|
| 10.888min (+ 0.020) | 42.23 ppm |        | Before              |
| response            | 58894     |        |                     |
| Ion                 | Exp%      | Act%   | 11/01/17            |
| 185.00              | 100.00    | 100.00 |                     |
| 191.10              | 51.80     | 43.50  |                     |
| 319.10              | 22.50     | 19.18  |                     |
| 0.00                | 0.00      | 0.00   |                     |

Data Path : I:\ACQUDATA\5973D\Data\103117\  
Data File : BM268.D  
Acq On : 31 Oct 2017 6:54 am  
Operator : J.Misiurewicz  
Sample : CCV  
Misc : 80 ppm STD 8270D  
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 31 07:14:45 2017  
Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
Quant Title : 8270 BNA ANALYSIS  
QLast Update : Thu Oct 26 14:29:15 2017  
Response via : Initial Calibration



(43) a,a-Dimethylphenethylamine (TM)

Manual Integration:

6.299min (+ 0.089) 39.18 ppm m

After

response 275238

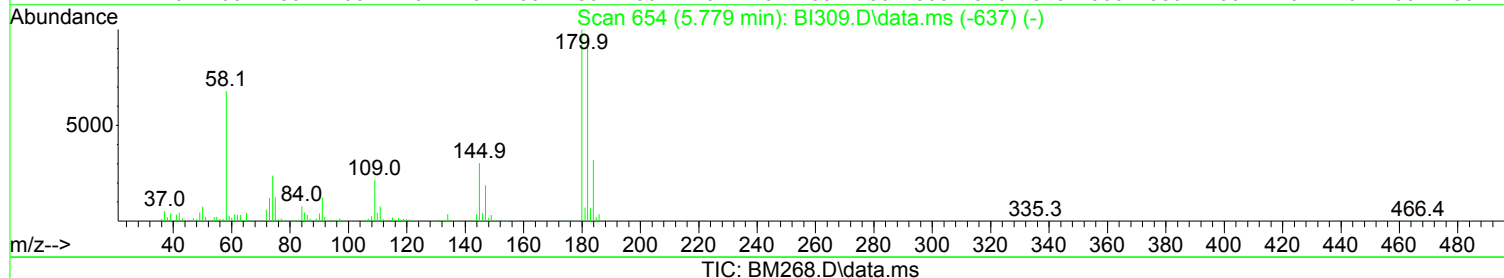
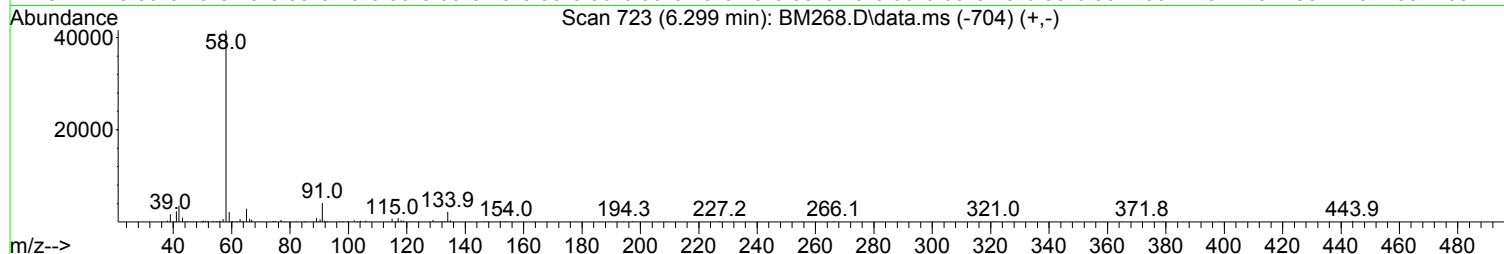
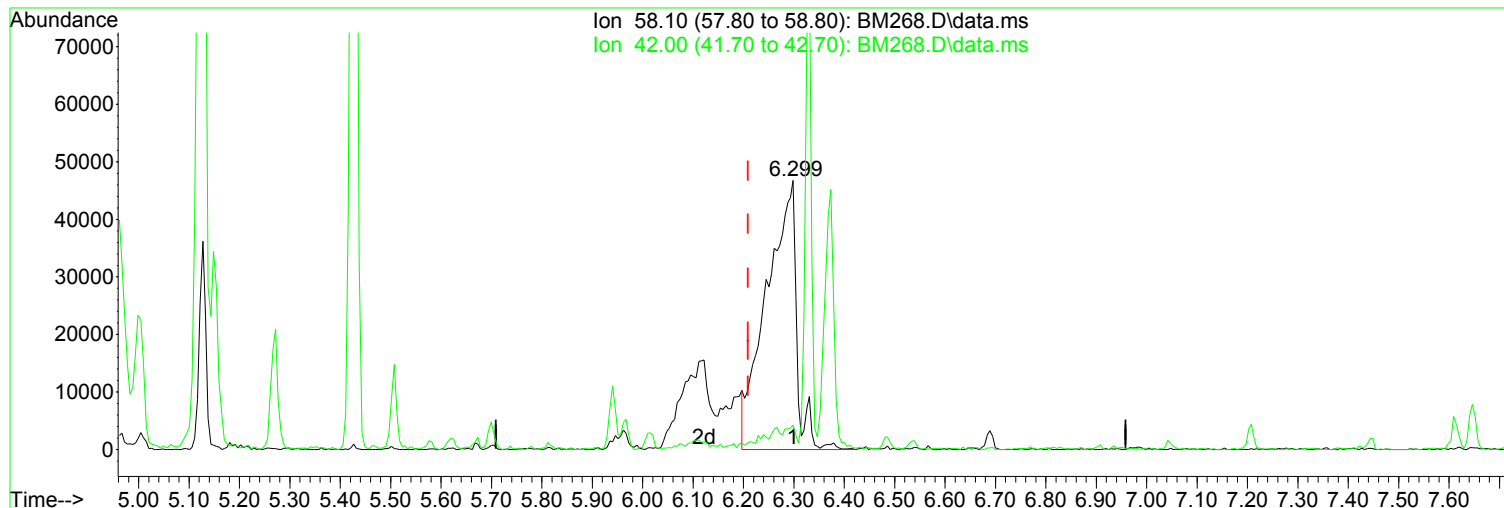
Poor integration.

| Ion   | Exp%   | Act%   |
|-------|--------|--------|
| 58.10 | 100.00 | 100.00 |
| 42.00 | 8.90   | 9.08   |
| 0.00  | 0.00   | 0.00   |
| 0.00  | 0.00   | 0.00   |

11/01/17

Data Path : I:\ACQUDATA\5973D\Data\103117\  
Data File : BM268.D  
Acq On : 31 Oct 2017 6:54 am  
Operator : J.Misiurewicz  
Sample : CCV  
Misc : 80 ppm STD 8270D  
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 31 07:14:45 2017  
Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
Quant Title : 8270 BNA ANALYSIS  
QLast Update : Thu Oct 26 14:29:15 2017  
Response via : Initial Calibration



(43) a,a-Dimethylphenethylamine (TM)

Manual Integration:

6.299min (+ 0.089) 27.37 ppm

Before

response 192269

| Ion   | Exp%   | Act%   |
|-------|--------|--------|
| 58.10 | 100.00 | 100.00 |
| 42.00 | 8.90   | 8.51   |
| 0.00  | 0.00   | 0.00   |
| 0.00  | 0.00   | 0.00   |

11/01/17

Data Path : I:\ACQUDATA\5973D\Data\103117\  
 Data File : BM268.D  
 Acq On : 31 Oct 2017 6:54 am  
 Operator : J.Misiurewicz  
 Sample : CCV  
 Misc : 80 ppm STD 8270D  
 ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 31 07:14:45 2017  
 Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
 Quant Title : 8270 BNA ANALYSIS  
 QLast Update : Thu Oct 26 14:29:15 2017  
 Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 20% Max. Rel. Area : 200%

|    | Compound                       | AvgRF | CCRF  | %Dev  | Area% | Dev(min) |
|----|--------------------------------|-------|-------|-------|-------|----------|
| 1  | IR d4-1,4-Dichlorobenzene      | 1.000 | 1.000 | 0.0   | 102   | 0.00     |
| 2  | TM Pyridine                    | 1.298 | 1.495 | -15.2 | 112   | 0.00     |
| 3  | TM N-Nitrosodimethylamine      | 0.698 | 0.810 | -16.0 | 114   | 0.00     |
| 4  | TM 2-Picoline                  | 1.382 | 1.539 | -11.4 | 112   | 0.00     |
| 5  | TM N-Nitrosomethylamine        | 0.745 | 0.774 | -3.9  | 107   | 0.00     |
| 6  | TM Methyl Methansulfonate      | 0.702 | 0.752 | -7.1  | 107   | 0.00     |
| 7  | S SURR1,2-FLUOROPHENOL         | 1.339 | 1.483 | -10.8 | 111   | 0.01     |
| 8  | TM N-Nitrosodiethylamine       | 0.610 | 0.650 | -6.6  | 107   | 0.00     |
| 9  | TM Ethyl Mathanesulfonate      | 0.968 | 1.054 | -8.9  | 107   | 0.00     |
| 10 | TM Benzaldehyde                | 0.783 | 0.873 | -11.5 | 128   | 0.00     |
| 11 | TM Aniline                     | 2.094 | 2.214 | -5.7  | 105   | 0.00     |
| 12 | S SURR2, PHENOL-D6             | 1.582 | 1.715 | -8.4  | 109   | 0.01     |
| 13 | TMC Phenol                     | 1.652 | 1.759 | -6.5  | 107   | 0.02     |
| 14 | TM bis(2-Clethyl)Ether         | 1.312 | 1.408 | -7.3  | 109   | 0.00     |
| 15 | TM Pentachloroethane           | 0.494 | 0.512 | -3.6  | 104   | 0.00     |
| 16 | TM 2-Chlorophenol              | 1.368 | 1.478 | -8.0  | 109   | 0.00     |
| 17 | TM 1,3-Diclbzence              | 1.490 | 1.524 | -2.3  | 101   | 0.00     |
| 18 | TMC 1,4-Dichlorobenzene        | 1.487 | 1.545 | -3.9  | 101   | 0.00     |
| 19 | TM 1,2-Diclbzence              | 1.434 | 1.470 | -2.5  | 104   | 0.00     |
| 20 | TM Benzyl Alcohol              | 1.133 | 1.195 | -5.5  | 105   | 0.00     |
| 21 | T 1-Methyl-2-pyrrolidinone     | 0.833 | 0.895 | -7.4  | 103   | 0.01     |
| 22 | TM 2,2'-oxybis(1-Chloropropane | 1.894 | 1.917 | -1.2  | 106   | 0.00     |
| 23 | TM 2-Methylphenol              | 1.149 | 1.208 | -5.1  | 105   | 0.02     |
| 24 | TM 3+4-Methylphenol            | 1.297 | 1.362 | -5.0  | 109   | 0.01     |
| 25 | TM Acetophenone                | 1.810 | 1.902 | -5.1  | 108   | 0.00     |
| 26 | TMP N-Nitroso-Di-n-propylamine | 0.998 | 1.051 | -5.3  | 110   | 0.00     |
| 27 | TM N-Nitrosopyrrolidine        | 0.663 | 0.701 | -5.7  | 110   | 0.00     |
| 28 | TM N-Nitrosomorpholine         | 0.836 | 0.839 | -0.4  | 106   | 0.00     |
| 29 | TM o-Toluidine                 | 2.021 | 2.059 | -1.9  | 104   | 0.00     |
| 30 | TM Hexachloroethane            | 0.619 | 0.639 | -3.2  | 106   | 0.00     |
| 31 | TM o,o,o-Triethylphosphorothio | 0.569 | 0.603 | -6.0  | 102   | 0.00     |
| 32 | TM Alpha-terpinol              | 0.518 | 0.527 | -1.7  | 93    | 0.00     |
| 33 | IR d8-Naphthalene              | 1.000 | 1.000 | 0.0   | 102   | 0.00     |
| 34 | S SURR4,NITROBENZENE-D5        | 0.360 | 0.370 | -2.8  | 107   | 0.00     |
| 35 | TM Nitrobenzene                | 0.401 | 0.412 | -2.7  | 108   | 0.00     |
| 36 | TM N-Nitrosopiperidine         | 0.240 | 0.238 | 0.8   | 103   | 0.00     |
| 37 | TM Isophorone                  | 0.725 | 0.747 | -3.0  | 108   | 0.00     |
| 38 | TCM 2-Nitrophenol              | 0.180 | 0.195 | -8.3  | 108   | 0.00     |
| 39 | TM Benzoic Acid                | 0.188 | 0.174 | 7.4   | 100   | 0.01     |
| 40 | TM 2,4-Dimethylphenol          | 0.340 | 0.356 | -4.7  | 107   | 0.01     |
| 41 | TM bis(-2-Chloroethoxy)Methane | 0.424 | 0.428 | -0.9  | 106   | 0.00     |
| 42 | TCM 2,4-Dichlorophenol         | 0.284 | 0.280 | 1.4   | 95    | 0.00     |
| 43 | TM a,a-Dimethylphenethylamine  | 0.774 | 0.758 | 2.1   | 98    | 0.09     |
| 44 | TM 1,2,4-Trichlorobenzene      | 0.323 | 0.312 | 3.4   | 94    | 0.00     |
| 45 | TM Naphthalene                 | 1.017 | 1.000 | 1.7   | 96    | 0.00     |
| 46 | TM 4-Chloroaniline             | 0.426 | 0.420 | 1.4   | 96    | 0.00     |
| 47 | TM 2,6-Dichlorophenol          | 0.282 | 0.278 | 1.4   | 96    | 0.00     |
| 48 | TCM Hexachlorobutadiene        | 0.183 | 0.188 | -2.7  | 100   | 0.00     |
| 49 | TM Hexachloropropene           | 0.216 | 0.223 | -3.2  | 97    | 0.00     |
| 50 | TMC 4-Chloro-3-methylphenol    | 0.279 | 0.293 | -5.0  | 100   | 0.01     |
| 51 | TM N-N-di-n-butylamine         | 0.253 | 0.224 | 11.5  | 95    | 0.00     |

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 Misc : 80 ppm STD 8270D  
 ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 31 07:14:45 2017  
 Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
 Quant Title : 8270 BNA ANALYSIS  
 QLast Update : Thu Oct 26 14:29:15 2017  
 Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 20% Max. Rel. Area : 200%

|     | Compound | AvgRF                      | CCRF  | %D    | %Dev  | Area%              | Dev(min) |                       |
|-----|----------|----------------------------|-------|-------|-------|--------------------|----------|-----------------------|
| 52  | TM       | Caprolactam                | 0.096 | 0.098 | -2.1  | 100                | 0.01     |                       |
| 53  | TM       | p-Phenylenediamine         | 0.164 | 0.045 | 72.6# | 30#                | 0.00     | OK wrong spike amount |
| 54  | TM       | Safrole                    | 0.260 | 0.263 | -1.2  | 96                 | 0.00     |                       |
| 55  | TM       | 2-Methylnaphthalene        | 0.679 | 0.688 | -1.3  | 99                 | 0.00     |                       |
| 56  | TM       | 1-Methylnaphthalene        | 0.614 | 0.640 | -4.2  | 102                | 0.00     |                       |
| 57  | IR       | d10-Acenaphthene           | 1.000 | 1.000 | 0.0   | 124                | 0.00     |                       |
| 58  | TPM      | Hexachlorocyclopentadiene  | 0.401 | 0.338 | 15.7  | 92                 | 0.00     |                       |
| 59  | TM       | 1,2,4,5-Tetrachlorobenzene | 0.650 | 0.572 | 12.0  | 101                | 0.00     |                       |
| 60  | TM       | 1,2,3,4-Tetrachlorobenzene | 0.589 | 0.533 | 9.5   | 106                | 0.00     |                       |
| 61  | TCM      | 2,4,6-Trichlorophenol      | 0.419 | 0.377 | 10.0  | 101                | 0.00     |                       |
| 62  | TM       | 2,4,5-Trichlorophenol      | 0.412 | 0.381 | 7.5   | 111                | 0.02     |                       |
| 63  | S        | SURR5,2-FLUOROBIPHENYL     | 1.513 | 1.365 | 9.8   | 106                | 0.00     |                       |
| 64  | TM       | Isosafrole                 | 0.261 | 0.236 | 9.6   | 106                | 0.00     |                       |
| 65  | TM       | 1,1'-Biphenyl              | 1.663 | 1.472 | 11.5  | 103                | 0.00     |                       |
| 66  | TM       | 2-Chloronaphthalene        | 1.299 | 1.166 | 10.2  | 108                | 0.00     |                       |
| 67  | TM       | 2-Nitroaniline             | 0.355 | 0.338 | 4.8   | 112                | 0.00     |                       |
| 68  | TM       | 1,4-Naphthoquinone         | 0.137 | 0.139 | -1.5  | 124                | 0.01     |                       |
| 69  | TM       | m-Dinitrobenzene           | 0.202 | 0.189 | 6.4   | 106                | 0.01     |                       |
| 70  | TM       | Acenaphthylene             | 2.033 | 2.006 | 1.3   | 119                | 0.00     |                       |
| 71  | TM       | Dimethyl phthalate         | 1.410 | 1.244 | 11.8  | 108                | 0.00     |                       |
| 72  | TM       | 2,6-Dinitrotoluene         | 0.352 | 0.318 | 9.7   | 105                | 0.00     |                       |
| 73  | TMC      | Acenaphthene               | 1.353 | 1.274 | 5.8   | 106                | 0.00     |                       |
| 74  | TM       | 3-Nitroaniline             | 0.345 | 0.358 | -3.8  | 116                | 0.00     |                       |
| 75  | TPM      | 2,4-Dinitrophenol          | 0.161 | 0.140 | 15.9  | <del>13.0</del> 93 | 0.01     |                       |
| 76  | TM       | Dibenzofuran               | 1.796 | 1.711 | 4.7   | 112                | 0.00     |                       |
| 77  | TM       | 2,4-Dinitrotoluene         | 0.450 | 0.459 | -2.0  | 110                | 0.00     |                       |
| 78  | TMP      | 4-Nitrophenol              | 0.295 | 0.280 | 5.1   | 112                | 0.02     |                       |
| 79  | TM       | Pentachlorobenzene         | 0.575 | 0.541 | 5.9   | 110                | 0.00     |                       |
| 80  | TM       | 1-Naphthylamine            | 1.052 | 0.960 | 8.7   | 110                | 0.00     |                       |
| 81  | TM       | 2-Naphthylamine            | 1.120 | 1.025 | 8.5   | 103                | 0.00     |                       |
| 82  | TM       | 2,3,4,6-Tetrachlorophenol  | 0.330 | 0.296 | 10.3  | 107                | 0.01     |                       |
| 83  | TM       | Fluorene                   | 1.468 | 1.318 | 10.2  | 109                | 0.00     |                       |
| 84  | TM       | 4-Chlorophenyl-phenylether | 0.768 | 0.673 | 12.4  | 108                | 0.00     |                       |
| 85  | TM       | Diethylphthalate           | 1.487 | 1.321 | 11.2  | 106                | 0.00     |                       |
| 86  | TM       | 4-Nitroaniline             | 0.388 | 0.357 | 8.0   | 101                | 0.01     |                       |
| 87  | TM       | 5-Nitro-o-toluidine        | 0.406 | 0.385 | 5.2   | 106                | 0.00     |                       |
| 88  | S        | SURR3,2,4,6-TRIBROMOPHENOL | 0.267 | 0.258 | 3.4   | 114                | 0.01     |                       |
| 89  | TM       | Sulfotepp                  | 0.243 | 0.246 | -1.2  | 118                | 0.00     |                       |
| 90  | TM       | Octachlorocyclopentene     | 0.249 | 0.244 | 2.0   | 106                | 0.00     |                       |
| 91  | IR       | d10-Phenanthrene           | 1.000 | 1.000 | 0.0   | 104                | 0.00     |                       |
| 92  | TM       | Thionazin                  | 0.123 | 0.119 | 3.3   | 104                | 0.00     |                       |
| 93  | TM       | 4,6-Dinitro-2-methylphenol | 0.128 | 0.132 | 0.9   | <del>3.1</del> 107 | 0.01     |                       |
| 94  | TM       | Diphenylamine              | 0.597 | 0.575 | 3.7   | 102                | 0.00     |                       |
| 95  | TM       | 1,2 Diphenylhydrazine      | 0.837 | 0.776 | 7.3   | 95                 | 0.00     |                       |
| 96  | TCM      | N-Nitrosodiphenylamine     | 0.597 | 0.575 | 3.7   | 102                | 0.00     |                       |
| 97  | TM       | 1,3,5-Trinitrobenzene      | 0.065 | 0.072 | -10.8 | 117                | 0.02     |                       |
| 98  | TM       | Diallate                   | 0.277 | 0.276 | 0.4   | 113                | 0.00     |                       |
| 99  | TM       | Phorate                    | 0.138 | 0.145 | -5.1  | 110                | 0.00     |                       |
| 100 | TM       | Phenacetin                 | 0.397 | 0.430 | -8.3  | 115                | 0.00     |                       |
| 101 | TM       | 4-Bromophenyl-phenylether  | 0.254 | 0.241 | 5.1   | 110                | 0.00     |                       |

Data Path : I:\ACQUDATA\5973D\Data\103117\  
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 Misc : 80 ppm STD 8270D  
 ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 31 07:14:45 2017  
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 Quant Title : 8270 BNA ANALYSIS  
 QLast Update : Thu Oct 26 14:29:15 2017  
 Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 20% Max. Rel. Area : 200%

|     | Compound                       | AvgRF | CCRF  | %D   | %Dev            | Area% | Dev(min) |
|-----|--------------------------------|-------|-------|------|-----------------|-------|----------|
| 102 | TM Hexachlorobenzene           | 0.275 | 0.259 |      | 5.8             | 105   | 0.00     |
| 103 | TM Dimethoate                  | 0.243 | 0.244 |      | -0.4            | 99    | 0.00     |
| 104 | TM Atrazine                    | 0.080 | 0.071 |      | 11.3            | 121   | 0.00     |
| 105 | TCM Pentachlorophenol          | 0.150 | 0.122 | 18.1 | <del>18.7</del> | 81    | 0.01     |
| 106 | TM 4-Aminobiphenyl             | 0.668 | 0.711 |      | -6.4            | 110   | 0.00     |
| 107 | TM Pentachloronitrobenzene     | 0.100 | 0.111 |      | -11.0           | 114   | 0.00     |
| 108 | TM Pronamide                   | 0.342 | 0.368 |      | -7.6            | 111   | 0.00     |
| 109 | TM Dinoseb                     | 0.180 | 0.176 |      | 2.2             | 101   | 0.00     |
| 110 | TM Disulfoton                  | 0.314 | 0.292 |      | 7.0             | 98    | 0.00     |
| 111 | TM Phenanthrene                | 1.093 | 1.077 |      | 1.5             | 102   | 0.00     |
| 112 | TM Anthracene                  | 1.084 | 1.097 |      | -1.2            | 103   | 0.00     |
| 113 | TM Carbazole                   | 1.067 | 1.158 |      | -8.5            | 110   | 0.01     |
| 114 | TM Di-n-butylphthalate         | 1.386 | 1.451 |      | -4.7            | 104   | 0.00     |
| 115 | TM 4-Nitroquinoline-1-oxide    | 0.084 | 0.091 |      | -8.3            | 108   | 0.01     |
| 116 | TCM Fluoranthene               | 1.183 | 1.286 |      | -8.7            | 115   | 0.01     |
| 117 | IR d12-Chrysene                | 1.000 | 1.000 |      | 0.0             | 121   | 0.02     |
| 118 | TM Methyl Parathion            | 0.192 | 0.210 |      | -9.4            | 107   | 0.00     |
| 119 | TM Ethyl Parathion             | 0.151 | 0.159 |      | -5.3            | 114   | 0.00     |
| 120 | TM Methapyrilene               | 0.324 | 0.302 |      | 6.8             | 108   | 0.00     |
| 121 | TM Isodrin                     | 0.120 | 0.114 |      | 5.0             | 107   | 0.00     |
| 122 | TM Benzidine                   | 0.741 | 0.715 |      | 3.5             | 100   | 0.00     |
| 123 | TM Pyrene                      | 1.229 | 1.236 |      | -0.6            | 114   | 0.01     |
| 124 | S SURR6, TERPHENYL-D14         | 0.909 | 0.875 |      | 3.7             | 110   | 0.00     |
| 125 | TM Aramite                     | 0.153 | 0.152 |      | 0.7             | 117   | 0.02     |
| 126 | TM p-(Dimethylamino)azobenzene | 0.341 | 0.358 |      | -5.0            | 121   | 0.01     |
| 127 | TM Chlorobenzilate             | 0.404 | 0.423 |      | -4.7            | 121   | 0.00     |
| 128 | TM Butyl benzyl phthalate      | 0.610 | 0.641 |      | -5.1            | 120   | 0.00     |
| 129 | TM 3,3-Dimethylbenzidine       | 0.705 | 0.746 |      | -5.8            | 113   | 0.01     |
| 130 | TM 2-Acetylaminofluorene       | 0.499 | 0.529 |      | -6.0            | 114   | 0.02     |
| 131 | TM 3,3'-Dichlorobenzidine      | 0.497 | 0.499 |      | -0.4            | 111   | 0.02     |
| 132 | TM Benzo(a)anthracene          | 1.183 | 1.167 |      | 1.4             | 116   | 0.02     |
| 133 | TM Chrysene                    | 1.139 | 1.107 |      | 2.8             | 113   | 0.02     |
| 134 | TM bis(2-Ethylhexyl)phthalate  | 0.887 | 0.923 |      | -4.1            | 122   | 0.00     |
| 135 | IR d12-Perylene                | 1.000 | 1.000 |      | 0.0             | 120   | 0.03     |
| 136 | TCM Di-n-octyl phthalate       | 1.377 | 1.407 |      | -2.2            | 110   | 0.00     |
| 137 | TM 7,12-Dimethylbenz(a)anthrac | 0.525 | 0.529 |      | -0.8            | 109   | 0.02     |
| 138 | TM Benzo(b)Fluoranthene        | 1.213 | 1.221 |      | -0.7            | 110   | 0.03     |
| 139 | TM Benzo(k)fluoranthene        | 1.168 | 1.197 |      | -2.5            | 111   | 0.02     |
| 140 | TCM Benzo(a)pyrene             | 1.063 | 1.102 |      | -3.7            | 114   | 0.03     |
| 141 | TM 3-Methylcholanthrene        | 0.608 | 0.620 |      | -2.0            | 118   | 0.03     |
| 142 | TM Indeno(1,2,3-cd)Pyrene      | 1.049 | 1.094 |      | -4.3            | 125   | 0.03     |
| 143 | TM Dibenz(a,h)anthracene       | 1.115 | 1.168 |      | -4.8            | 122   | 0.03     |
| 144 | TM Benzo(g,h,i)perylene        | 1.024 | 1.167 |      | -14.0           | 132   | 0.04     |

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

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 Acq On : 31 Oct 2017 6:54 am  
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 Misc : 80 ppm STD 8270D  
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 QLast Update : Thu Oct 26 14:29:15 2017  
 Response via : Initial Calibration

| Compound                           | R.T.    | QIon  | Response | Conc     | Units | Dev(Min) |        |
|------------------------------------|---------|-------|----------|----------|-------|----------|--------|
| <b>Internal Standards</b>          |         |       |          |          |       |          |        |
| 1) d4-1,4-Dichlorobenzene          | 4.780   | 152   | 91693    | 40.00    | ppm   | 0.00     |        |
| 33) d8-Naphthalene                 | 5.940   | 136   | 363291   | 40.00    | ppm   | 0.00     |        |
| 57) d10-Acenaphthene               | 7.646   | 164   | 200993   | 40.00    | ppm   | 0.00     |        |
| 91) d10-Phenanthrene               | 9.117   | 188   | 340406   | 40.00    | ppm   | 0.00     |        |
| 117) d12-Chrysene                  | 12.401  | 240   | 365649   | 40.00    | ppm   | 0.02     |        |
| 135) d12-Perylene                  | 15.338  | 264   | 368678   | 40.00    | ppm   | 0.03     |        |
| <b>System Monitoring Compounds</b> |         |       |          |          |       |          |        |
| 7) SURR1,2-FLUOROPHENOL            | 3.721   | 112   | 272036   | 88.61    | ppm   | 0.01     |        |
| Spiked Amount                      | 200.000 | Range | 10 - 105 | Recovery | =     | 44.31%   |        |
| 12) SURR2,PHENOL-D6                | 4.448   | 99    | 314543   | 86.73    | ppm   | 0.01     |        |
| Spiked Amount                      | 200.000 | Range | 10 - 107 | Recovery | =     | 43.37%   |        |
| 34) SURR4,NITROBENZENE-D5          | 5.272   | 82    | 268797   | 82.19    | ppm   | 0.00     |        |
| Spiked Amount                      | 100.000 | Range | 37 - 117 | Recovery | =     | 82.19%   |        |
| 63) SURR5,2-FLUOROBIPHENYL         | 6.983   | 172   | 548524   | 72.17    | ppm   | 0.00     |        |
| Spiked Amount                      | 100.000 | Range | 39 - 119 | Recovery | =     | 72.17%   |        |
| 88) SURR3,2,4,6-TRIBROMOPH...      | 8.433   | 330   | 103636   | 77.12    | ppm   | 0.01     |        |
| Spiked Amount                      | 200.000 | Range | 28 - 157 | Recovery | =     | 38.56%   |        |
| 124) SURR6,TERPHENYL-D14           | 10.813  | 244   | 640137   | 77.01    | ppm   | 0.00     |        |
| Spiked Amount                      | 100.000 | Range | 40 - 133 | Recovery | =     | 77.01%   |        |
| <b>Target Compounds</b>            |         |       |          |          |       |          |        |
|                                    |         |       |          |          |       |          | Qvalue |
| 2) Pyridine                        | 2.774   | 79    | 274218   | 92.126   | ppm   |          | 99     |
| 3) N-Nitrosodimethylamine          | 2.742   | 74    | 148609   | 92.893   | ppm   |          | 92     |
| 4) 2-Picoline                      | 3.298   | 93    | 282152   | 89.034   | ppm   |          | 97     |
| 5) N-Nitrosomethylamine            | 3.368   | 42    | 141978   | 83.190   | ppm   |          | 97     |
| 6) Methyl Methansulfonate          | 3.592   | 80    | 137989   | 85.702   | ppm   |          | 97     |
| 8) N-Nitrosodiethylamine           | 3.897   | 102   | 119246   | 85.258   | ppm   |          | 94     |
| 9) Ethyl Mathanesulfonate          | 4.122   | 79    | 193217   | 87.059   | ppm   |          | 96     |
| 10) Benzaldehyde                   | 4.411   | 106   | 160086   | 89.224   | ppm   |          | 97     |
| 11) Aniline                        | 4.496   | 93    | 405982   | 84.562   | ppm   |          | 100    |
| 13) Phenol                         | 4.464   | 94    | 322516   | 85.188   | ppm   |          | 97     |
| 14) bis(2-Clethyl)Ether            | 4.539   | 93    | 258270   | 85.853   | ppm   |          | 98     |
| 15) Pentachloroethane              | 4.539   | 117   | 93912    | 82.904   | ppm   |          | 98     |
| 16) 2-Chlorophenol                 | 4.598   | 128   | 271019   | 86.401   | ppm   |          | 99     |
| 17) 1,3-Diclbzene                  | 4.731   | 146   | 279508   | 81.860   | ppm   |          | 99     |
| 18) 1,4-Dichlorobenzene            | 4.790   | 146   | 283286   | 83.086   | ppm   |          | 99     |
| 19) 1,2-Diclbzene                  | 4.924   | 146   | 269524   | 81.967   | ppm   |          | 96     |
| 20) Benzyl Alcohol                 | 4.892   | 79    | 219173   | 84.379   | ppm   |          | 100    |
| 21) 1-Methyl-2-pyrrolidinone       | 4.956   | 99    | 164074   | 85.929   | ppm   |          | 99     |
| 22) 2,2'-oxybis(1-Chloropr...      | 5.004   | 45    | 351635   | 80.989   | ppm   | #        | 84     |
| 23) 2-Methylphenol                 | 4.999   | 108   | 221462   | 84.083   | ppm   |          | 89     |
| 24) 3+4-Methylphenol               | 5.133   | 108   | 249830   | 84.061   | ppm   |          | 98     |
| 25) Acetophenone                   | 5.127   | 105   | 348723   | 84.037   | ppm   |          | 88     |
| 26) N-Nitroso-Di-n-propyla...      | 5.127   | 70    | 192822   | 84.300   | ppm   |          | 97     |
| 27) N-Nitrosopyrrolidine           | 5.122   | 100   | 128637   | 84.697   | ppm   | #        | 47     |
| 28) N-Nitrosomorpholine            | 5.149   | 56    | 153786   | 80.283   | ppm   |          | 98     |
| 29) o-Toluidine                    | 5.159   | 106   | 377616   | 81.524   | ppm   |          | 92     |
| 30) Hexachloroethane               | 5.229   | 117   | 117153   | 82.537   | ppm   |          | 92     |
| 31) o,o,o-Triethylphosphor...      | 5.673   | 198   | 110507   | 84.778   | ppm   |          | 88     |
| 32) Alpha-terpinol                 | 5.967   | 121   | 96689    | 81.377   | ppm   |          | 97     |
| 35) Nitrobenzene                   | 5.288   | 77    | 299635   | 82.322   | ppm   |          | 98     |
| 36) N-Nitrosopiperidine            | 5.427   | 42    | 173058   | 79.448   | ppm   |          | 98     |
| 37) Isophorone                     | 5.507   | 82    | 542797   | 82.464   | ppm   |          | 100    |
| 38) 2-Nitrophenol                  | 5.577   | 139   | 141620   | 86.746   | ppm   |          | 99     |

Data Path : I:\ACQUDATA\5973D\Data\103117\  
 Data File : BM268.D  
 Acq On : 31 Oct 2017 6:54 am  
 Operator : J.Misiurewicz  
 Sample : CCV  
 Misc : 80 ppm STD 8270D  
 ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 31 07:14:45 2017  
 Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
 Quant Title : 8270 BNA ANALYSIS  
 QLast Update : Thu Oct 26 14:29:15 2017  
 Response via : Initial Calibration

| Compound                      | R.T.  | QIon | Response | Conc    | Units | Dev(Min) |
|-------------------------------|-------|------|----------|---------|-------|----------|
| 39) Benzoic Acid              | 5.705 | 105  | 126775   | 74.175  | ppm   | 96       |
| 40) 2,4-Dimethylphenol        | 5.619 | 107  | 258300   | 83.644  | ppm   | 96       |
| 41) bis(-2-Chloroethoxy)Me... | 5.700 | 93   | 310636   | 80.610  | ppm   | 99       |
| 42) 2,4-Dichlorophenol        | 5.812 | 162  | 203686   | 79.091  | ppm   | 99       |
| 43) a,a-Dimethylphenethyla... | 6.299 | 58   | 275238m  | 39.175  | ppm   |          |
| 44) 1,2,4-Trichlorobenzene    | 5.881 | 180  | 226832   | 77.328  | ppm   | 97       |
| 45) Naphthalene               | 5.962 | 128  | 726437   | 78.657  | ppm   | 99       |
| 46) 4-Chloroaniline           | 6.015 | 127  | 305437   | 78.968  | ppm   | 98       |
| 47) 2,6-Dichlorophenol        | 6.020 | 162  | 202135   | 78.853  | ppm   | 94       |
| 48) Hexachlorobutadiene       | 6.069 | 225  | 136390   | 82.250  | ppm   | 96       |
| 49) Hexachloropropene         | 6.042 | 213  | 161691   | 82.351  | ppm   | 99       |
| 50) 4-Chloro-3-methylphenol   | 6.486 | 107  | 212616   | 83.758  | ppm   | 98       |
| 51) N-N-di-n-butylamine       | 6.331 | 84   | 163084   | 71.086  | ppm   | 95       |
| 52) Caprolactam               | 6.373 | 113  | 71005    | 81.037  | ppm   | 89       |
| 53) p-Phenylenediamine        | 6.363 | 80   | 32365    | 21.766  | ppm   | 91       |
| 54) Safrole                   | 6.539 | 162  | 191360   | 81.181  | ppm   | 98       |
| 55) 2-Methylnaphthalene       | 6.630 | 142  | 499633   | 80.973  | ppm   | 96       |
| 56) 1-Methylnaphthalene       | 6.726 | 142  | 464718   | 83.292  | ppm   | 97       |
| 58) Hexachlorocyclopentadiene | 6.775 | 237  | 135782   | 67.314  | ppm   | 94       |
| 59) 1,2,4,5-Tetrachloroben... | 6.791 | 216  | 230022   | 70.443  | ppm   | 99       |
| 60) 1,2,3,4-Tetrachloroben... | 7.069 | 216  | 214302   | 72.431  | ppm   | 97       |
| 61) 2,4,6-Trichlorophenol     | 6.903 | 196  | 151710   | 72.065  | ppm   | 97       |
| 62) 2,4,5-Trichlorophenol     | 6.951 | 196  | 153101   | 73.953  | ppm   | 96       |
| 64) Isosafrole                | 7.042 | 104  | 94710    | 72.107  | ppm   | 99       |
| 65) 1,1'-Biphenyl             | 7.080 | 154  | 591605   | 70.796  | ppm   | 99       |
| 66) 2-Chloronaphthalene       | 7.106 | 162  | 468574   | 71.803  | ppm   | 97       |
| 67) 2-Nitroaniline            | 7.208 | 65   | 135901   | 76.139  | ppm   | 95       |
| 68) 1,4-Naphthoquinone        | 7.283 | 158  | 55757    | 81.272  | ppm   | 95       |
| 69) m-Dinitrobenzene          | 7.422 | 168  | 76121    | 74.908  | ppm   | 90       |
| 70) Acenaphthylene            | 7.513 | 152  | 806198   | 78.926  | ppm   | 100      |
| 71) Dimethyl phthalate        | 7.384 | 163  | 499896   | 70.541  | ppm   | 99       |
| 72) 2,6-Dinitrotoluene        | 7.443 | 165  | 127918   | 72.384  | ppm   | 83       |
| 73) Acenaphthene              | 7.679 | 153  | 512077   | 75.334  | ppm   | 98       |
| 74) 3-Nitroaniline            | 7.614 | 138  | 143831   | 82.975  | ppm   | 99       |
| 75) 2,4-Dinitrophenol         | 7.721 | 184  | 56260    | 67.245  | ppm   | 92       |
| 76) Dibenzofuran              | 7.850 | 168  | 687892   | 76.207  | ppm   | 98       |
| 77) 2,4-Dinitrotoluene        | 7.844 | 165  | 184527   | 81.693  | ppm   | 94       |
| 78) 4-Nitrophenol             | 7.796 | 65   | 112491   | 75.978  | ppm   | 96       |
| 79) Pentachlorobenzene        | 7.807 | 250  | 217366   | 75.206  | ppm   | 96       |
| 80) 1-Naphthylamine           | 7.935 | 143  | 385895   | 72.987  | ppm   | 97       |
| 81) 2-Naphthylamine           | 8.010 | 143  | 411931   | 73.206  | ppm   | 98       |
| 82) 2,3,4,6-Tetrachlorophenol | 7.978 | 232  | 119007   | 71.866  | ppm   | 100      |
| 83) Fluorene                  | 8.192 | 166  | 529968   | 71.838  | ppm   | 100      |
| 84) 4-Chlorophenyl-phenyle... | 8.187 | 204  | 270508   | 70.087  | ppm   | 95       |
| 85) Diethylphthalate          | 8.074 | 149  | 530971   | 71.085  | ppm   | 99       |
| 86) 4-Nitroaniline            | 8.224 | 138  | 143384   | 73.551  | ppm   | 94       |
| 87) 5-Nitro-o-toluidine       | 8.208 | 152  | 154632   | 75.863  | ppm   | 95       |
| 89) Sulfotepp                 | 8.459 | 322  | 98835    | 81.053  | ppm   | 83       |
| 90) Octachlorocyclopentene    | 8.433 | 307  | 97988    | 78.466  | ppm   | 97       |
| 92) Thionazin                 | 8.160 | 107  | 80806    | 77.109  | ppm   | 93       |
| 93) 4,6-Dinitro-2-methylph... | 8.246 | 198  | 89960    | 79.241  | ppm   | 94       |
| 94) Diphenylamine             | 8.310 | 169  | 783220   | 154.070 | ppm   | 99       |
| 95) 1,2 Diphenylhydrazine     | 8.342 | 77   | 528076   | 74.112  | ppm   | 99       |
| 96) N-Nitrosodiphenylamine    | 8.310 | 169  | 783220   | 154.065 | ppm   | 99       |
| 97) 1,3,5-Trinitrobenzene     | 8.599 | 213  | 49315    | 89.687  | ppm   | # 1      |
| 98) Diallate                  | 8.588 | 86   | 187830   | 79.822  | ppm   | 90       |



Data Path : I:\ACQUDATA\5973D\Data\103117\  
 Data File : BM268.D  
 Acq On : 31 Oct 2017 6:54 am  
 Operator : J.Misiurewicz  
 Sample : CCV  
 Misc : 80 ppm STD 8270D  
 ALS Vial : 3 Sample Multiplier: 1

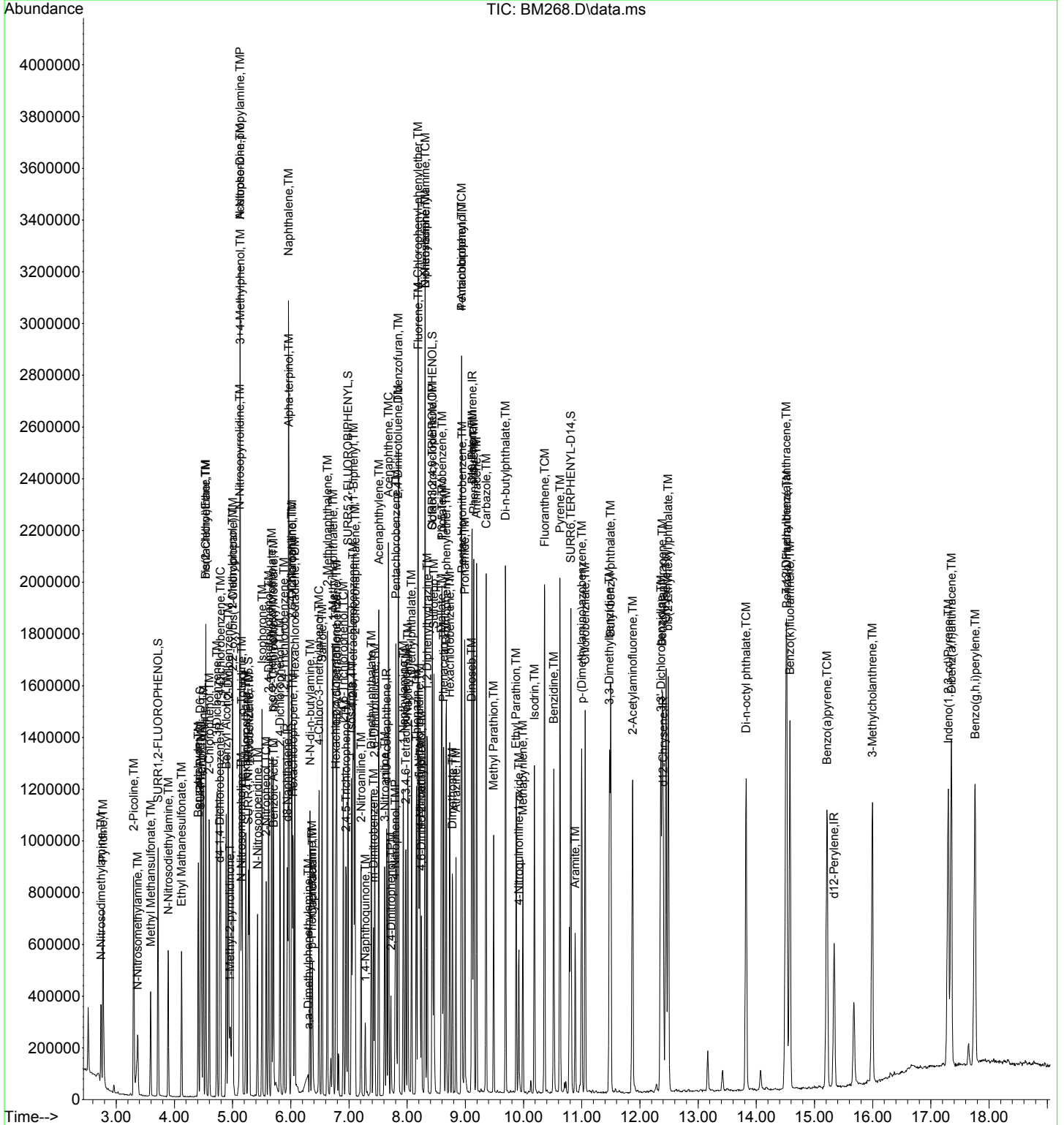
Quant Time: Oct 31 07:14:45 2017  
 Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
 Quant Title : 8270 BNA ANALYSIS  
 QLast Update : Thu Oct 26 14:29:15 2017  
 Response via : Initial Calibration

| Compound                       | R.T.   | QIon | Response | Conc   | Units | Dev(Min) | #  |
|--------------------------------|--------|------|----------|--------|-------|----------|----|
| 99) Phorate                    | 8.599  | 121  | 98420    | 83.574 | ppm   |          | 65 |
| 100) Phenacetin                | 8.625  | 108  | 292701   | 86.614 | ppm   |          | 98 |
| 101) 4-Bromophenyl-phenylether | 8.673  | 248  | 164073   | 75.853 | ppm   |          | 96 |
| 102) Hexachlorobenzene         | 8.732  | 284  | 176616   | 75.339 | ppm   |          | 97 |
| 103) Dimethoate                | 8.775  | 87   | 166138   | 80.299 | ppm   |          | 99 |
| 104) Atrazine                  | 8.839  | 215  | 48076    | 70.698 | ppm   |          | 91 |
| 105) Pentachlorophenol         | 8.935  | 266  | 83236    | 65.490 | ppm   |          | 98 |
| 106) 4-Aminobiphenyl           | 8.935  | 169  | 484368   | 85.157 | ppm   |          | 98 |
| 107) Pentachloronitrobenzene   | 8.941  | 237  | 75231    | 88.082 | ppm   |          | 98 |
| 108) Pronamide                 | 8.989  | 173  | 250325   | 86.100 | ppm   |          | 97 |
| 109) Dinoseb                   | 9.107  | 211  | 120145   | 78.358 | ppm   |          | 96 |
| 110) Disulfoton                | 9.117  | 88   | 198549   | 74.292 | ppm   |          | 96 |
| 111) Phenanthrene              | 9.144  | 178  | 732931   | 78.827 | ppm   |          | 99 |
| 112) Anthracene                | 9.192  | 178  | 746949   | 81.005 | ppm   |          | 97 |
| 113) Carbazole                 | 9.358  | 167  | 788275   | 86.803 | ppm   |          | 98 |
| 114) Di-n-butylphthalate       | 9.690  | 149  | 988025   | 83.787 | ppm   |          | 99 |
| 115) 4-Nitroquinonline-1-oxide | 9.920  | 190  | 62075    | 86.882 | ppm   |          | 94 |
| 116) Fluoranthene              | 10.364 | 202  | 875686   | 86.994 | ppm   |          | 99 |
| 118) Methyl Parathion          | 9.486  | 109  | 153337   | 87.471 | ppm   |          | 95 |
| 119) Ethyl Parathion           | 9.871  | 97   | 115979   | 84.038 | ppm   |          | 98 |
| 120) Methapyrilene             | 9.989  | 58   | 220954   | 74.569 | ppm   |          | 98 |
| 121) Isodrin                   | 10.187 | 193  | 83070    | 75.944 | ppm   |          | 89 |
| 122) Benzidine                 | 10.519 | 184  | 522598   | 77.137 | ppm   |          | 99 |
| 123) Pyrene                    | 10.626 | 202  | 904150   | 80.467 | ppm   |          | 99 |
| 125) Aramite                   | 10.888 | 185  | 111180m  | 79.716 | ppm   |          |    |
| 126) p-(Dimethylamino)azobe... | 11.000 | 120  | 261985   | 83.933 | ppm   |          | 95 |
| 127) Chlorobenzilate           | 11.059 | 139  | 309483   | 83.702 | ppm   |          | 95 |
| 128) Butyl benzyl phthalate    | 11.497 | 149  | 468816   | 84.037 | ppm   |          | 97 |
| 129) 3,3-Dimethylbenzidine     | 11.476 | 212  | 545745   | 84.708 | ppm   |          | 97 |
| 130) 2-Acetylaminofluorene     | 11.877 | 181  | 386563   | 84.719 | ppm   |          | 98 |
| 131) 3,3'-Dichlorobenzidine    | 12.359 | 252  | 364682   | 80.195 | ppm   |          | 99 |
| 132) Benzo(a)anthracene        | 12.385 | 228  | 853593   | 78.921 | ppm   |          | 98 |
| 133) Chrysene                  | 12.450 | 228  | 809566   | 77.771 | ppm   |          | 99 |
| 134) bis(2-Ethylhexyl)phtha... | 12.487 | 149  | 674855   | 83.265 | ppm   |          | 97 |
| 136) Di-n-octyl phthalate      | 13.824 | 149  | 1037733  | 81.771 | ppm   |          | 99 |
| 137) 7,12-Dimethylbenz(a)an... | 14.514 | 256  | 389898   | 80.554 | ppm   |          | 96 |
| 138) Benzo(b)Fluoranthene      | 14.525 | 252  | 900598   | 80.543 | ppm   |          | 98 |
| 139) Benzo(k)fluoranthene      | 14.578 | 252  | 882968   | 81.996 | ppm   |          | 96 |
| 140) Benzo(a)pyrene            | 15.215 | 252  | 812550   | 82.900 | ppm   |          | 99 |
| 141) 3-Methylcholanthrene      | 15.996 | 268  | 457063   | 81.593 | ppm   |          | 98 |
| 142) Indeno(1,2,3-cd)Pyrene    | 17.301 | 276  | 806703   | 83.464 | ppm   |          | 96 |
| 143) Dibenz(a,h)anthracene     | 17.354 | 278  | 861058   | 83.810 | ppm   |          | 99 |
| 144) Benzo(g,h,i)perylene      | 17.761 | 276  | 860304   | 91.151 | ppm   |          | 98 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

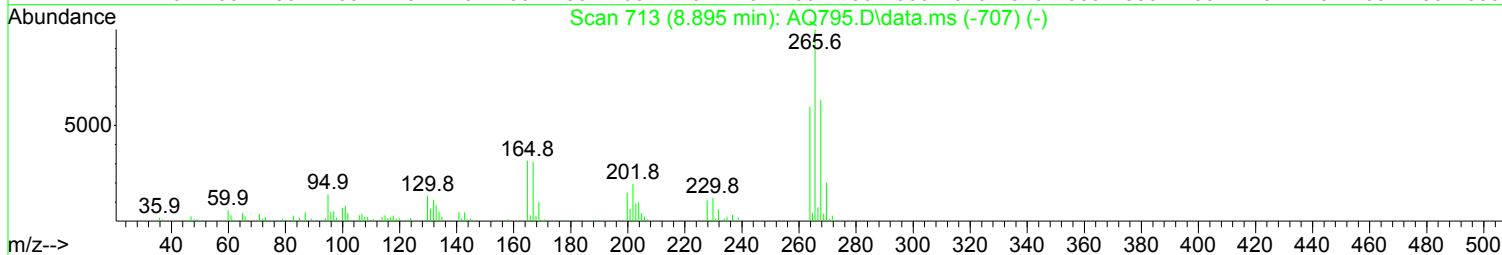
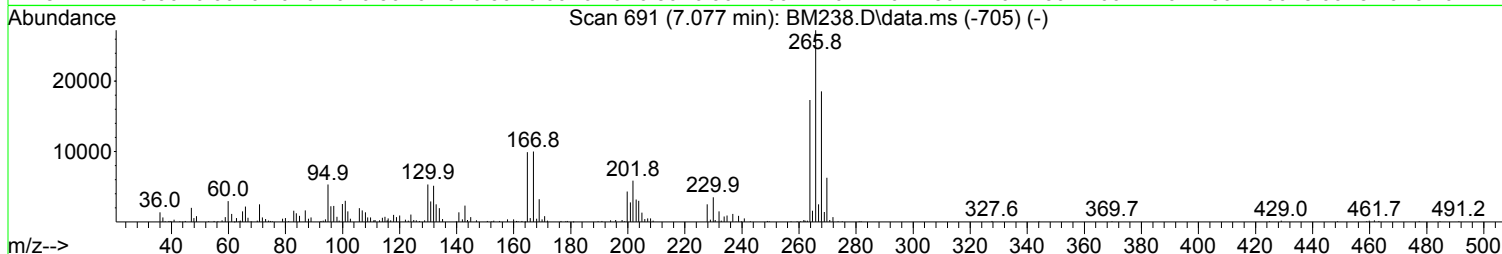
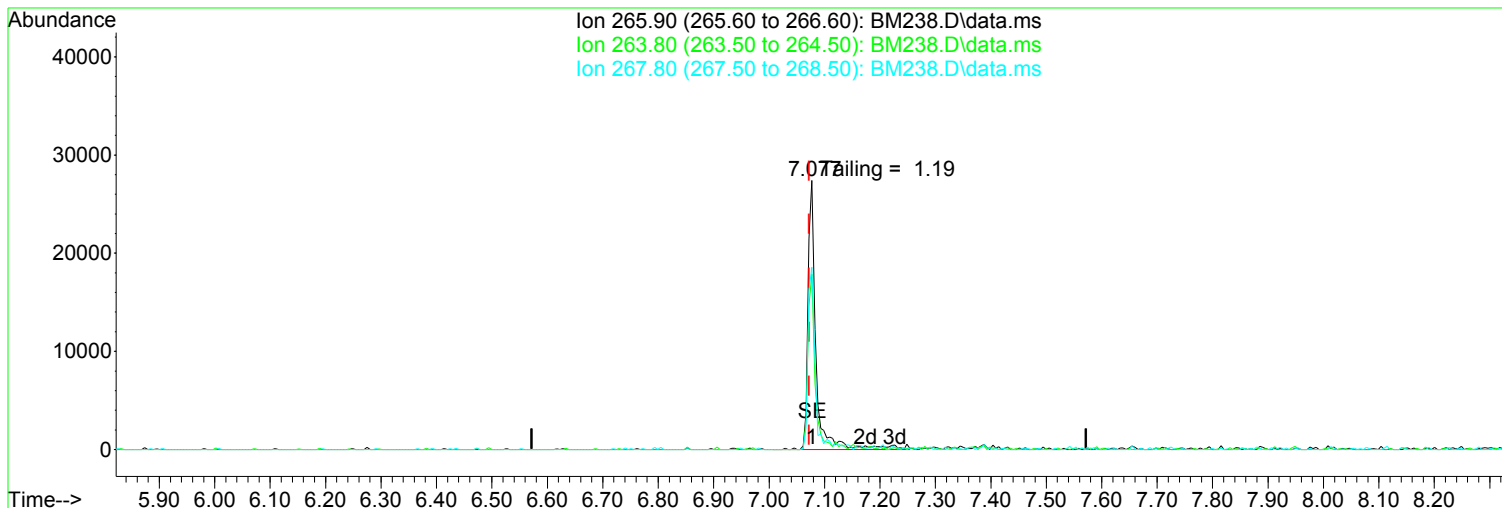
Data Path : I:\ACQUDATA\5973D\Data\103117\  
Data File : BM268.D  
Acq On : 31 Oct 2017 6:54 am  
Operator : J.Misiurewicz  
Sample : CCV  
Misc : 80 ppm STD 8270D  
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 31 07:14:45 2017  
Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
Quant Title : 8270 BNA ANALYSIS  
QLast Update : Thu Oct 26 14:29:15 2017  
Response via : Initial Calibration



Data Path : I:\ACQUDATA\5973D\Data\103017\  
Data File : BM238.D  
Acq On : 30 Oct 2017 9:43 am  
Operator : J.Misiurewicz  
Sample : TUNE  
Misc : 50 ng DFTPP  
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Oct 30 10:17:04 2017  
Quant Method : I:\ACQUDATA\5973D\Methods\TUNED.M  
Quant Title : TUNE CHECK  
QLast Update : Thu Oct 26 13:50:01 2017  
Response via : Initial Calibration



TIC: BM238.D\data.ms

(5) Pentachlorophenol (TCM)

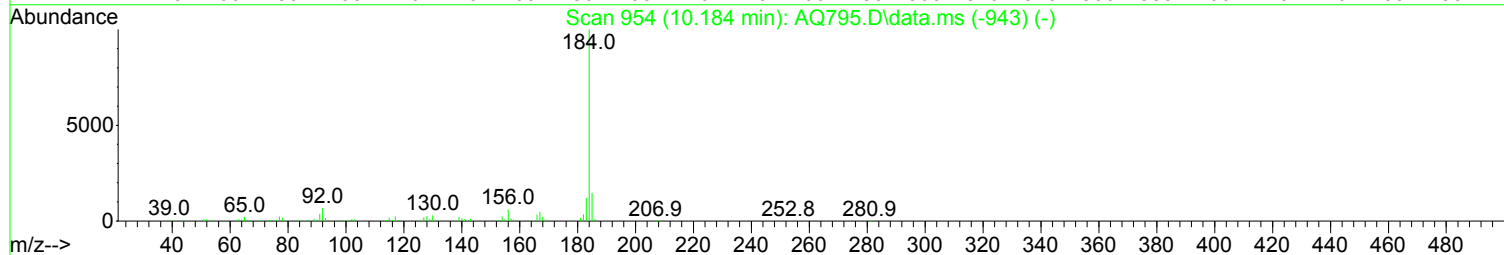
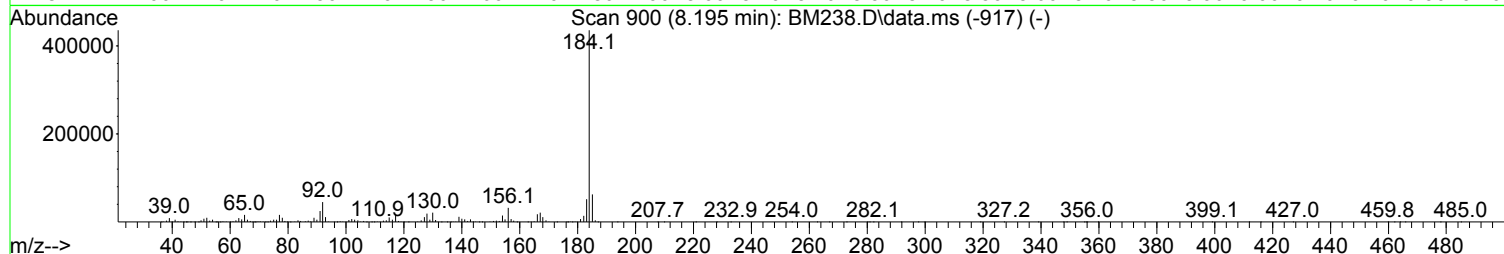
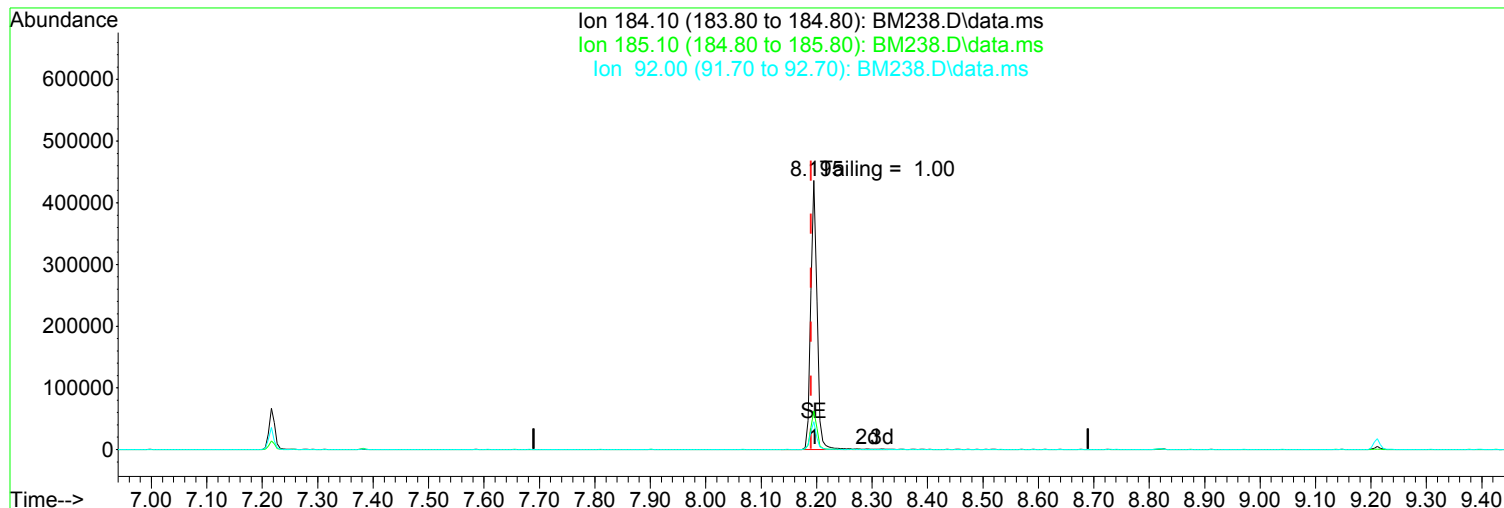
7.077min (+ 0.005) 29.09 ppm

| response | 25918         |
|----------|---------------|
| Ion      | Exp% Act%     |
| 265.90   | 100.00 100.00 |
| 263.80   | 57.70 65.23   |
| 267.80   | 58.60 67.82   |
| 0.00     | 0.00 0.00     |

Manual Integration:  
After  
Other - Tailing  
10/30/17

Data Path : I:\ACQUDATA\5973D\Data\103017\  
Data File : BM238.D  
Acq On : 30 Oct 2017 9:43 am  
Operator : J.Misiurewicz  
Sample : TUNE  
Misc : 50 ng DFTPP  
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Oct 30 10:17:04 2017  
Quant Method : I:\ACQUDATA\5973D\Methods\TUNED.M  
Quant Title : TUNE CHECK  
QLast Update : Thu Oct 26 13:50:01 2017  
Response via : Initial Calibration



TIC: BM238.D\data.ms

(8) Benzidine (T)

Manual Integration:

8.195min (+ 0.005) 47.17 ppm

After

response 344507

Other - Tailing

| Ion    | Exp%   | Act%   |
|--------|--------|--------|
| 184.10 | 100.00 | 100.00 |
| 185.10 | 14.90  | 14.40  |
| 92.00  | 8.00   | 10.21  |
| 0.00   | 0.00   | 0.00   |

10/30/17

Data Path : I:\ACQUDATA\5973D\Data\103017\  
 Data File : BM238.D  
 Acq On : 30 Oct 2017 9:43 am  
 Operator : J.Misiurewicz  
 Sample : TUNE  
 Misc : 50 ng DFTPP  
 ALS Vial : 2 Sample Multiplier: 1

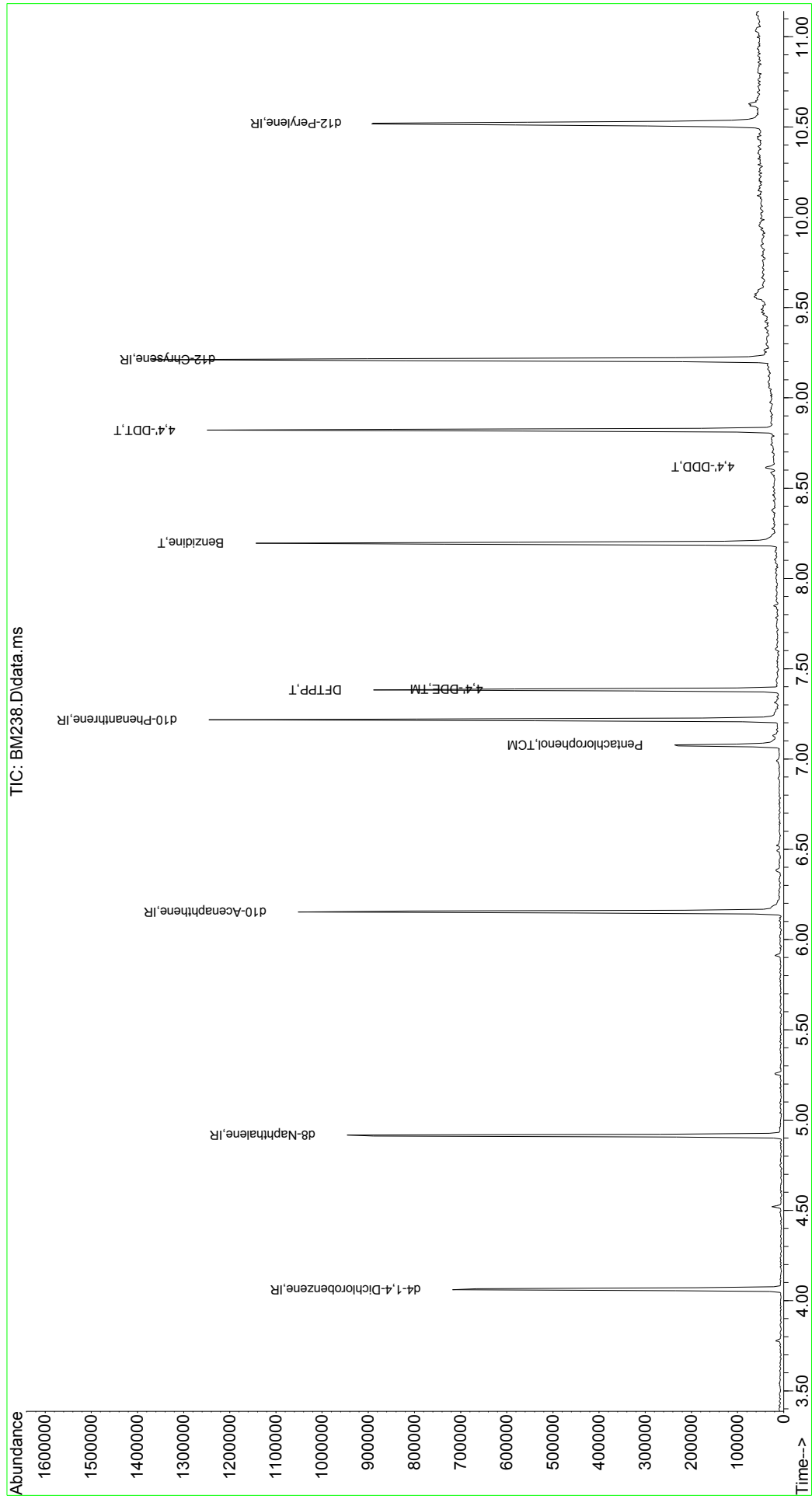
Quant Time: Oct 30 10:17:04 2017  
 Quant Method : I:\ACQUDATA\5973D\Methods\TUNED.M  
 Quant Title : TUNE CHECK  
 QLast Update : Thu Oct 26 13:50:01 2017  
 Response via : Initial Calibration

| Compound                  | R.T.   | QIon | Response | Conc   | Units | Dev(Min) |           |
|---------------------------|--------|------|----------|--------|-------|----------|-----------|
| Internal Standards        |        |      |          |        |       |          |           |
| 1) d4-1,4-Dichlorobenzene | 4.061  | 152  | 93514    | 40.00  | ppm   | 0.00     |           |
| 2) d8-Naphthalene         | 4.916  | 136  | 350994   | 40.00  | ppm   | 0.00     |           |
| 3) d10-Acenaphthene       | 6.152  | 164  | 182335   | 40.00  | ppm   | 0.00     |           |
| 4) d10-Phenanthrene       | 7.216  | 188  | 346887   | 40.00  | ppm   | 0.00     |           |
| 7) d12-Chrysene           | 9.211  | 240  | 371965   | 40.00  | ppm   | 0.01     |           |
| 12) d12-Perylene          | 10.522 | 264  | 366466   | 40.00  | ppm   | 0.03     |           |
| Target Compounds          |        |      |          |        |       |          |           |
| 5) Pentachlorophenol      | 7.077  | 266  | 25918    | 29.088 | ppm   |          | Qvalue 89 |
| 6) DFTPP                  | 7.382  | 198  | 56589    | 48.557 | ppm   |          | 80        |
| 8) Benzidine              | 8.195  | 184  | 344507   | 47.169 | ppm   |          | 97        |
| 9) 4,4'-DDE               | 7.388  | 246  | 1571     | 0.438  | ppm   |          | 53        |
| 10) 4,4'-DDD              | 8.618  | 235  | 1808     | 0.504  | ppm   |          | 75        |
| 11) 4,4'-DDT              | 8.821  | 235  | 160473   | 44.699 | ppm   |          | 91        |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : I:\ACQUDATA\5973D\Data\103017\  
 Data File : BM238.D  
 Acq On : 30 Oct 2017 9:43 am  
 Operator : J.Misiurewicz  
 Sample : TUNE  
 Misc : 50 ng DFTPP  
 ALS Vial : 2 Sample Multiplier: 1

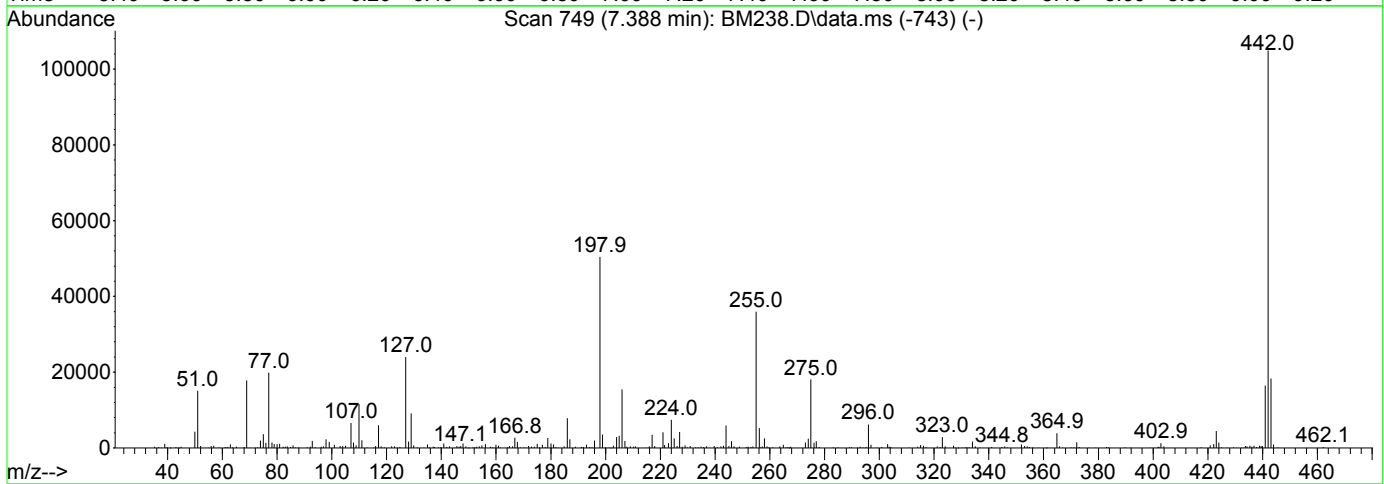
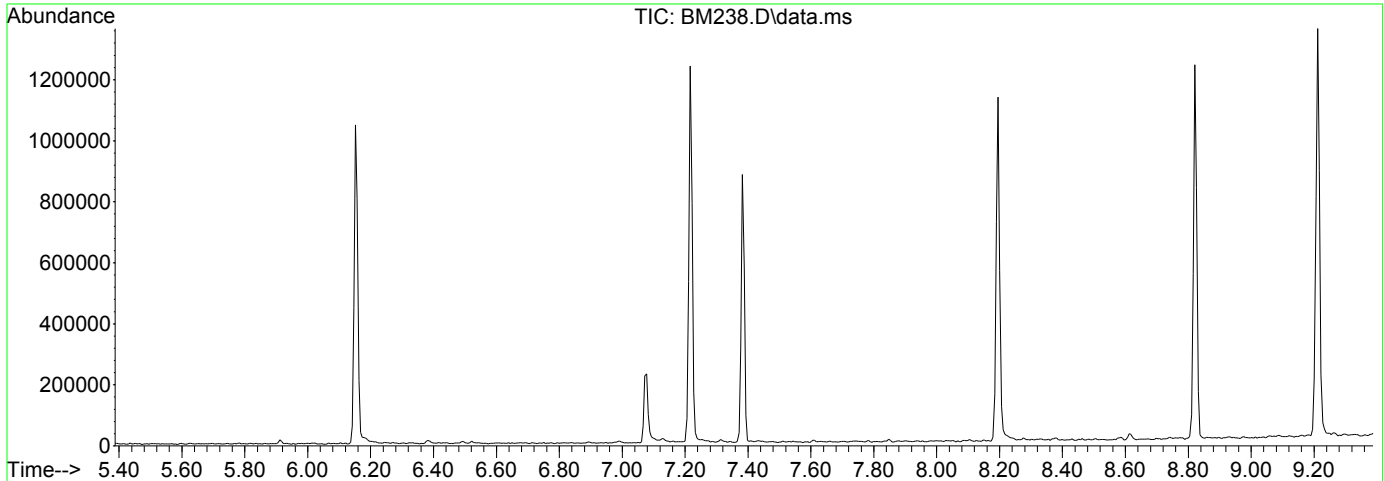
Quant Time: Oct 30 10:17:04 2017  
 Quant Method : I:\ACQUDATA\5973D\Methods\TUNED.M  
 Quant Title : TUNE CHECK  
 QLast Update : Thu Oct 26 13:50:01 2017  
 Response via : Initial Calibration



Data Path : I:\ACQUDATA\5973D\Data\103017\  
 Data File : BM238.D  
 Acq On : 30 Oct 2017 9:43 am  
 Operator : J.Misiurewicz  
 Sample : TUNE  
 Misc : 50 ng DFTPP  
 ALS Vial : 2 Sample Multiplier: 1

Integration File: RTEINT.P

Method : I:\ACQUDATA\5973D\Methods\TUNED.M  
 Title : TUNE CHECK  
 Last Update : Thu Oct 26 13:50:01 2017

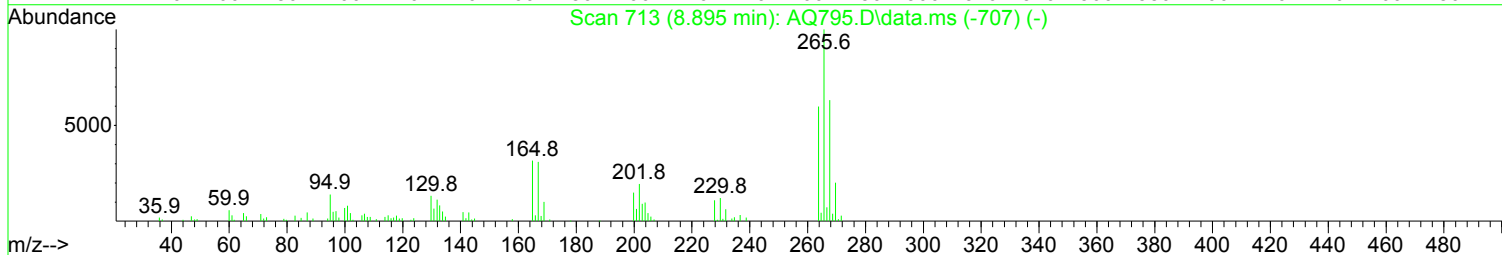
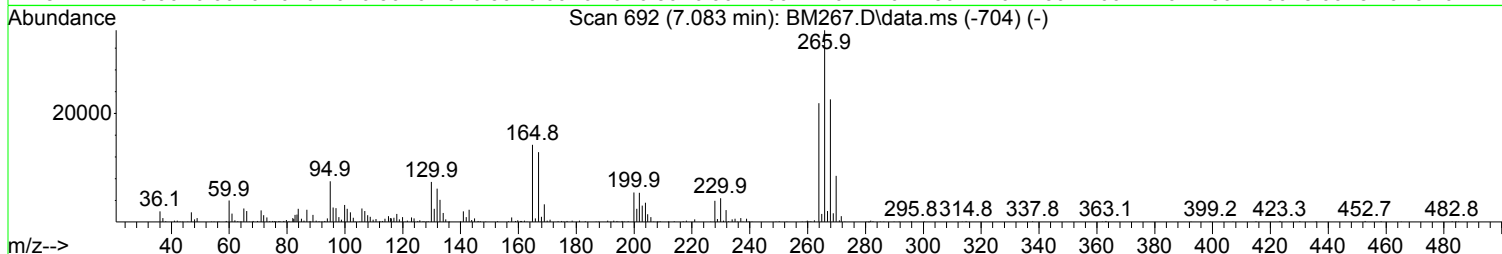
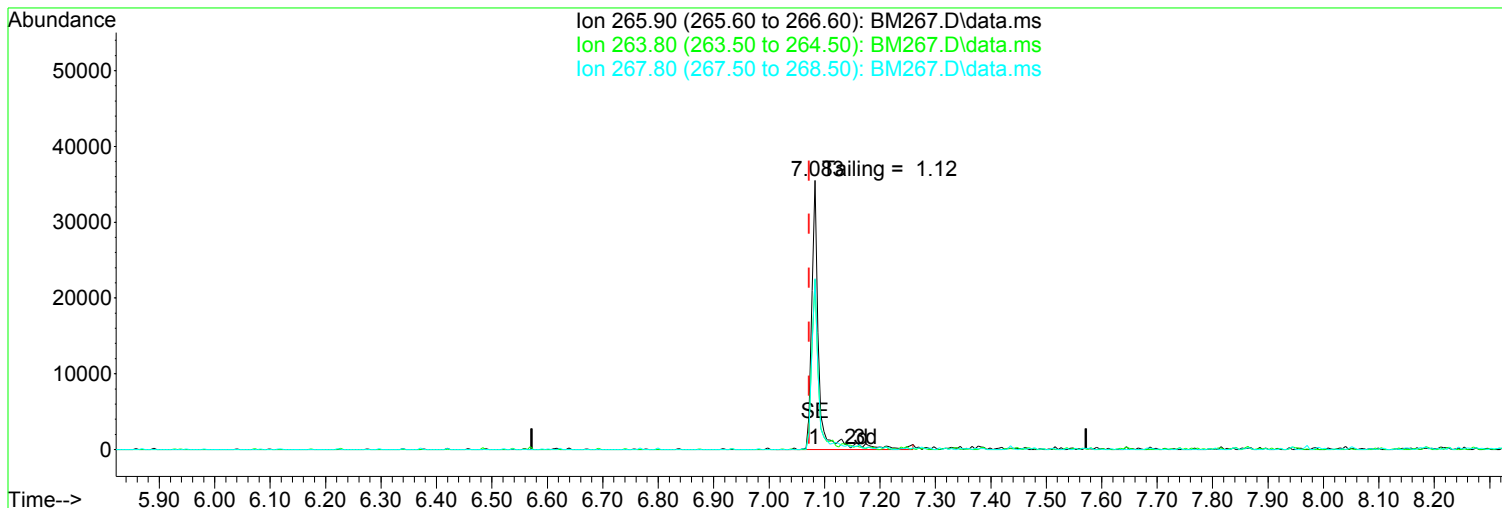


Spectrum Information: Scan 749

| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|-------------|--------------|--------------|--------------|-----------|---------|------------------|
| 51          | 198          | 10           | 80           | 29.9      | 15089   | PASS             |
| 68          | 69           | 0.00         | 2            | 1.4       | 246     | PASS             |
| 70          | 69           | 0.00         | 2            | 0.5       | 82      | PASS             |
| 127         | 198          | 10           | 80           | 47.6      | 23976   | PASS             |
| 197         | 198          | 0.00         | 2            | 0.0       | 0       | PASS             |
| 198         | 198          | 100          | 100          | 100.0     | 50416   | PASS             |
| 199         | 198          | 5            | 9            | 7.1       | 3574    | PASS             |
| 275         | 198          | 10           | 60           | 35.8      | 18064   | PASS             |
| 365         | 198          | 1            | 500          | 7.8       | 3912    | PASS             |
| 441         | 442          | 0.01         | 24           | 15.7      | 16472   | PASS             |
| 442         | 442          | 100          | 100          | 100.0     | 104880  | PASS             |
| 443         | 442          | 15           | 24           | 17.5      | 18336   | PASS             |

Data Path : I:\ACQUDATA\5973D\Data\103117\  
Data File : BM267.D  
Acq On : 31 Oct 2017 6:36 am  
Operator : J.Misiurewicz  
Sample : TUNE  
Misc : 50 ng DFTPP  
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Oct 31 06:46:31 2017  
Quant Method : I:\ACQUDATA\5973D\Methods\TUNED.M  
Quant Title : TUNE CHECK  
QLast Update : Thu Oct 26 13:50:01 2017  
Response via : Initial Calibration



TIC: BM267.D\data.ms

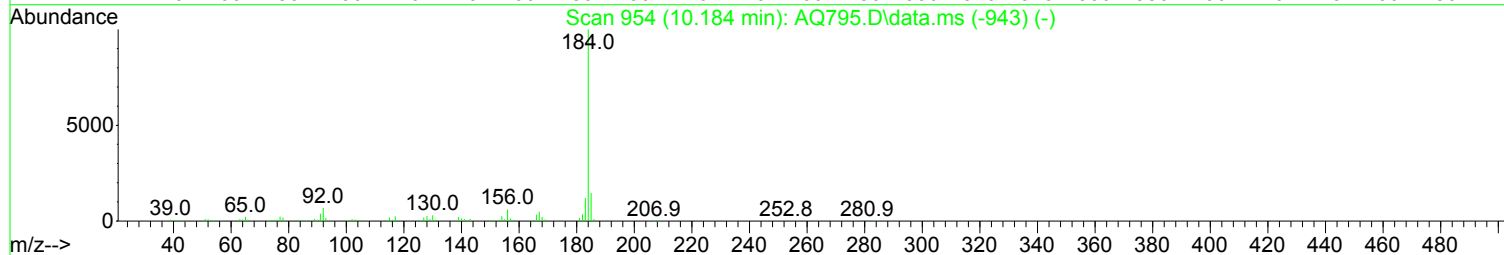
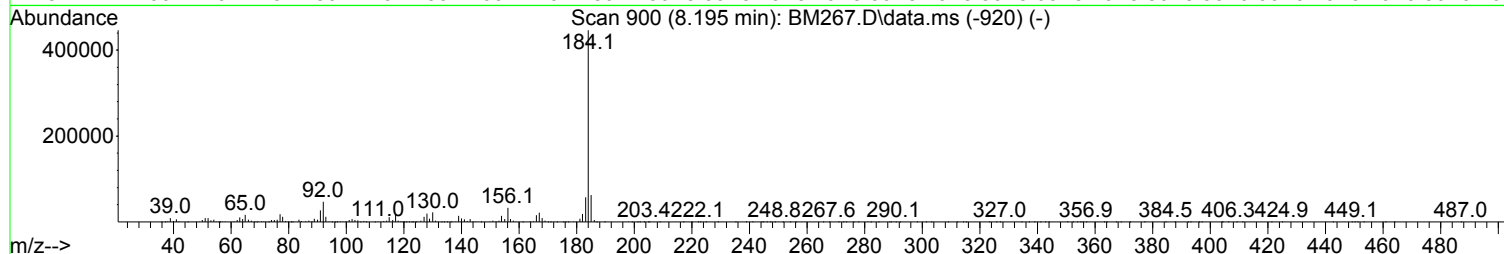
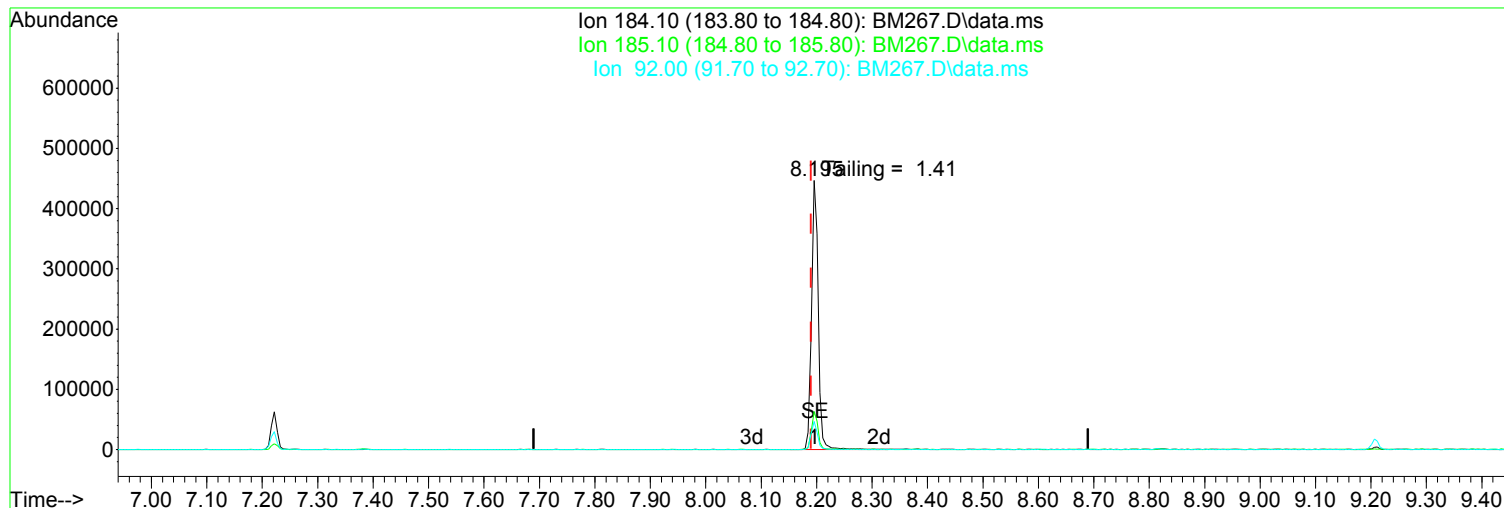
|                              |
|------------------------------|
| (5) Pentachlorophenol (TCM)  |
| 7.083min (+ 0.011) 35.40 ppm |
| response 29491               |
| Ion Exp% Act%                |
| 265.90 100.00 100.00         |
| 263.80 57.70 63.17           |
| 267.80 58.60 63.58           |
| 0.00 0.00 0.00               |

Manual Integration:  
After  
Other - Tailing  
11/01/17



Data Path : I:\ACQUDATA\5973D\Data\103117\  
Data File : BM267.D  
Acq On : 31 Oct 2017 6:36 am  
Operator : J.Misiurewicz  
Sample : TUNE  
Misc : 50 ng DFTPP  
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Oct 31 06:46:31 2017  
Quant Method : I:\ACQUDATA\5973D\Methods\TUNED.M  
Quant Title : TUNE CHECK  
QLast Update : Thu Oct 26 13:50:01 2017  
Response via : Initial Calibration



TIC: BM267.D\data.ms

(8) Benzidine (T)

Manual Integration:

8.195min (+ 0.005) 53.30 ppm

After

response 373588

Other - Tailing

| Ion    | Exp%   | Act%   |
|--------|--------|--------|
| 184.10 | 100.00 | 100.00 |
| 185.10 | 14.90  | 14.14  |
| 92.00  | 8.00   | 10.52  |
| 0.00   | 0.00   | 0.00   |

11/01/17

Data Path : I:\ACQUDATA\5973D\Data\103117\  
 Data File : BM267.D  
 Acq On : 31 Oct 2017 6:36 am  
 Operator : J.Misiurewicz  
 Sample : TUNE  
 Misc : 50 ng DFTPP  
 ALS Vial : 2 Sample Multiplier: 1

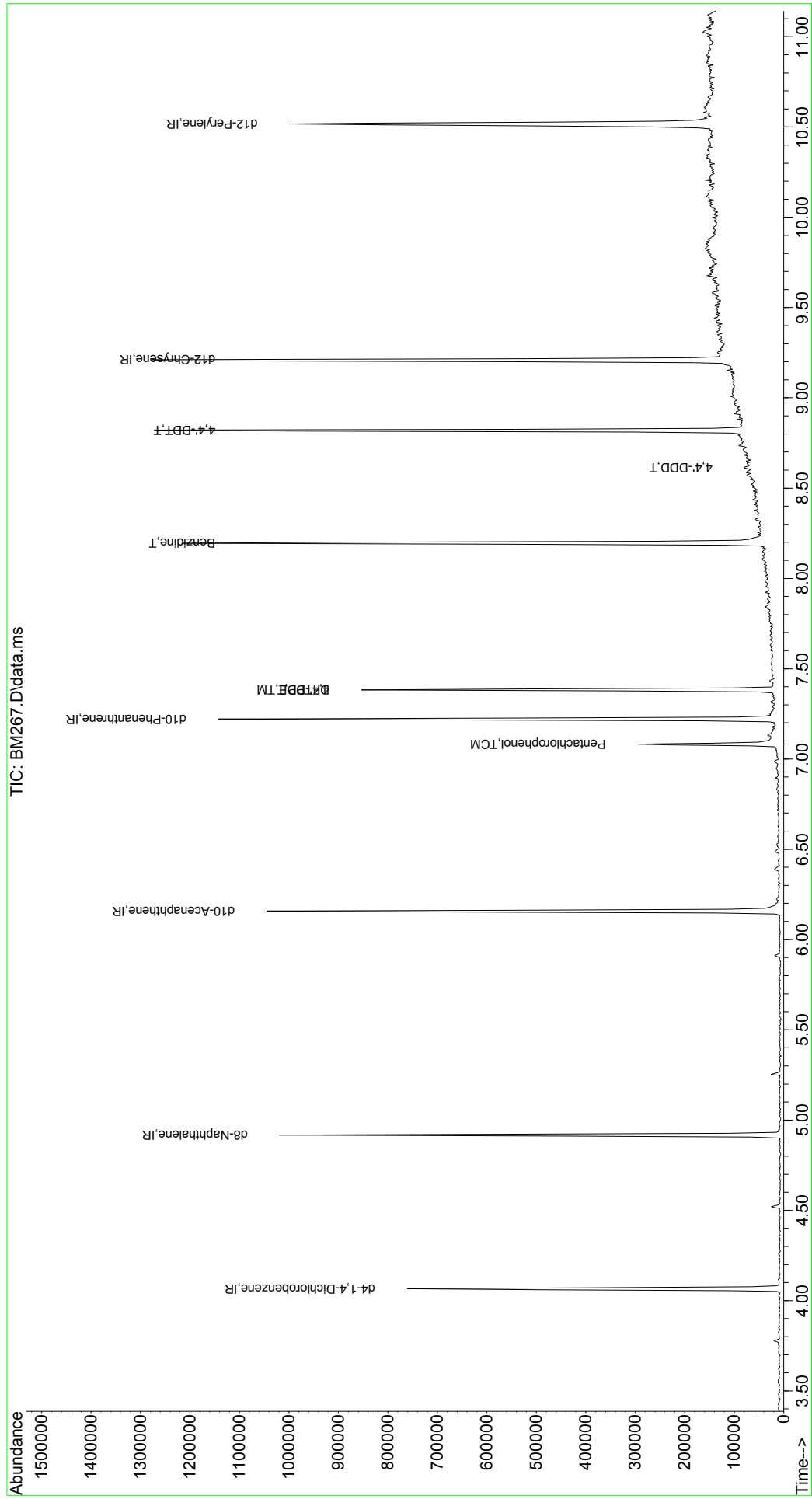
Quant Time: Oct 31 06:46:31 2017  
 Quant Method : I:\ACQUDATA\5973D\Methods\TUNED.M  
 Quant Title : TUNE CHECK  
 QLast Update : Thu Oct 26 13:50:01 2017  
 Response via : Initial Calibration

| Compound                  | R.T.   | QIon | Response | Conc   | Units | Dev(Min) |           |
|---------------------------|--------|------|----------|--------|-------|----------|-----------|
| Internal Standards        |        |      |          |        |       |          |           |
| 1) d4-1,4-Dichlorobenzene | 4.066  | 152  | 90758    | 40.00  | ppm   | 0.00     |           |
| 2) d8-Naphthalene         | 4.917  | 136  | 335483   | 40.00  | ppm   | 0.00     |           |
| 3) d10-Acenaphthene       | 6.157  | 164  | 171832   | 40.00  | ppm   | 0.00     |           |
| 4) d10-Phenanthrene       | 7.222  | 188  | 324358   | 40.00  | ppm   | 0.00     |           |
| 7) d12-Chrysene           | 9.212  | 240  | 356947   | 40.00  | ppm   | 0.01     |           |
| 12) d12-Perylene          | 10.517 | 264  | 360166   | 40.00  | ppm   | 0.02     |           |
| Target Compounds          |        |      |          |        |       |          |           |
| 5) Pentachlorophenol      | 7.083  | 266  | 29491    | 35.397 | ppm   |          | Qvalue 93 |
| 6) DFTPP                  | 7.382  | 198  | 53682    | 49.262 | ppm   |          | 85        |
| 8) Benzidine              | 8.195  | 184  | 373588   | 53.303 | ppm   |          | 96        |
| 9) 4,4'-DDE               | 7.382  | 246  | 1105     | 0.321  | ppm   |          | 77        |
| 10) 4,4'-DDD              | 8.613  | 235  | 2315     | 0.672  | ppm   |          | 85        |
| 11) 4,4'-DDT              | 8.821  | 235  | 168455   | 48.897 | ppm   |          | 99        |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : I:\ACQUDATA\5973D\Data\103117\  
 Data File : BM267.D  
 Acq On : 31 Oct 2017 6:36 am  
 Operator : J.Misiurewicz  
 Sample : TUNE  
 Misc : 50 ng DFTPP  
 ALS Vial : 2 Sample Multiplier: 1

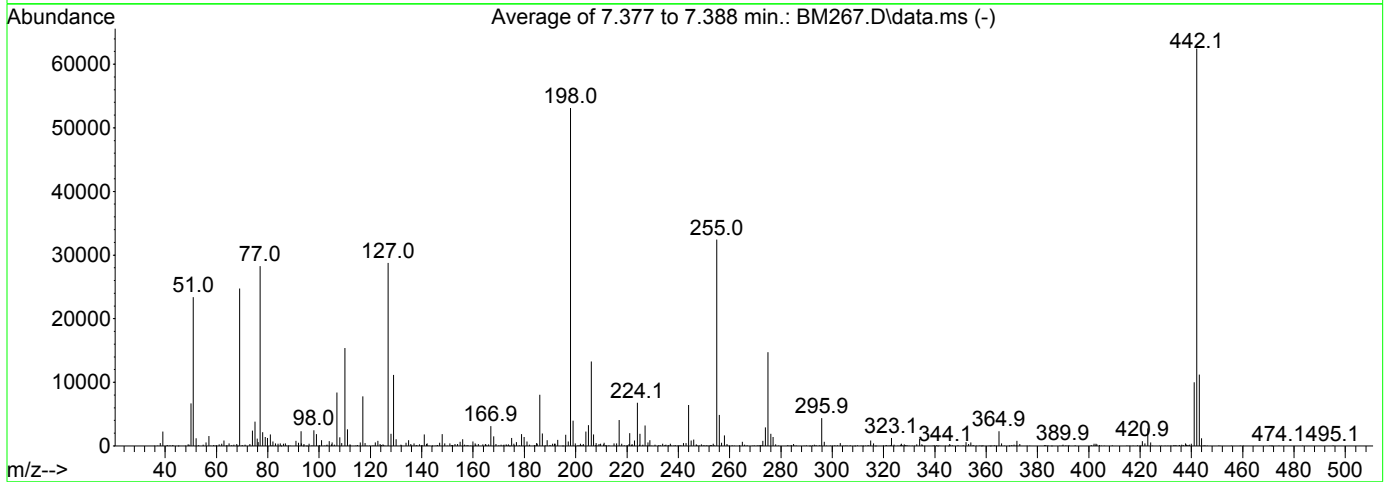
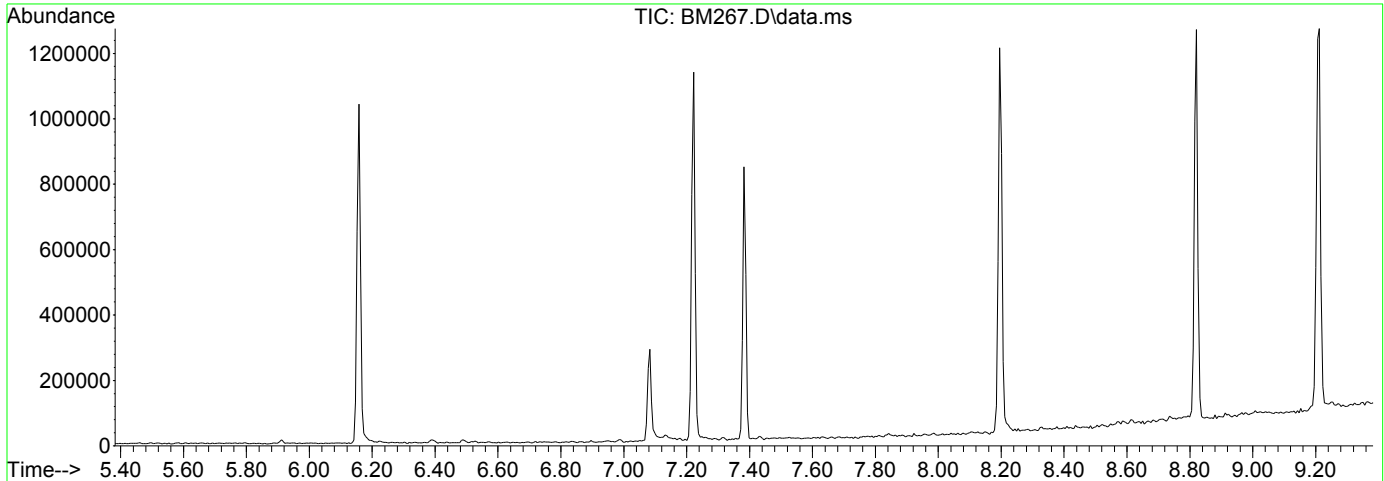
Quant Time: Oct 31 06:46:31 2017  
 Quant Method : I:\ACQUDATA\5973D\Methods\TUNED.M  
 Quant Title : TUNE CHECK  
 QLast Update : Thu Oct 26 13:50:01 2017  
 Response via : Initial Calibration



Data Path : I:\ACQUDATA\5973D\Data\103117\  
 Data File : BM267.D  
 Acq On : 31 Oct 2017 6:36 am  
 Operator : J.Misiurewicz  
 Sample : TUNE  
 Misc : 50 ng DFTPP  
 ALS Vial : 2 Sample Multiplier: 1

Integration File: RTEINT.P

Method : I:\ACQUDATA\5973D\Methods\TUNED.M  
 Title : TUNE CHECK  
 Last Update : Thu Oct 26 13:50:01 2017



AutoFind: Scans 747, 748, 749; Background Corrected with Scan 743

| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|-------------|--------------|--------------|--------------|-----------|---------|------------------|
| 51          | 198          | 10           | 80           | 44.0      | 23365   | PASS             |
| 68          | 69           | 0.00         | 2            | 1.2       | 298     | PASS             |
| 70          | 69           | 0.00         | 2            | 0.7       | 164     | PASS             |
| 127         | 198          | 10           | 80           | 54.2      | 28787   | PASS             |
| 197         | 198          | 0.00         | 2            | 1.3       | 687     | PASS             |
| 198         | 198          | 100          | 100          | 100.0     | 53133   | PASS             |
| 199         | 198          | 5            | 9            | 7.5       | 3987    | PASS             |
| 275         | 198          | 10           | 60           | 27.8      | 14752   | PASS             |
| 365         | 198          | 1            | 500          | 4.3       | 2304    | PASS             |
| 441         | 442          | 0.01         | 24           | 16.0      | 10002   | PASS             |
| 442         | 442          | 100          | 100          | 100.0     | 62462   | PASS             |
| 443         | 442          | 15           | 24           | 18.0      | 11213   | PASS             |

Data Path : I:\ACQUDATA\5973D\Data\102617\  
 Data File : BM206.D  
 Acq On : 26 Oct 2017 2:38 pm  
 Operator : J.Misiurewicz  
 Sample : ICV  
 Misc : Initial Calibration 8270D/625  
 ALS Vial : 13 Sample Multiplier: 1

Quant Time: Oct 27 10:33:01 2017  
 Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
 Quant Title : 8270 BNA ANALYSIS  
 QLast Update : Thu Oct 26 14:29:15 2017  
 Response via : Initial Calibration

| Compound                           | R.T.    | QIon  | Response | Conc     | Units | Dev(Min) |        |
|------------------------------------|---------|-------|----------|----------|-------|----------|--------|
| <b>Internal Standards</b>          |         |       |          |          |       |          |        |
| 1) d4-1,4-Dichlorobenzene          | 4.774   | 152   | 98821    | 40.00    | ppm   | 0.00     |        |
| 33) d8-Naphthalene                 | 5.935   | 136   | 382329   | 40.00    | ppm   | 0.00     |        |
| 57) d10-Acenaphthene               | 7.641   | 164   | 188265   | 40.00    | ppm   | 0.00     |        |
| 91) d10-Phenanthrene               | 9.112   | 188   | 332619   | 40.00    | ppm   | 0.00     |        |
| 117) d12-Chrysene                  | 12.380  | 240   | 329149   | 40.00    | ppm   | 0.00     |        |
| 135) d12-Perylene                  | 15.306  | 264   | 358217   | 40.00    | ppm   | 0.00     |        |
| <b>System Monitoring Compounds</b> |         |       |          |          |       |          |        |
| 7) SURR1,2-FLUOROPHENOL            | 3.710   | 112   | 248448   | 75.09    | ppm   | 0.00     |        |
| Spiked Amount                      | 200.000 | Range | 10 - 105 | Recovery | =     | 37.55%   |        |
| 12) SURR2,PHENOL-D6                | 4.437   | 99    | 304404   | 77.88    | ppm   | 0.00     |        |
| Spiked Amount                      | 200.000 | Range | 10 - 107 | Recovery | =     | 38.94%   |        |
| 34) SURR4,NITROBENZENE-D5          | 5.266   | 82    | 266501   | 77.43    | ppm   | 0.00     |        |
| Spiked Amount                      | 100.000 | Range | 37 - 117 | Recovery | =     | 77.43%   |        |
| 63) SURR5,2-FLUOROBIPHENYL         | 6.978   | 172   | 531210   | 74.62    | ppm   | 0.00     |        |
| Spiked Amount                      | 100.000 | Range | 39 - 119 | Recovery | =     | 74.62%   |        |
| 88) SURR3,2,4,6-TRIBROMOPH...      | 8.422   | 330   | 88999    | 70.70    | ppm   | 0.00     |        |
| Spiked Amount                      | 200.000 | Range | 28 - 157 | Recovery | =     | 35.35%   |        |
| 124) SURR6,TERPHENYL-D14           | 10.802  | 244   | 556262   | 74.34    | ppm   | 0.00     |        |
| Spiked Amount                      | 100.000 | Range | 40 - 133 | Recovery | =     | 74.34%   |        |
| <b>Target Compounds</b>            |         |       |          |          |       |          |        |
|                                    |         |       |          |          |       |          | Qvalue |
| 2) Pyridine                        | 2.768   | 79    | 242464   | 75.582   | ppm   |          | 96     |
| 3) N-Nitrosodimethylamine          | 2.731   | 74    | 133057   | 77.173   | ppm   |          | 97     |
| 4) 2-Picoline                      | 3.293   | 93    | 263024   | 77.012   | ppm   |          | 99     |
| 5) N-Nitrosomethylamine            | 3.362   | 42    | 131888   | 71.703   | ppm   |          | 98     |
| 6) Methyl Methansulfonate          | 3.587   | 80    | 137052   | 78.980   | ppm   |          | 98     |
| 8) N-Nitrosodiethylamine           | 3.892   | 102   | 113736   | 75.453   | ppm   |          | 88     |
| 9) Ethyl Mathanesulfonate          | 4.116   | 79    | 182186   | 76.167   | ppm   |          | 99     |
| 10) Benzaldehyde                   | 4.405   | 106   | 159424   | 82.446   | ppm   |          | 95     |
| 11) Aniline                        | 4.491   | 93    | 402670   | 77.822   | ppm   |          | 99     |
| 13) Phenol                         | 4.448   | 94    | 297002   | 72.791   | ppm   |          | 98     |
| 14) bis(2-Clethyl)Ether            | 4.533   | 93    | 215735   | 66.541   | ppm   |          | 99     |
| 15) Pentachloroethane              | 4.539   | 117   | 92555    | 75.813   | ppm   |          | 98     |
| 16) 2-Chlorophenol                 | 4.592   | 128   | 251537   | 74.406   | ppm   |          | 98     |
| 17) 1,3-Diclbzene                  | 4.726   | 146   | 266235   | 72.349   | ppm   |          | 98     |
| 18) 1,4-Dichlorobenzene            | 4.790   | 146   | 273019   | 74.299   | ppm   |          | 99     |
| 19) 1,2-Diclbzene                  | 4.924   | 146   | 259252   | 73.156   | ppm   |          | 99     |
| 20) Benzyl Alcohol                 | 4.881   | 79    | 202059   | 72.179   | ppm   |          | 98     |
| 21) 1-Methyl-2-pyrrolidinone       | 4.945   | 99    | 163470   | 79.438   | ppm   |          | 96     |
| 22) 2,2'-oxybis(1-Chloropr...      | 4.999   | 45    | 219407   | 46.889   | ppm   |          | 97     |
| 23) 2-Methylphenol                 | 4.983   | 108   | 221881   | 78.166   | ppm   |          | 99     |
| 24) 3+4-Methylphenol               | 5.116   | 108   | 234191   | 73.115   | ppm   |          | 97     |
| 25) Acetophenone                   | 5.122   | 105   | 336729   | 75.294   | ppm   |          | 80     |
| 26) N-Nitroso-Di-n-propyla...      | 5.122   | 70    | 187060   | 75.882   | ppm   |          | 99     |
| 27) N-Nitrosopyrrolidine           | 5.111   | 100   | 127373   | 77.816   | ppm   |          | 84     |
| 28) N-Nitrosomorpholine            | 5.143   | 56    | 154776   | 74.972   | ppm   |          | 100    |
| 29) o-Toluidine                    | 5.159   | 106   | 374249   | 74.969   | ppm   |          | 96     |
| 30) Hexachloroethane               | 5.223   | 117   | 112079   | 73.267   | ppm   |          | 99     |
| 31) o,o,o-Triethylphosphor...      | 5.667   | 198   | 108810   | 77.455   | ppm   |          | 92     |
| 32) Alpha-terpinol                 | 5.962   | 121   | 95155    | 74.309   | ppm   |          | 99     |
| 35) Nitrobenzene                   | 5.282   | 77    | 267085   | 69.725   | ppm   |          | 96     |
| 36) N-Nitrosopiperidine            | 5.421   | 42    | 175534   | 76.572   | ppm   |          | 99     |
| 37) Isophorone                     | 5.502   | 82    | 466052   | 67.279   | ppm   |          | 98     |
| 38) 2-Nitrophenol                  | 5.571   | 139   | 134172   | 78.091   | ppm   |          | 98     |

Data Path : I:\ACQUDATA\5973D\Data\102617\  
 Data File : BM206.D  
 Acq On : 26 Oct 2017 2:38 pm  
 Operator : J.Misiurewicz  
 Sample : ICV  
 Misc : Initial Calibration 8270D/625  
 ALS Vial : 13 Sample Multiplier: 1

Quant Time: Oct 27 10:33:01 2017  
 Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
 Quant Title : 8270 BNA ANALYSIS  
 QLast Update : Thu Oct 26 14:29:15 2017  
 Response via : Initial Calibration

| Compound                      | R.T.  | QIon | Response | Conc    | Units | Dev(Min) |
|-------------------------------|-------|------|----------|---------|-------|----------|
| 39) Benzoic Acid              | 5.683 | 105  | 149129   | 82.910  | ppm   | 93       |
| 40) 2,4-Dimethylphenol        | 5.608 | 107  | 243075   | 74.794  | ppm   | 97       |
| 41) bis(-2-Chloroethoxy)Me... | 5.694 | 93   | 271226   | 66.878  | ppm   | 100      |
| 42) 2,4-Dichlorophenol        | 5.801 | 162  | 193677   | 71.460  | ppm   | 100      |
| 43) a,a-Dimethylphenethyla... | 6.266 | 58   | 265130m  | 35.858  | ppm   |          |
| 44) 1,2,4-Trichlorobenzene    | 5.876 | 180  | 219013   | 70.945  | ppm   | 97       |
| 45) Naphthalene               | 5.956 | 128  | 708866   | 72.933  | ppm   | 99       |
| 46) 4-Chloroaniline           | 6.004 | 127  | 322513   | 79.231  | ppm   | 98       |
| 47) 2,6-Dichlorophenol        | 6.015 | 162  | 213785   | 79.245  | ppm   | 96       |
| 48) Hexachlorobutadiene       | 6.068 | 225  | 125940   | 72.166  | ppm   | 100      |
| 49) Hexachloropropene         | 6.036 | 213  | 161122   | 77.975  | ppm   | 97       |
| 50) 4-Chloro-3-methylphenol   | 6.470 | 107  | 203404   | 76.139  | ppm   | 97       |
| 51) N-N-di-n-butylamine       | 6.325 | 84   | 166569   | 68.990  | ppm   | 98       |
| 52) Caprolactam               | 6.363 | 113  | 69706    | 75.593  | ppm   | 93       |
| 53) p-Phenylenediamine        | 6.357 | 80   | 105790   | 67.604  | ppm   | 86       |
| 54) Safrole                   | 6.534 | 162  | 188539   | 76.002  | ppm   | 98       |
| 55) 2-Methylnaphthalene       | 6.619 | 142  | 464568   | 71.541  | ppm   | 95       |
| 56) 1-Methylnaphthalene       | 6.716 | 142  | 432933   | 73.732  | ppm   | 98       |
| 58) Hexachlorocyclopentadiene | 6.769 | 237  | 140052   | 74.125  | ppm   | 98       |
| 59) 1,2,4,5-Tetrachloroben... | 6.780 | 216  | 229152   | 74.922  | ppm   | 98       |
| 60) 1,2,3,4-Tetrachloroben... | 7.058 | 216  | 209427   | 75.569  | ppm   | 97       |
| 61) 2,4,6-Trichlorophenol     | 6.892 | 196  | 139791   | 70.893  | ppm   | 95       |
| 62) 2,4,5-Trichlorophenol     | 6.935 | 196  | 135239   | 69.741  | ppm   | 97       |
| 64) Isosafrole                | 7.037 | 104  | 91023    | 73.985  | ppm   | 99       |
| 65) 1,1'-Biphenyl             | 7.074 | 154  | 583772   | 74.581  | ppm   | 100      |
| 66) 2-Chloronaphthalene       | 7.095 | 162  | 439535   | 71.907  | ppm   | 97       |
| 67) 2-Nitroaniline            | 7.197 | 65   | 128072   | 76.604  | ppm   | 93       |
| 68) 1,4-Naphthoquinone        | 7.272 | 158  | 43476    | 67.655  | ppm   | 96       |
| 69) m-Dinitrobenzene          | 7.411 | 168  | 73866    | 77.603  | ppm   | 93       |
| 70) Acenaphthylene            | 7.502 | 152  | 696109   | 72.755  | ppm   | 99       |
| 71) Dimethyl phthalate        | 7.379 | 163  | 487156   | 73.391  | ppm   | 98       |
| 72) 2,6-Dinitrotoluene        | 7.438 | 165  | 109922   | 66.406  | ppm   | 96       |
| 73) Acenaphthene              | 7.673 | 153  | 462238   | 72.599  | ppm   | 100      |
| 74) 3-Nitroaniline            | 7.604 | 138  | 128756   | 79.300  | ppm   | 98       |
| 75) 2,4-Dinitrophenol         | 7.705 | 184  | 48910    | 63.246  | ppm   | 90       |
| 76) Dibenzofuran              | 7.844 | 168  | 605466   | 71.610  | ppm   | 99       |
| 77) 2,4-Dinitrotoluene        | 7.834 | 165  | 145437   | 68.740  | ppm   | 98       |
| 78) 4-Nitrophenol             | 7.769 | 65   | 102427   | 73.858  | ppm   | 95       |
| 79) Pentachlorobenzene        | 7.801 | 250  | 199118   | 73.550  | ppm   | 95       |
| 80) 1-Naphthylamine           | 7.924 | 143  | 344364   | 69.535  | ppm   | 98       |
| 81) 2-Napthylamine            | 8.005 | 143  | 382227   | 72.520  | ppm   | 99       |
| 82) 2,3,4,6-Tetrachlorophenol | 7.962 | 232  | 108170   | 69.738  | ppm   | 92       |
| 83) Fluorene                  | 8.181 | 166  | 472819   | 68.425  | ppm   | 99       |
| 84) 4-Chlorophenyl-phenyle... | 8.181 | 204  | 211582   | 58.525  | ppm   | 95       |
| 85) Diethylphthalate          | 8.069 | 149  | 505361   | 72.231  | ppm   | 99       |
| 86) 4-Nitroaniline            | 8.208 | 138  | 140941   | 77.185  | ppm   | 97       |
| 87) 5-Nitro-o-toluidine       | 8.197 | 152  | 138533   | 72.560  | ppm   | 93       |
| 89) Sulfotepp                 | 8.459 | 322  | 78288    | 68.544  | ppm   | 98       |
| 90) Octachlorocyclopentene    | 8.433 | 307  | 87451    | 74.763  | ppm   | 97       |
| 92) Thionazin                 | 8.154 | 107  | 75905    | 74.128  | ppm   | 92       |
| 93) 4,6-Dinitro-2-methylph... | 8.235 | 198  | 80430    | 73.119  | ppm   | 96       |
| 94) Diphenylamine             | 8.299 | 169  | 727800   | 146.520 | ppm   | 100      |
| 95) 1,2 Diphenylhydrazine     | 8.336 | 77   | 509162   | 73.130  | ppm   | 98       |
| 96) N-Nitrosodiphenylamine    | 8.299 | 169  | 727800   | 146.516 | ppm   | 100      |
| 97) 1,3,5-Trinitrobenzene     | 8.572 | 213  | 42390    | 78.898  | ppm   | # 6      |
| 98) Diallate                  | 8.582 | 86   | 158826   | 69.076  | ppm   | 96       |

Data Path : I:\ACQUDATA\5973D\Data\102617\  
Data File : BM206.D  
Acq On : 26 Oct 2017 2:38 pm  
Operator : J.Misiurewicz  
Sample : ICV  
Misc : Initial Calibration 8270D/625  
ALS Vial : 13 Sample Multiplier: 1

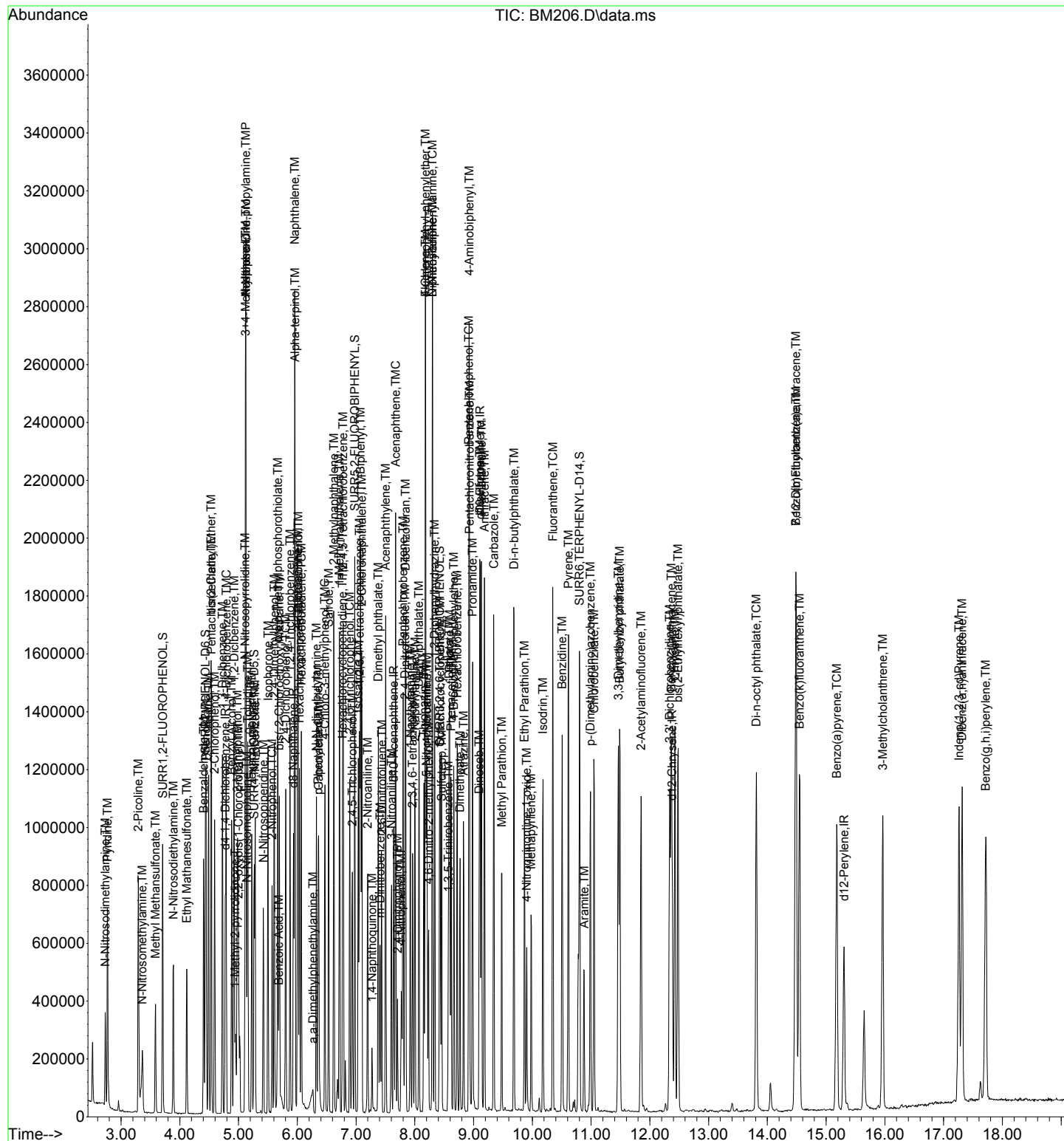
Quant Time: Oct 27 10:33:01 2017  
Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
Quant Title : 8270 BNA ANALYSIS  
QLast Update : Thu Oct 26 14:29:15 2017  
Response via : Initial Calibration

| Compound                       | R.T.   | QIon | Response | Conc   | Units | Dev(Min) |
|--------------------------------|--------|------|----------|--------|-------|----------|
| 99) Phorate                    | 8.593  | 121  | 84502    | 73.436 | ppm   | 99       |
| 100) Phenacetin                | 8.614  | 108  | 247673   | 75.005 | ppm   | 97       |
| 101) 4-Bromophenyl-phenylether | 8.663  | 248  | 123725   | 58.539 | ppm   | 91       |
| 102) Hexachlorobenzene         | 8.721  | 284  | 158424   | 69.161 | ppm   | 98       |
| 103) Dimethoate                | 8.770  | 87   | 156950   | 77.634 | ppm   | 99       |
| 104) Atrazine                  | 8.828  | 215  | 55320    | 83.255 | ppm   | 94       |
| 105) Pentachlorophenol         | 8.919  | 266  | 108554   | 84.362 | ppm   | 95       |
| 106) 4-Aminobiphenyl           | 8.925  | 169  | 441687   | 79.471 | ppm   | 99       |
| 107) Pentachloronitrobenzene   | 8.930  | 237  | 67898    | 81.357 | ppm   | 97       |
| 108) Pronamide                 | 8.983  | 173  | 233257   | 82.108 | ppm   | 99       |
| 109) Dinoseb                   | 9.096  | 211  | 108773   | 72.602 | ppm   | 98       |
| 110) Disulfoton                | 9.106  | 88   | 183630   | 70.318 | ppm   | 97       |
| 111) Phenanthrene              | 9.133  | 178  | 652568   | 71.827 | ppm   | 99       |
| 112) Anthracene                | 9.187  | 178  | 671874   | 74.569 | ppm   | 99       |
| 113) Carbazole                 | 9.342  | 167  | 654775   | 73.790 | ppm   | 98       |
| 114) Di-n-butylphthalate       | 9.690  | 149  | 910511   | 79.022 | ppm   | 98       |
| 115) 4-Nitroquinonline-1-oxide | 9.903  | 190  | 57656    | 82.587 | ppm   | 93       |
| 116) Fluoranthene              | 10.347 | 202  | 747306   | 75.978 | ppm   | 98       |
| 118) Methyl Parathion          | 9.481  | 109  | 133353   | 84.507 | ppm   | 96       |
| 119) Ethyl Parathion           | 9.866  | 97   | 98663    | 79.418 | ppm   | 99       |
| 120) Methapyrilene             | 9.978  | 58   | 176045   | 66.001 | ppm   | 93       |
| 121) Isodrin                   | 10.182 | 193  | 73894    | 75.047 | ppm   | 95       |
| 122) Benzidine                 | 10.508 | 184  | 538278   | 88.261 | ppm   | 98       |
| 123) Pyrene                    | 10.615 | 202  | 751263   | 74.275 | ppm   | 98       |
| 125) Aramite                   | 10.882 | 185  | 94269m   | 75.086 | ppm   |          |
| 126) p-(Dimethylamino)azobe... | 10.989 | 120  | 214325   | 76.278 | ppm   | 92       |
| 127) Chlorobenzilate           | 11.048 | 139  | 262321   | 78.814 | ppm   | 92       |
| 128) Butyl benzyl phthalate    | 11.487 | 149  | 406833   | 81.013 | ppm   | 99       |
| 129) 3,3-Dimethylbenzidine     | 11.465 | 212  | 548511   | 94.578 | ppm   | 99       |
| 130) 2-Acetylaminofluorene     | 11.850 | 181  | 340781   | 82.967 | ppm   | 99       |
| 131) 3,3'-Dichlorobenzidine    | 12.337 | 252  | 314917   | 76.931 | ppm   | 98       |
| 132) Benzo(a)anthracene        | 12.364 | 228  | 707572   | 72.675 | ppm   | 100      |
| 133) Chrysene                  | 12.428 | 228  | 644200   | 68.748 | ppm   | 99       |
| 134) bis(2-Ethylhexyl)phtha... | 12.481 | 149  | 545127   | 74.717 | ppm   | 98       |
| 136) Di-n-octyl phthalate      | 13.813 | 149  | 1019148  | 82.652 | ppm   | 100      |
| 137) 7,12-Dimethylbenz(a)an... | 14.487 | 256  | 366368   | 77.903 | ppm   | 96       |
| 138) Benzo(b)Fluoranthene      | 14.487 | 252  | 827947   | 76.208 | ppm   | 99       |
| 139) Benzo(k)fluoranthene      | 14.546 | 252  | 786677   | 75.188 | ppm   | 96       |
| 140) Benzo(a)pyrene            | 15.183 | 252  | 716447   | 75.230 | ppm   | 98       |
| 141) 3-Methylcholanthrene      | 15.963 | 268  | 400120   | 73.513 | ppm   | 98       |
| 142) Indeno(1,2,3-cd)Pyrene    | 17.263 | 276  | 689206   | 73.390 | ppm   | 94       |
| 143) Dibenz(a,h)anthracene     | 17.317 | 278  | 704263   | 70.551 | ppm   | 98       |
| 144) Benzo(g,h,i)perylene      | 17.718 | 276  | 727335   | 79.313 | ppm   | 95       |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : I:\ACQUDATA\5973D\Data\102617\  
Data File : BM206.D  
Acq On : 26 Oct 2017 2:38 pm  
Operator : J.Misiurewicz  
Sample : ICV  
Misc : Initial Calibration 8270D/625  
ALS Vial : 13 Sample Multiplier: 1

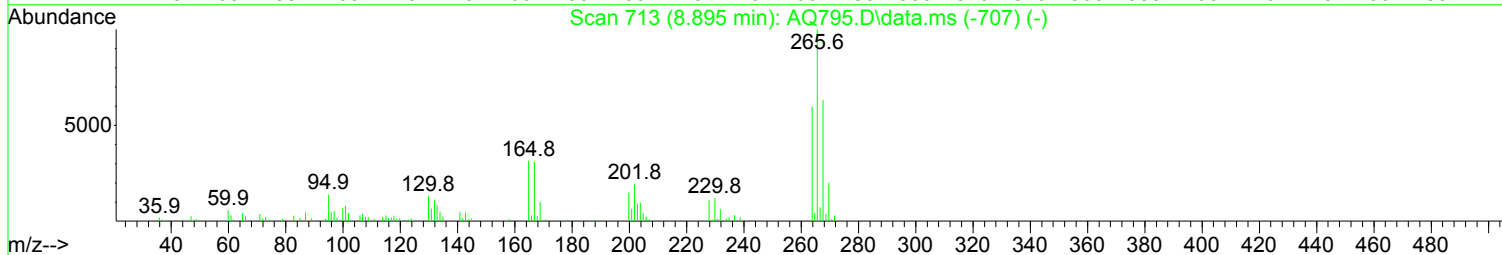
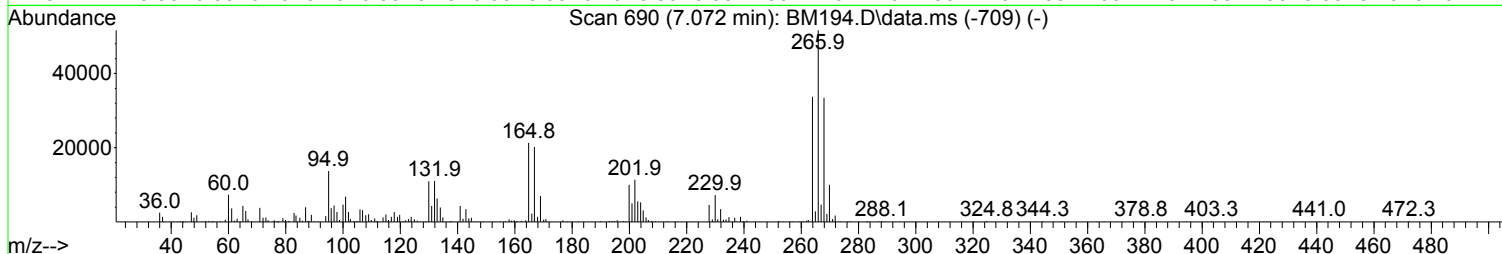
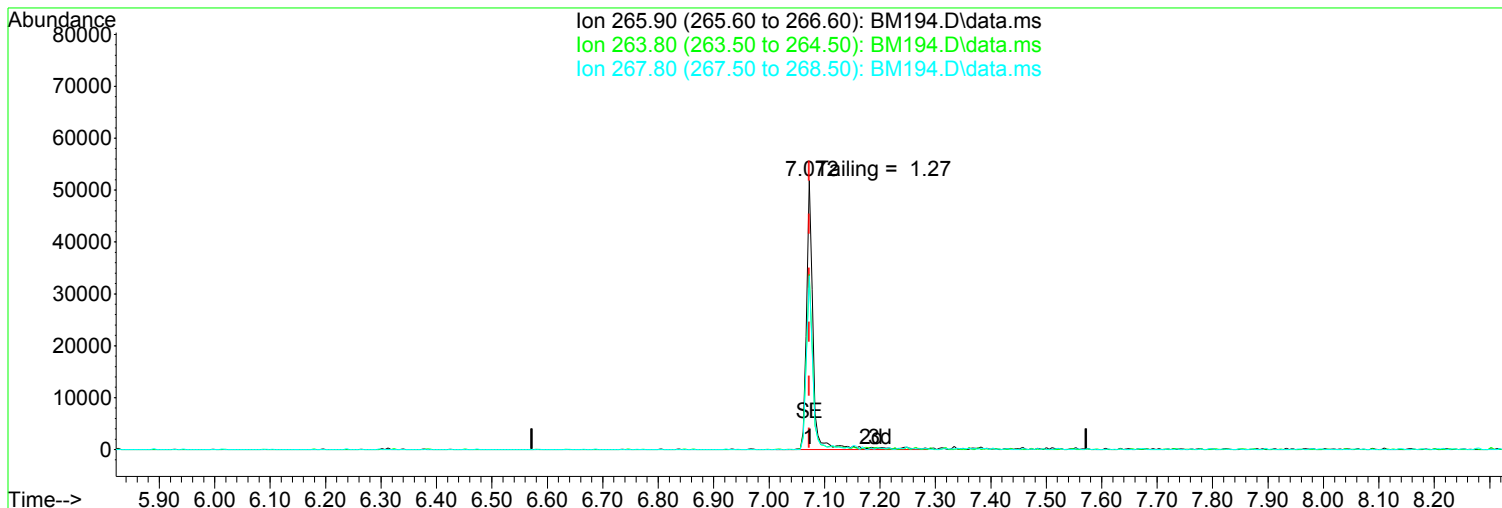
Quant Time: Oct 27 10:33:01 2017  
Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
Quant Title : 8270 BNA ANALYSIS  
QLast Update : Thu Oct 26 14:29:15 2017  
Response via : Initial Calibration





Data Path : I:\ACQUDATA\5973D\Data\102617\  
Data File : BM194.D  
Acq On : 26 Oct 2017 8:20 am  
Operator : J.Misiurewicz  
Sample : TUNE  
Misc : 50 ng DFTPP  
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Oct 26 13:50:22 2017  
Quant Method : I:\ACQUDATA\5973D\Methods\TUNED.M  
Quant Title : TUNE CHECK  
QLast Update : Thu Oct 26 13:50:01 2017  
Response via : Initial Calibration



TIC: BM194.D\data.ms

(5) Pentachlorophenol (TCM)

Manual Integration:

7.072min ( 0.000) 50.00 ppm

After

response 41178

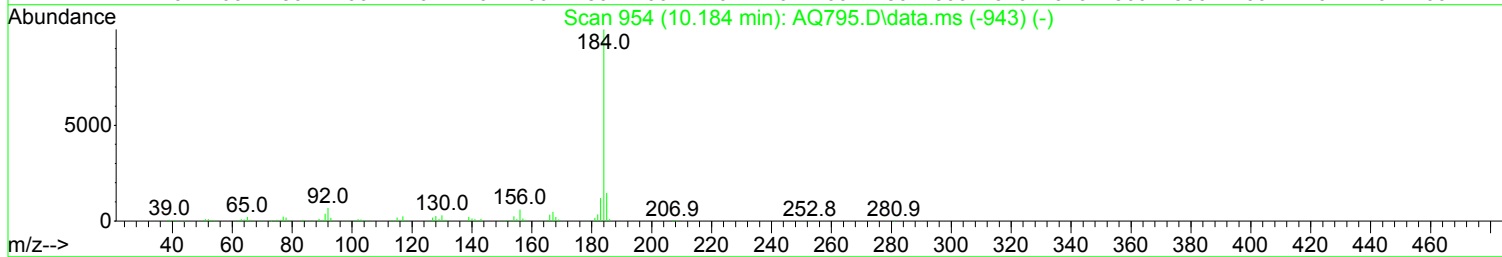
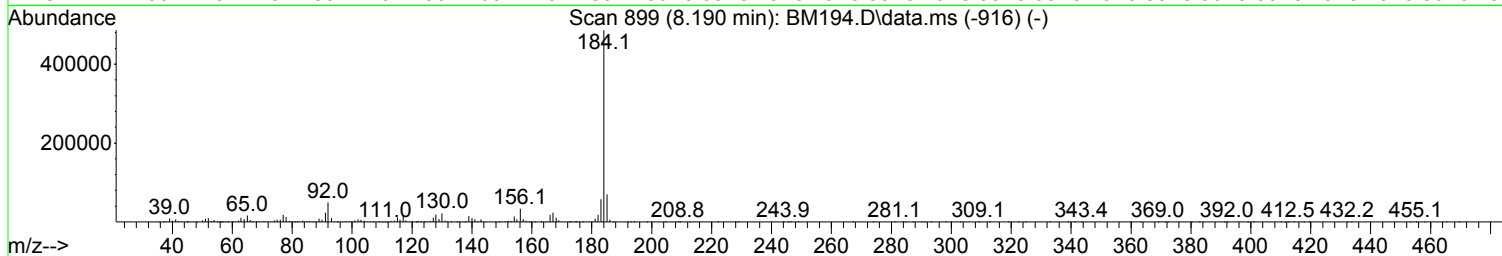
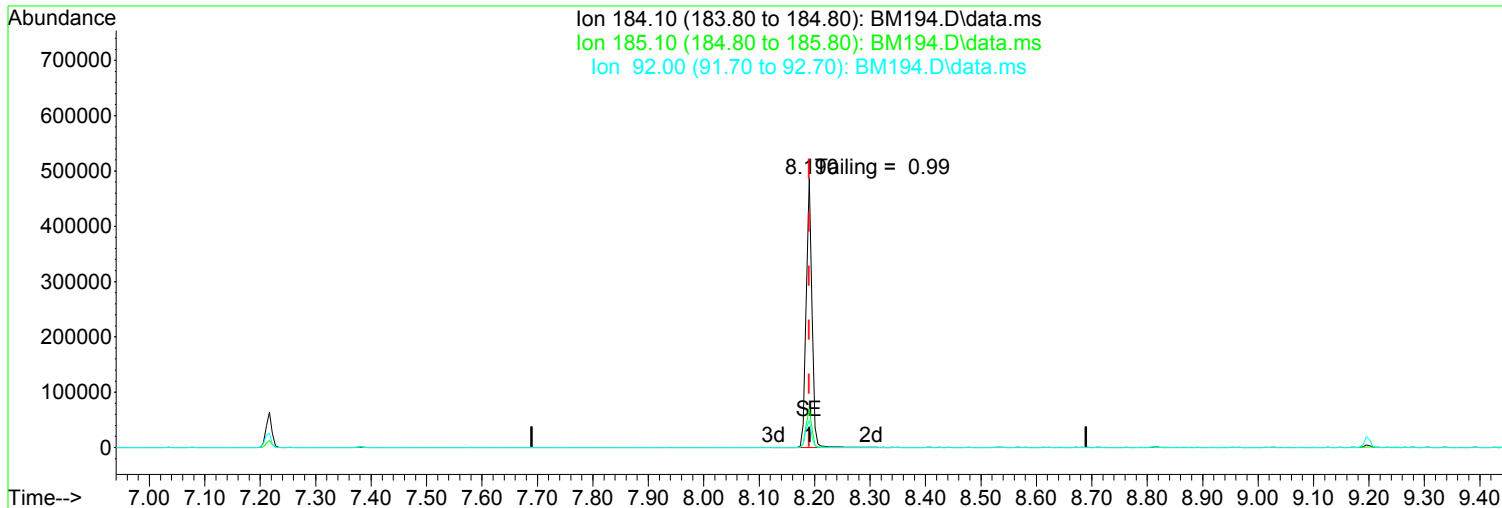
Other - Tailing

| Ion    | Exp%   | Act%   |
|--------|--------|--------|
| 265.90 | 100.00 | 100.00 |
| 263.80 | 57.70  | 65.02  |
| 267.80 | 58.60  | 64.63  |
| 0.00   | 0.00   | 0.00   |

10/26/17

Data Path : I:\ACQUDATA\5973D\Data\102617\  
Data File : BM194.D  
Acq On : 26 Oct 2017 8:20 am  
Operator : J.Misiurewicz  
Sample : TUNE  
Misc : 50 ng DFTPP  
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Oct 26 13:50:22 2017  
Quant Method : I:\ACQUDATA\5973D\Methods\TUNED.M  
Quant Title : TUNE CHECK  
QLast Update : Thu Oct 26 13:50:01 2017  
Response via : Initial Calibration



TIC: BM194.D\data.ms

(8) Benzidine (T)

Manual Integration:

8.190min ( 0.000) 50.00 ppm

After

response 349254

Other - Tailing

| Ion    | Exp%   | Act%   |
|--------|--------|--------|
| 184.10 | 100.00 | 100.00 |
| 185.10 | 14.90  | 14.43  |
| 92.00  | 8.00   | 10.10  |
| 0.00   | 0.00   | 0.00   |

10/26/17

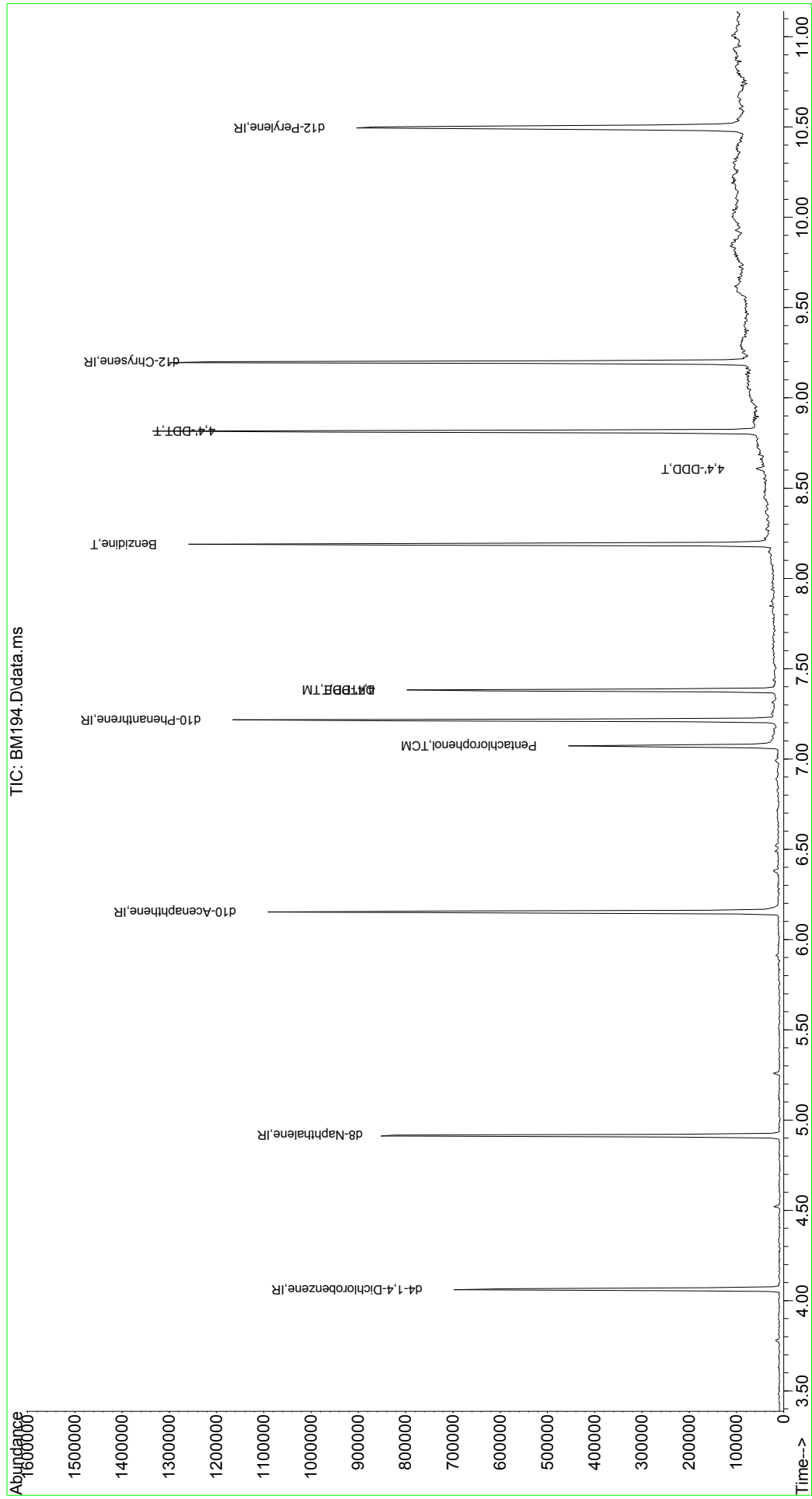
Data Path : I:\ACQUDATA\5973D\Data\102617\  
 Data File : BM194.D  
 Acq On : 26 Oct 2017 8:20 am  
 Operator : J.Misiurewicz  
 Sample : TUNE  
 Misc : 50 ng DFTPP  
 ALS Vial : 2 Sample Multiplier: 1

Quant Time: Oct 26 13:50:22 2017  
 Quant Method : I:\ACQUDATA\5973D\Methods\TUNED.M  
 Quant Title : TUNE CHECK  
 QLast Update : Thu Oct 26 13:50:01 2017  
 Response via : Initial Calibration

| Compound                  | R.T.   | QIon | Response | Conc   | Units | Dev(Min) |           |
|---------------------------|--------|------|----------|--------|-------|----------|-----------|
| Internal Standards        |        |      |          |        |       |          |           |
| 1) d4-1,4-Dichlorobenzene | 4.061  | 152  | 87100    | 40.00  | ppm   | 0.00     |           |
| 2) d8-Naphthalene         | 4.917  | 136  | 317301   | 40.00  | ppm   | 0.00     |           |
| 3) d10-Acenaphthene       | 6.152  | 164  | 177499   | 40.00  | ppm   | 0.00     |           |
| 4) d10-Phenanthrene       | 7.217  | 188  | 320628   | 40.00  | ppm   | 0.00     |           |
| 7) d12-Chrysene           | 9.201  | 240  | 355740   | 40.00  | ppm   | 0.00     |           |
| 12) d12-Perylene          | 10.495 | 264  | 346793   | 40.00  | ppm   | 0.00     |           |
| Target Compounds          |        |      |          |        |       |          |           |
| 5) Pentachlorophenol      | 7.072  | 266  | 41178    | 50.000 | ppm   |          | Qvalue 91 |
| 6) DFTPP                  | 7.382  | 198  | 53860    | 50.000 | ppm   |          | 81        |
| 8) Benzidine              | 8.190  | 184  | 349254   | 50.000 | ppm   |          | 97        |
| 9) 4,4'-DDE               | 7.382  | 246  | 1707     | 0.497  | ppm   |          | 71        |
| 10) 4,4'-DDD              | 8.607  | 235  | 2242     | 0.653  | ppm   |          | 87        |
| 11) 4,4'-DDT              | 8.816  | 235  | 171674   | 50.000 | ppm   |          | 98        |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

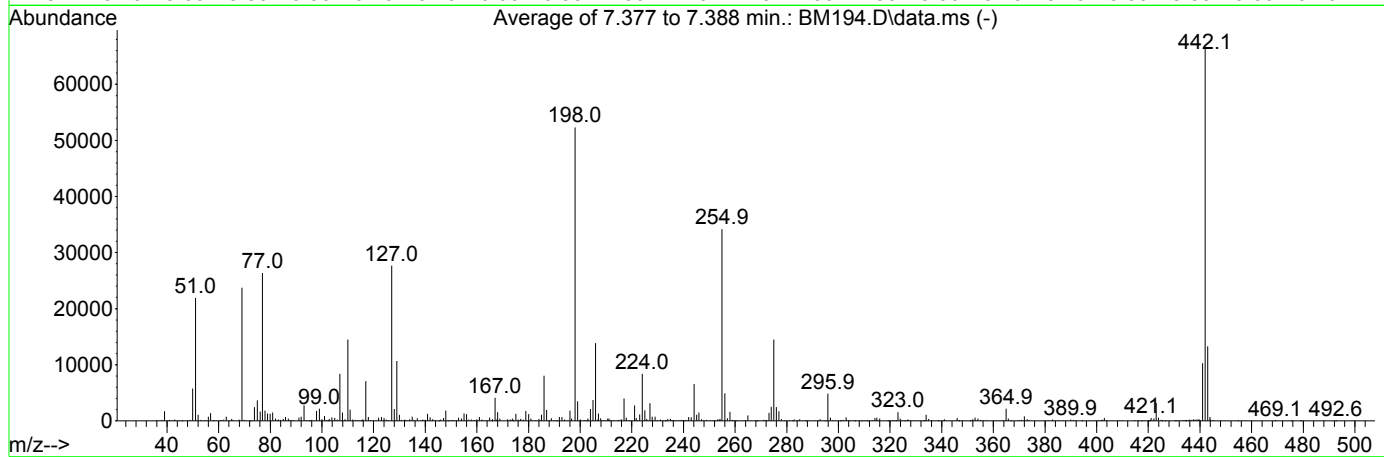
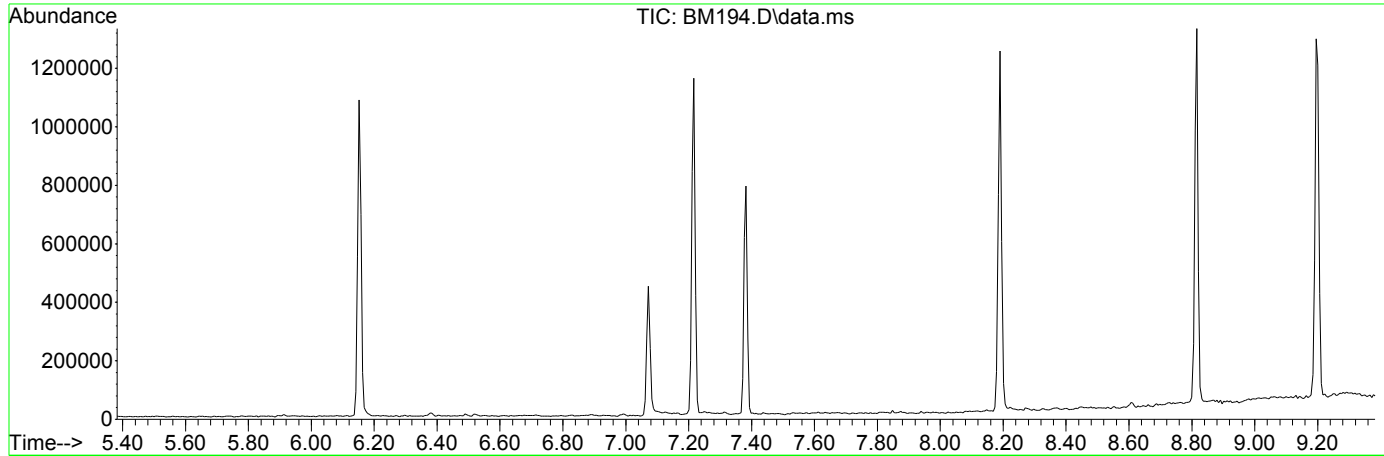
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 Data File : BM194.D  
 Acq On : 26 Oct 2017 8:20 am  
 Operator : J.Misiurewicz  
 Sample : TUNE  
 Misc : 50 ng DFTPP  
 ALS Vial : 2 Sample Multiplier: 1  
 Quant Time: Oct 26 13:50:22 2017  
 Quant Method : I:\ACQUDATA\5973D\Methods\TUNED.M  
 Quant Title : TUNE CHECK  
 QLast Update : Thu Oct 26 13:50:01 2017  
 Response via : Initial Calibration



Data Path : I:\ACQUDATA\5973D\Data\102617\  
 Data File : BM194.D  
 Acq On : 26 Oct 2017 8:20 am  
 Operator : J.Misiurewicz  
 Sample : TUNE  
 Misc : 50 ng DFTPP  
 ALS Vial : 2 Sample Multiplier: 1

Integration File: RTEINT.P

Method : I:\ACQUDATA\5973D\Methods\TUNCHECK.M  
 Title : TUNE CHECK  
 Last Update : Tue Apr 01 09:41:30 2014



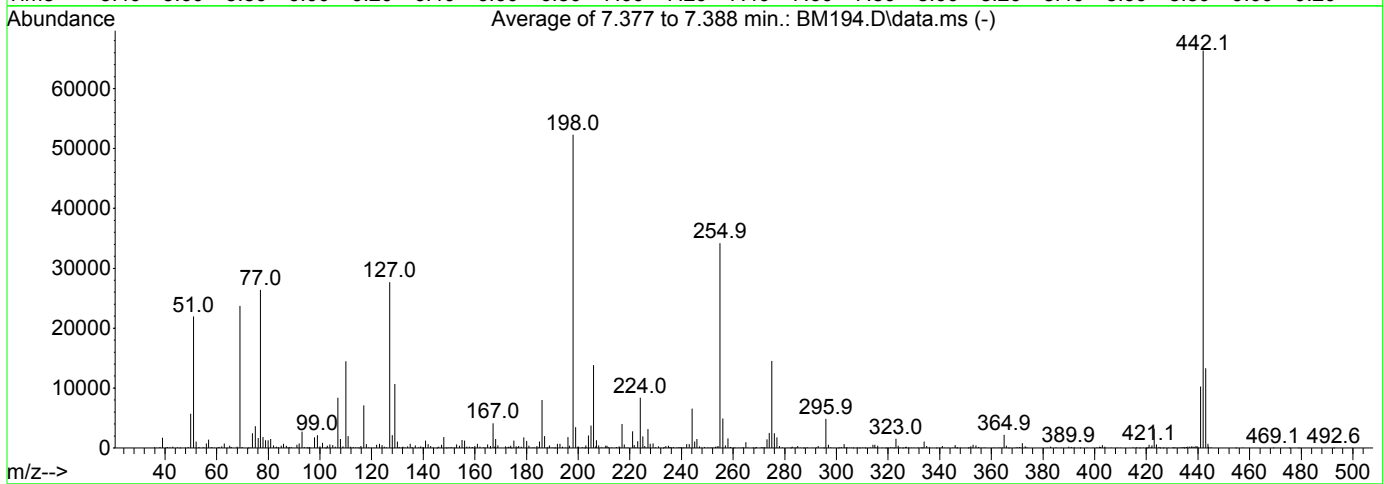
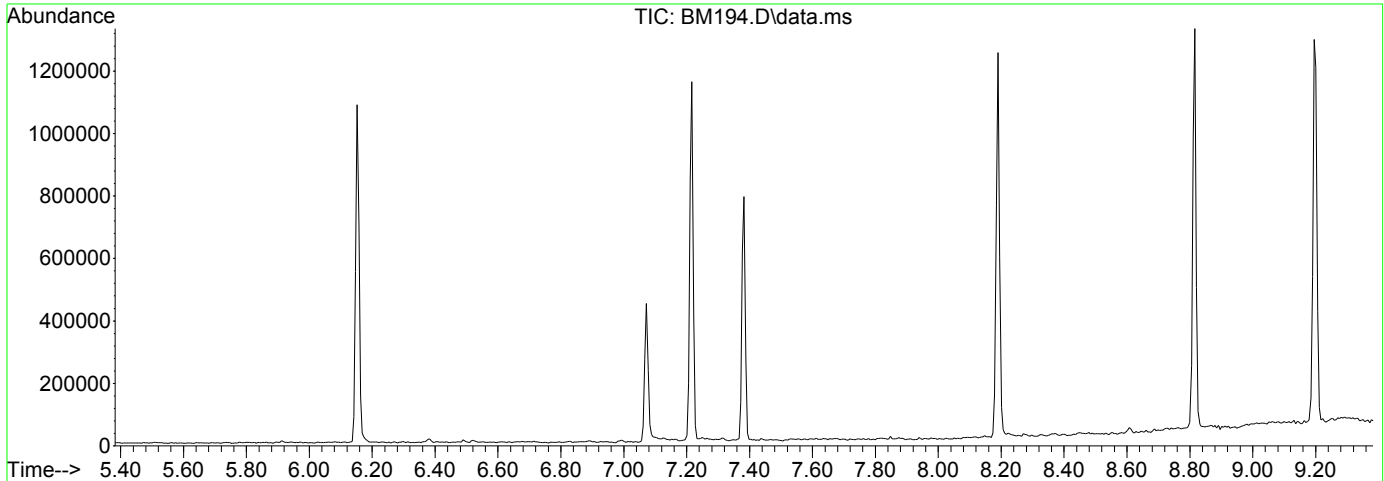
AutoFind: Scans 747, 748, 749; Background Corrected with Scan 742

| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|-------------|--------------|--------------|--------------|-----------|---------|------------------|
| 51          | 198          | 30           | 60           | 41.9      | 21938   | PASS             |
| 68          | 69           | 0.00         | 2            | 0.9       | 219     | PASS             |
| 69          | 198          | 0.00         | 100          | 45.4      | 23739   | PASS             |
| 70          | 69           | 0.00         | 2            | 0.8       | 180     | PASS             |
| 127         | 198          | 40           | 60           | 52.9      | 27676   | PASS             |
| 197         | 198          | 0.00         | 1            | 0.8       | 402     | PASS             |
| 198         | 198          | 100          | 100          | 100.0     | 52333   | PASS             |
| 199         | 198          | 5            | 9            | 6.6       | 3458    | PASS             |
| 275         | 198          | 10           | 30           | 27.7      | 14514   | PASS             |
| 365         | 198          | 1            | 500          | 4.2       | 2185    | PASS             |
| 441         | 443          | 0.01         | 100          | 77.2      | 10264   | PASS             |
| 442         | 198          | 50           | 500          | 126.8     | 66352   | PASS             |
| 443         | 442          | 17           | 23           | 20.0      | 13290   | PASS             |

Data Path : I:\ACQUDATA\5973D\Data\102617\  
 Data File : BM194.D  
 Acq On : 26 Oct 2017 8:20 am  
 Operator : J.Misiurewicz  
 Sample : TUNE  
 Misc : 50 ng DFTPP  
 ALS Vial : 2 Sample Multiplier: 1

Integration File: RTEINT.P

Method : I:\ACQUDATA\5973D\Methods\TUNED.M  
 Title : TUNE CHECK  
 Last Update : Thu Oct 26 13:50:01 2017



AutoFind: Scans 747, 748, 749; Background Corrected with Scan 742

| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|-------------|--------------|--------------|--------------|-----------|---------|------------------|
| 51          | 198          | 10           | 80           | 41.9      | 21938   | PASS             |
| 68          | 69           | 0.00         | 2            | 0.9       | 219     | PASS             |
| 70          | 69           | 0.00         | 2            | 0.8       | 180     | PASS             |
| 127         | 198          | 10           | 80           | 52.9      | 27676   | PASS             |
| 197         | 198          | 0.00         | 2            | 0.8       | 402     | PASS             |
| 198         | 198          | 100          | 100          | 100.0     | 52333   | PASS             |
| 199         | 198          | 5            | 9            | 6.6       | 3458    | PASS             |
| 275         | 198          | 10           | 60           | 27.7      | 14514   | PASS             |
| 365         | 198          | 1            | 500          | 4.2       | 2185    | PASS             |
| 441         | 442          | 0.01         | 24           | 15.5      | 10264   | PASS             |
| 442         | 442          | 100          | 100          | 100.0     | 66352   | PASS             |
| 443         | 442          | 15           | 24           | 20.0      | 13290   | PASS             |

Data Path : I:\ACQUDATA\5973D\Data\102617\  
 Data File : BM196.D  
 Acq On : 26 Oct 2017 9:26 am  
 Operator : J.Misiurewicz  
 Sample : BLK  
 Misc : Initial Calibration 8270D/625  
 ALS Vial : 3 Sample Multiplier: 1

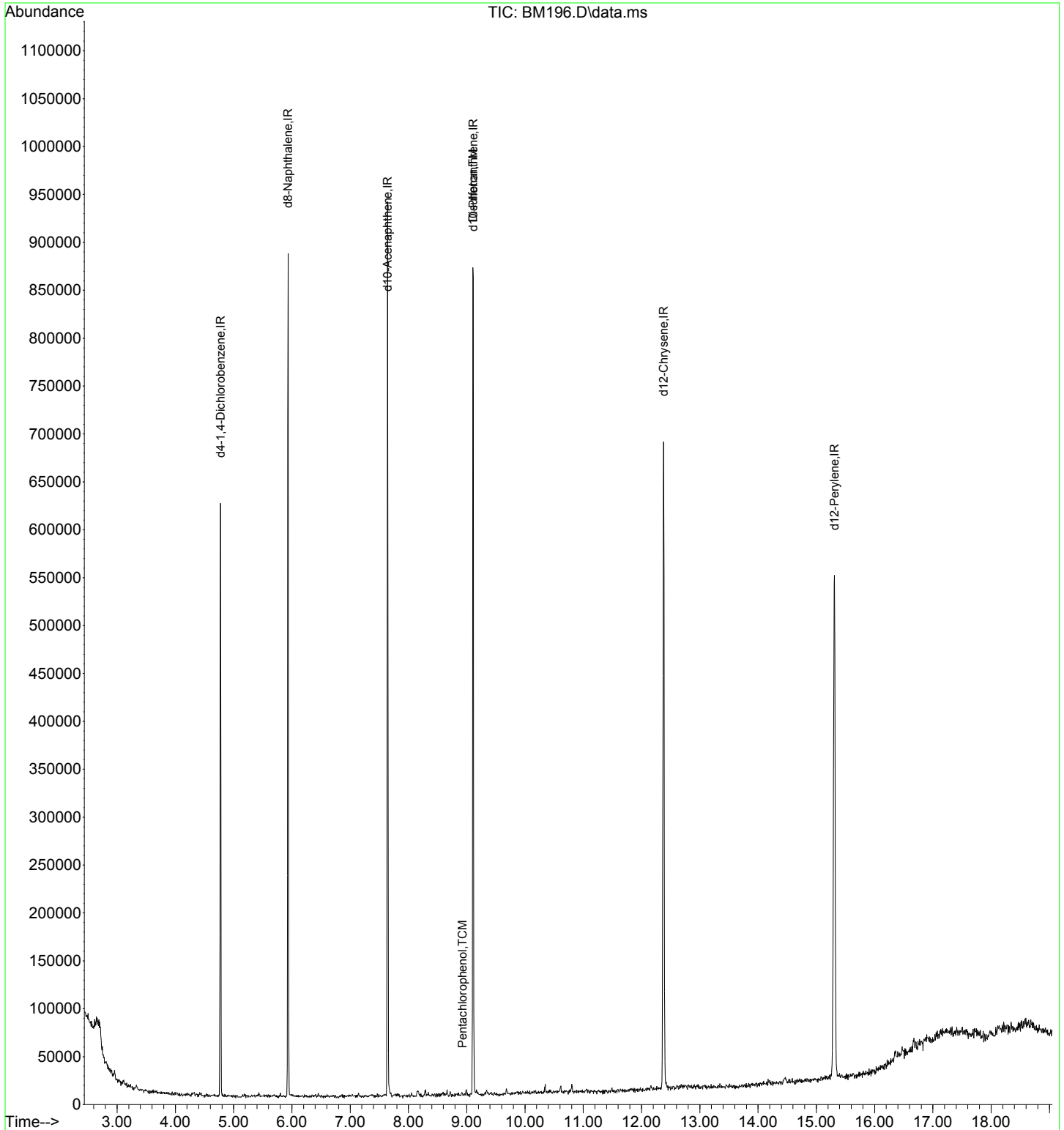
Quant Time: Oct 27 13:12:50 2017  
 Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
 Quant Title : 8270 BNA ANALYSIS  
 QLast Update : Thu Oct 26 14:29:15 2017  
 Response via : Initial Calibration

| Compound                      | R.T.    | QIon  | Response | Conc     | Units | Dev(Min) |
|-------------------------------|---------|-------|----------|----------|-------|----------|
| Internal Standards            |         |       |          |          |       |          |
| 1) d4-1,4-Dichlorobenzene     | 4.774   | 152   | 90132    | 40.00    | ppm   | 0.00     |
| 33) d8-Naphthalene            | 5.935   | 136   | 350252   | 40.00    | ppm   | 0.00     |
| 57) d10-Acenaphthene          | 7.641   | 164   | 175564   | 40.00    | ppm   | 0.00     |
| 91) d10-Phenanthrene          | 9.112   | 188   | 323584   | 40.00    | ppm   | 0.00     |
| 117) d12-Chrysene             | 12.380  | 240   | 325533   | 40.00    | ppm   | 0.00     |
| 135) d12-Perylene             | 15.311  | 264   | 357391   | 40.00    | ppm   | 0.00     |
| System Monitoring Compounds   |         |       |          |          |       |          |
| 7) SURR1,2-FLUOROPHENOL       | 0.000   | 112   | 0        | 0.00     | ppm   |          |
| Spiked Amount                 | 200.000 | Range | 10 - 105 | Recovery | =     | 0.00%#   |
| 12) SURR2,PHENOL-D6           | 0.000   | 99    | 0        | 0.00     | ppm   |          |
| Spiked Amount                 | 200.000 | Range | 10 - 107 | Recovery | =     | 0.00%#   |
| 34) SURR4,NITROBENZENE-D5     | 5.218   | 82    | 101      | 0.03     | ppm   | -0.05    |
| Spiked Amount                 | 100.000 | Range | 37 - 117 | Recovery | =     | 0.03%#   |
| 63) SURR5,2-FLUOROBIPHENYL    | 6.962   | 172   | 186      | 0.03     | ppm   | -0.02    |
| Spiked Amount                 | 100.000 | Range | 39 - 119 | Recovery | =     | 0.03%#   |
| 88) SURR3,2,4,6-TRIBROMOPH... | 8.406   | 330   | 409      | 0.35     | ppm   | -0.02    |
| Spiked Amount                 | 200.000 | Range | 28 - 157 | Recovery | =     | 0.17%#   |
| 124) SURR6,TERPHENYL-D14      | 10.802  | 244   | 2391     | 0.32     | ppm   | 0.00     |
| Spiked Amount                 | 100.000 | Range | 40 - 133 | Recovery | =     | 0.32%#   |
| Target Compounds              |         |       |          |          |       |          |
| 105) Pentachlorophenol        | 8.925   | 266   | 164      | 2.958    | ppm   | # 61     |
| 110) Disulfoton               | 9.107   | 88    | 4469     | 1.759    | ppm   | 46       |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : I:\ACQUDATA\5973D\Data\102617\  
Data File : BM196.D  
Acq On : 26 Oct 2017 9:26 am  
Operator : J.Misiurewicz  
Sample : BLK  
Misc : Initial Calibration 8270D/625  
ALS Vial : 3 Sample Multiplier: 1

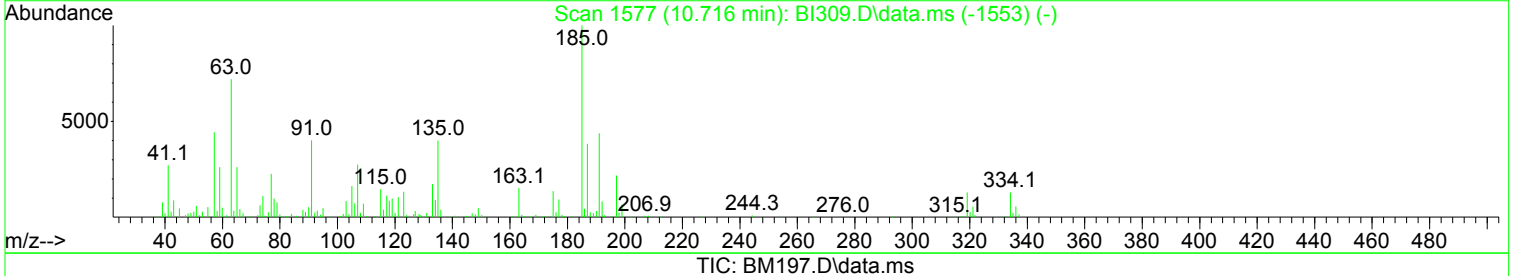
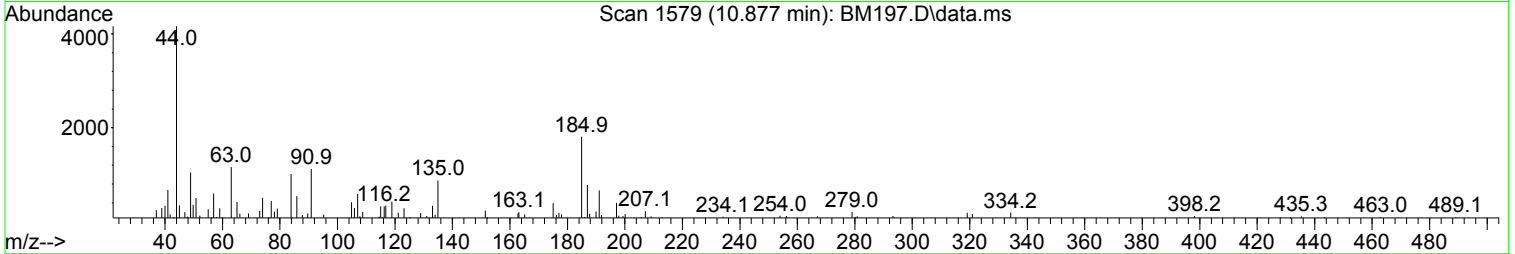
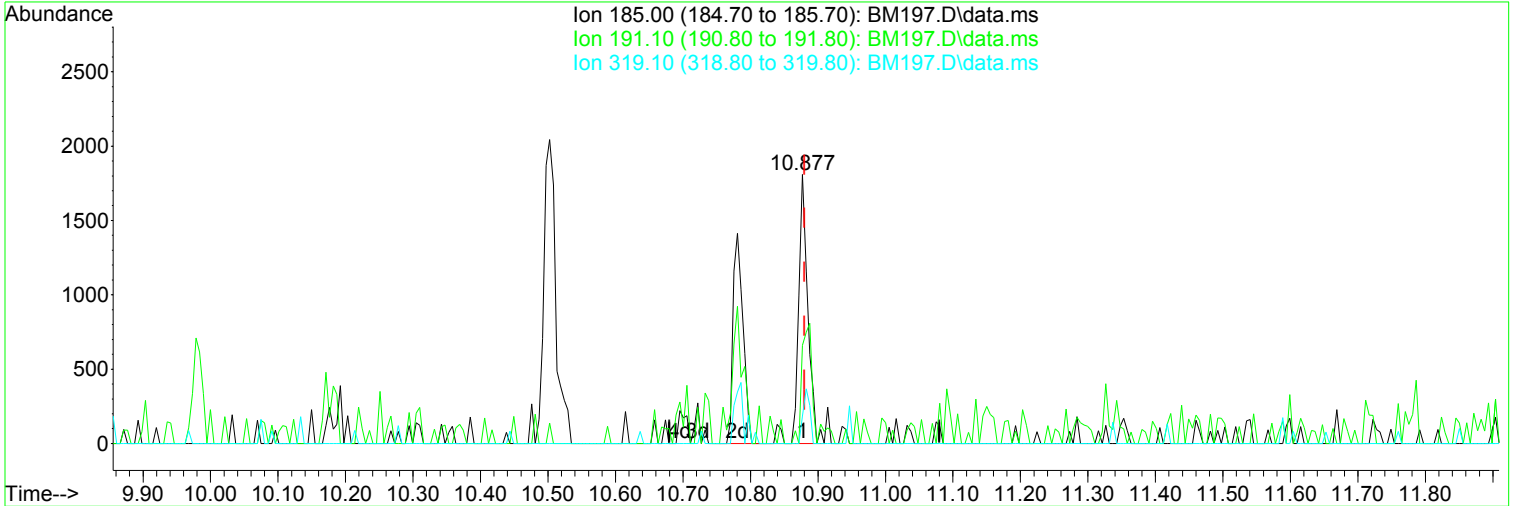
Quant Time: Oct 27 13:12:50 2017  
Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
Quant Title : 8270 BNA ANALYSIS  
QLast Update : Thu Oct 26 14:29:15 2017  
Response via : Initial Calibration





Data Path : I:\ACQUDATA\5973D\Data\102617\  
Data File : BM197.D  
Acq On : 26 Oct 2017 10:22 am  
Operator : J.Misiurewicz  
Sample : 2.5 ppm STD  
Misc : Initial Calibration 8270D/625  
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 26 14:09:18 2017  
Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
Quant Title : 8270 BNA ANALYSIS  
QLast Update : Thu Oct 26 14:03:10 2017  
Response via : Initial Calibration



(125) Aramite (TM)

10.877min (-0.003) 2.64 ppm m

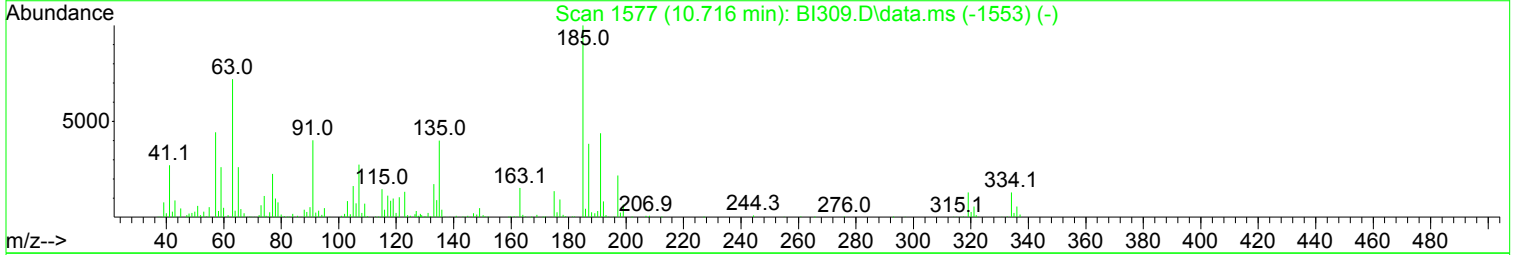
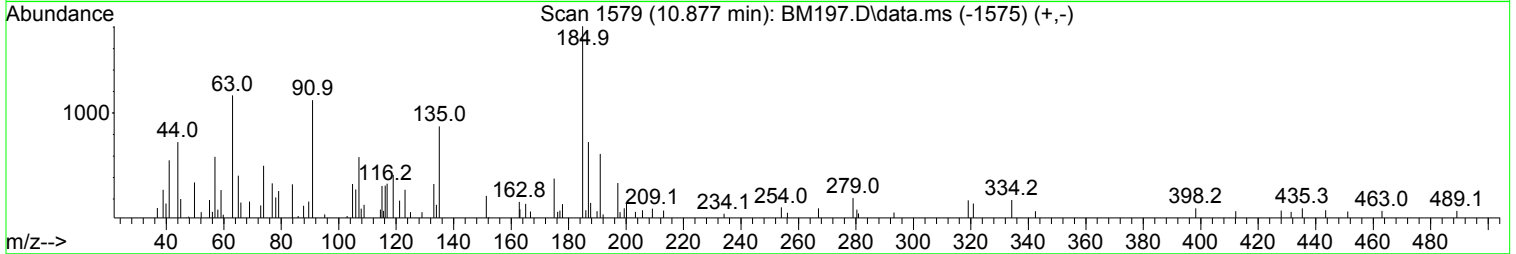
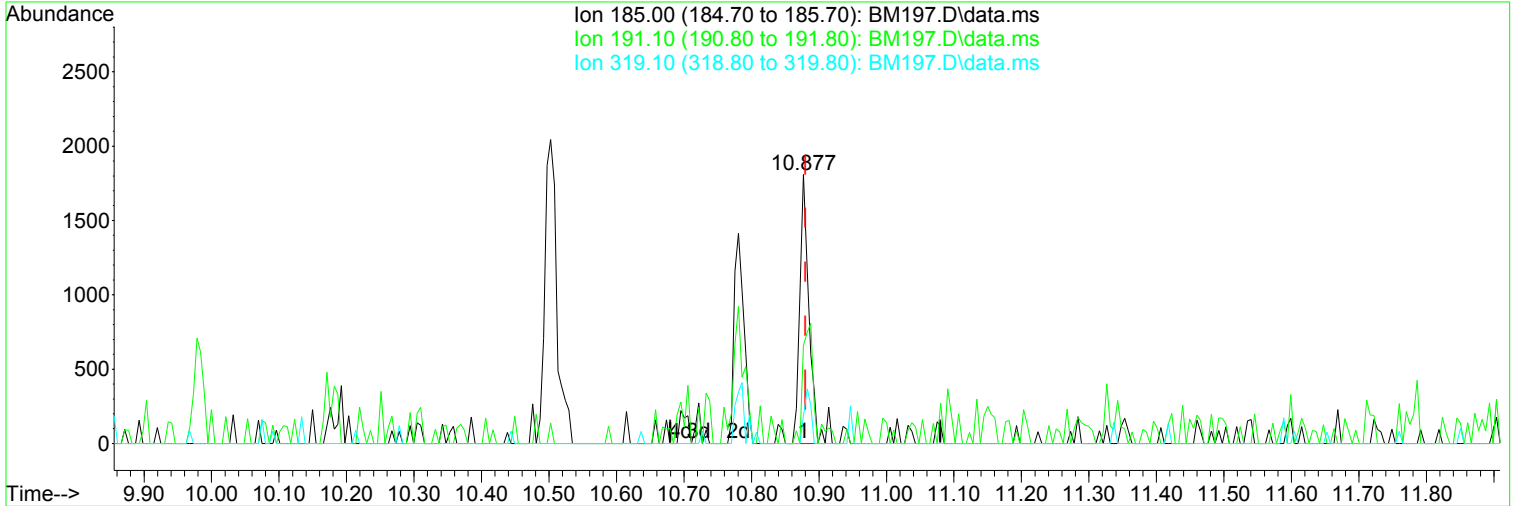
response 3218

| Ion    | Exp%   | Act%   |
|--------|--------|--------|
| 185.00 | 100.00 | 100.00 |
| 191.10 | 51.80  | 36.48  |
| 319.10 | 22.50  | 10.28  |
| 0.00   | 0.00   | 0.00   |

Manual Integration:  
After  
Split Peak.  
10/26/17

Data Path : I:\ACQUDATA\5973D\Data\102617\  
Data File : BM197.D  
Acq On : 26 Oct 2017 10:22 am  
Operator : J.Misiurewicz  
Sample : 2.5 ppm STD  
Misc : Initial Calibration 8270D/625  
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 26 14:09:18 2017  
Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
Quant Title : 8270 BNA ANALYSIS  
QLast Update : Thu Oct 26 14:03:10 2017  
Response via : Initial Calibration

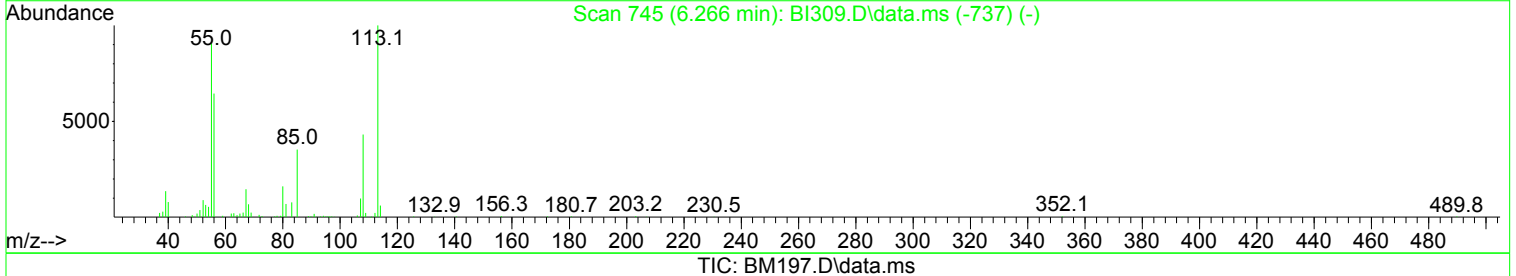
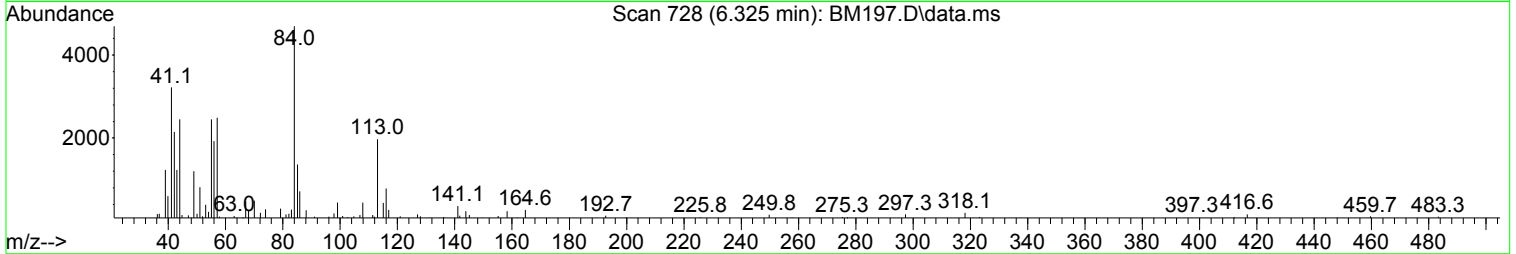
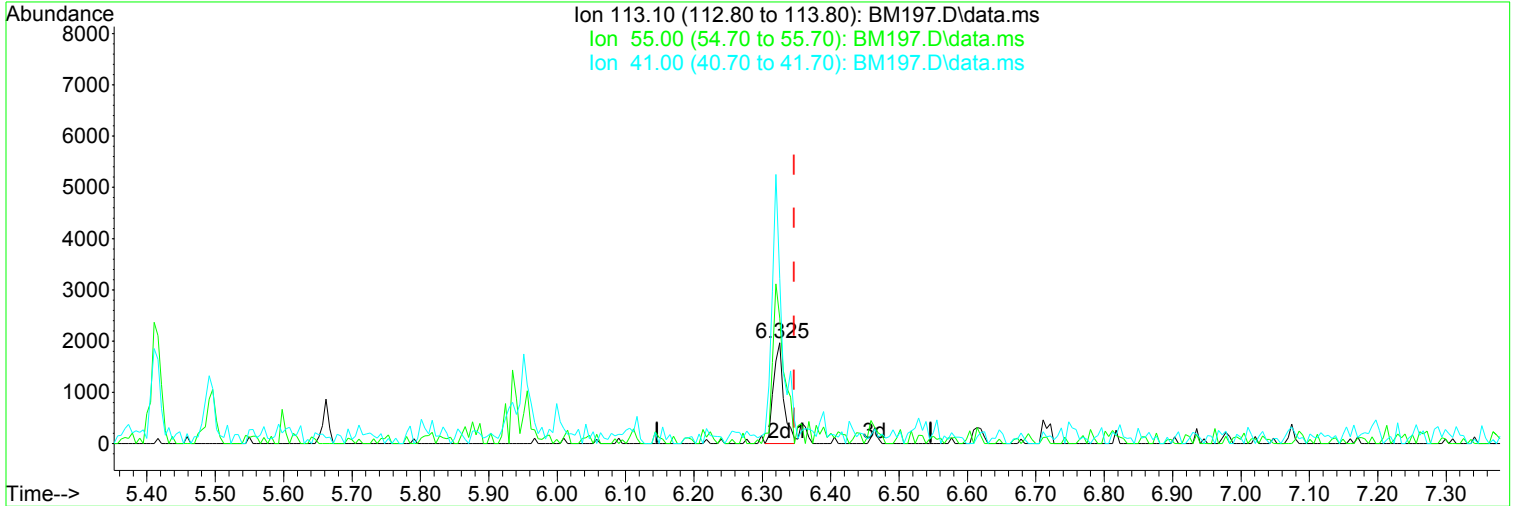


TIC: BM197.D\data.ms

|                    |          |        |                     |
|--------------------|----------|--------|---------------------|
| (125) Aramite (TM) |          |        | Manual Integration: |
| 10.877min (-0.003) | 1.38 ppm | Before |                     |
| response           | 1684     |        |                     |
| Ion                | Exp%     | Act%   | 10/26/17            |
| 185.00             | 100.00   | 100.00 |                     |
| 191.10             | 51.80    | 34.25  |                     |
| 319.10             | 22.50    | 10.28  |                     |
| 0.00               | 0.00     | 0.00   |                     |

Data Path : I:\ACQUDATA\5973D\Data\102617\  
Data File : BM197.D  
Acq On : 26 Oct 2017 10:22 am  
Operator : J.Misiurewicz  
Sample : 2.5 ppm STD  
Misc : Initial Calibration 8270D/625  
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 26 14:09:18 2017  
Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
Quant Title : 8270 BNA ANALYSIS  
QLast Update : Thu Oct 26 14:03:10 2017  
Response via : Initial Calibration



(52) Caprolactam (TM)

Manual Integration:

6.325min (-0.021) 2.40 ppm m

After

response 2046

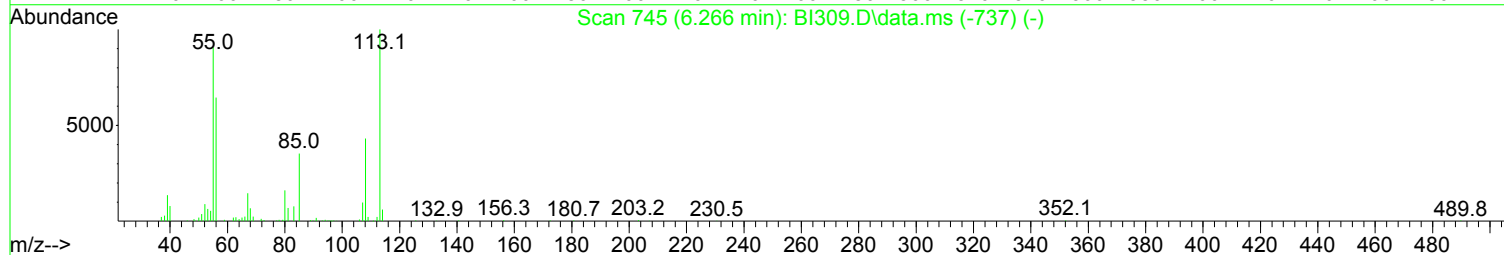
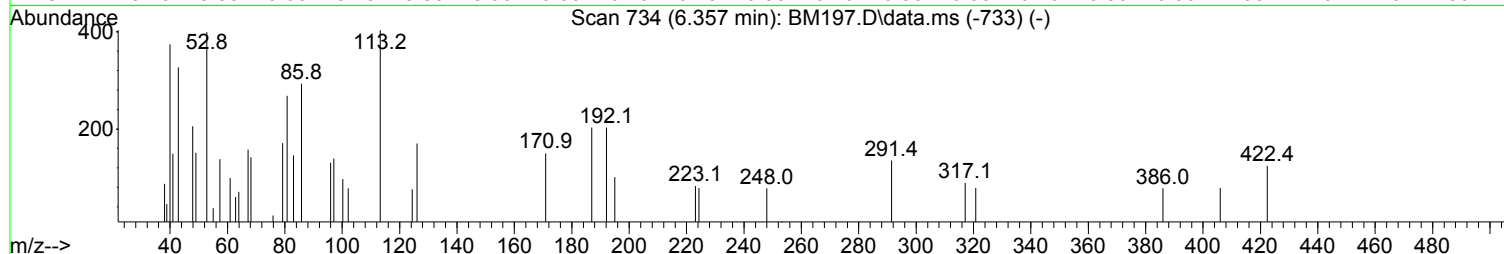
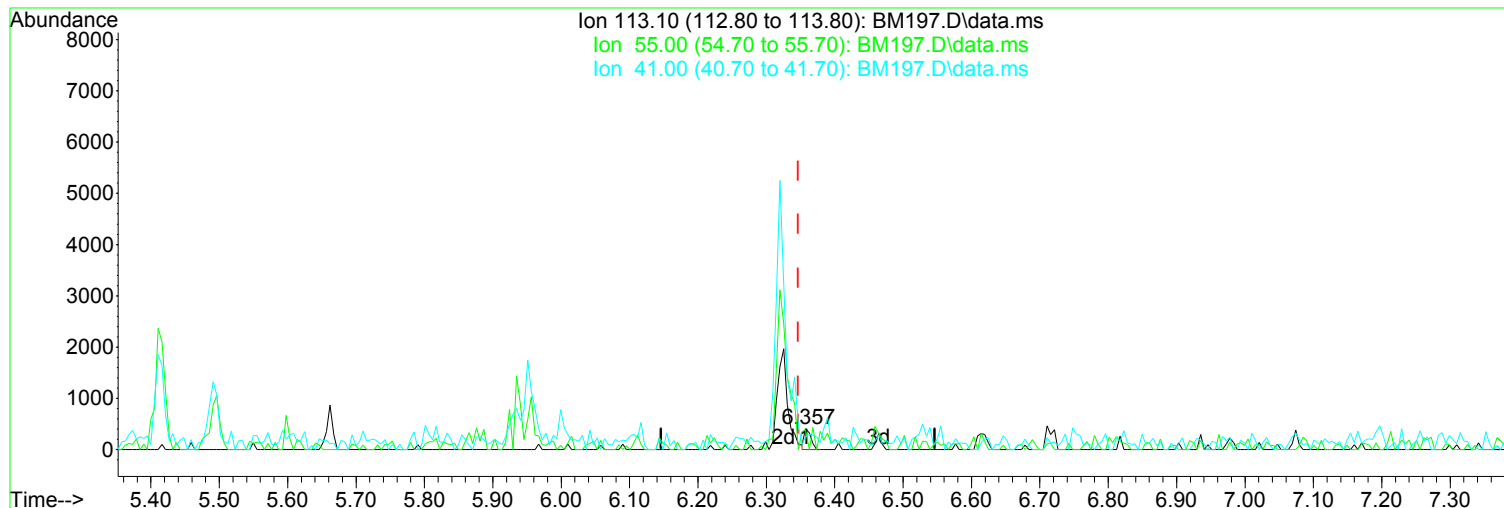
Peak not found.

| Ion    | Exp%   | Act%    |
|--------|--------|---------|
| 113.10 | 100.00 | 100.00  |
| 55.00  | 148.80 | 124.37  |
| 41.00  | 89.10  | 163.40# |
| 0.00   | 0.00   | 0.00    |

10/26/17

Data Path : I:\ACQUDATA\5973D\Data\102617\  
 Data File : BM197.D  
 Acq On : 26 Oct 2017 10:22 am  
 Operator : J.Misiurewicz  
 Sample : 2.5 ppm STD  
 Misc : Initial Calibration 8270D/625  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 26 14:09:18 2017  
 Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
 Quant Title : 8270 BNA ANALYSIS  
 QLast Update : Thu Oct 26 14:03:10 2017  
 Response via : Initial Calibration



TIC: BM197.D\data.ms

(52) Caprolactam (TM)

Manual Integration:

6.357min (+ 0.011) 0.32 ppm

Before

response 273

| Ion    | Exp%   | Act%   |
|--------|--------|--------|
| 113.10 | 100.00 | 100.00 |
| 55.00  | 148.80 | 34.24# |
| 41.00  | 89.10  | 36.97# |
| 0.00   | 0.00   | 0.00   |

10/26/17

Data Path : I:\ACQUDATA\5973D\Data\102617\  
 Data File : BM197.D  
 Acq On : 26 Oct 2017 10:22 am  
 Operator : J.Misiurewicz  
 Sample : 2.5 ppm STD  
 Misc : Initial Calibration 8270D/625  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 26 14:09:18 2017  
 Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
 Quant Title : 8270 BNA ANALYSIS  
 QLast Update : Thu Oct 26 14:03:10 2017  
 Response via : Initial Calibration

| Compound                  | R.T.   | QIon | Response | Conc  | Units | Dev(Min) |
|---------------------------|--------|------|----------|-------|-------|----------|
| Internal Standards        |        |      |          |       |       |          |
| 1) d4-1,4-Dichlorobenzene | 4.774  | 152  | 91437    | 40.00 | ppm   | 0.00     |
| 33) d8-Naphthalene        | 5.935  | 136  | 359091   | 40.00 | ppm   | 0.00     |
| 57) d10-Acenaphthene      | 7.641  | 164  | 182608   | 40.00 | ppm   | 0.00     |
| 91) d10-Phenanthrene      | 9.107  | 188  | 336175   | 40.00 | ppm   | 0.00     |
| 117) d12-Chrysene         | 12.380 | 240  | 323451   | 40.00 | ppm   | 0.00     |
| 135) d12-Perylene         | 15.306 | 264  | 345906   | 40.00 | ppm   | 0.00     |

|                               |         |       |          |          |     |        |
|-------------------------------|---------|-------|----------|----------|-----|--------|
| System Monitoring Compounds   |         |       |          |          |     |        |
| 7) SURR1,2-FLUOROPHENOL       | 3.704   | 112   | 7187     | 2.38     | ppm | 0.00   |
| Spiked Amount                 | 200.000 | Range | 10 - 105 | Recovery | =   | 1.19%# |
| 12) SURR2,PHENOL-D6           | 4.432   | 99    | 8385     | 2.33     | ppm | 0.00   |
| Spiked Amount                 | 200.000 | Range | 10 - 107 | Recovery | =   | 1.17%# |
| 34) SURR4,NITROBENZENE-D5     | 5.256   | 82    | 7297     | 2.27     | ppm | 0.00   |
| Spiked Amount                 | 100.000 | Range | 37 - 117 | Recovery | =   | 2.27%# |
| 63) SURR5,2-FLUOROBIPHENYL    | 6.973   | 172   | 16525    | 2.41     | ppm | 0.00   |
| Spiked Amount                 | 100.000 | Range | 39 - 119 | Recovery | =   | 2.41%# |
| 88) SURR3,2,4,6-TRIBROMOPH... | 8.417   | 330   | 3219     | 2.68     | ppm | 0.00   |
| Spiked Amount                 | 200.000 | Range | 28 - 157 | Recovery | =   | 1.34%# |
| 124) SURR6,TERPHENYL-D14      | 10.802  | 244   | 19923    | 2.75     | ppm | 0.00   |
| Spiked Amount                 | 100.000 | Range | 40 - 133 | Recovery | =   | 2.75%# |

| Target Compounds              | R.T.  | QIon | Response | Conc  | Units | Qvalue |
|-------------------------------|-------|------|----------|-------|-------|--------|
| 2) Pyridine                   | 2.785 | 79   | 6662     | 2.260 | ppm   | 87     |
| 3) N-Nitrosodimethylamine     | 2.736 | 74   | 3816     | 2.448 | ppm   | # 70   |
| 4) 2-Picoline                 | 3.303 | 93   | 7207     | 2.313 | ppm   | 89     |
| 5) N-Nitrosomethylamine       | 3.362 | 42   | 4572     | 2.725 | ppm   | # 58   |
| 6) Methyl Methansulfonate     | 3.581 | 80   | 3529     | 2.253 | ppm   | 82     |
| 8) N-Nitrosodiethylamine      | 3.886 | 102  | 3132     | 2.296 | ppm   | 81     |
| 9) Ethyl Mathanesulfonate     | 4.111 | 79   | 5832     | 2.678 | ppm   | 77     |
| 10) Benzaldehyde              | 4.405 | 106  | 4339     | 2.412 | ppm   | # 71   |
| 11) Aniline                   | 4.485 | 93   | 10198    | 2.150 | ppm   | 84     |
| 13) Phenol                    | 4.443 | 94   | 9896     | 2.637 | ppm   | 91     |
| 14) bis(2-Clethyl)Ether       | 4.534 | 93   | 7223     | 2.439 | ppm   | 92     |
| 15) Pentachloroethane         | 4.539 | 117  | 2794     | 2.496 | ppm   | 87     |
| 16) 2-Chlorophenol            | 4.592 | 128  | 7877     | 2.537 | ppm   | 97     |
| 17) 1,3-Diclbzene             | 4.726 | 146  | 9449     | 2.797 | ppm   | 92     |
| 18) 1,4-Dichlorobenzene       | 4.790 | 146  | 8196     | 2.404 | ppm   | 94     |
| 19) 1,2-Diclbzene             | 4.924 | 146  | 7736     | 2.391 | ppm   | # 75   |
| 20) Benzyl Alcohol            | 4.876 | 79   | 6190     | 2.422 | ppm   | 92     |
| 21) 1-Methyl-2-pyrrolidinone  | 4.903 | 99   | 4419     | 2.338 | ppm   | # 79   |
| 22) 2,2'-oxybis(1-Chloropr... | 4.999 | 45   | 9988     | 2.327 | ppm   | 91     |
| 23) 2-Methylphenol            | 4.967 | 108  | 6496     | 2.467 | ppm   | 91     |
| 24) 3+4-Methylphenol          | 5.106 | 108  | 7206     | 2.488 | ppm   | 87     |
| 25) Acetophenone              | 5.117 | 105  | 10104    | 2.429 | ppm   | 81     |
| 26) N-Nitroso-Di-n-propyla... | 5.111 | 70   | 5282     | 2.325 | ppm   | # 73   |
| 27) N-Nitrosopyrrolidine      | 5.101 | 100  | 3421     | 2.233 | ppm   | 73     |
| 28) N-Nitrosomorpholine       | 5.133 | 56   | 5122     | 2.681 | ppm   | 98     |
| 29) o-Toluidine               | 5.149 | 106  | 10888    | 2.385 | ppm   | 92     |
| 30) Hexachloroethane          | 5.224 | 117  | 3418     | 2.406 | ppm   | # 79   |
| 31) o,o,o-Triethylphosphor... | 5.662 | 198  | 2554     | 1.967 | ppm   | 91     |
| 32) Alpha-terpinol            | 5.956 | 121  | 2633     | 2.274 | ppm   | 85     |
| 35) Nitrobenzene              | 5.277 | 77   | 8091     | 2.257 | ppm   | 97     |
| 36) N-Nitrosopiperidine       | 5.416 | 42   | 5227     | 2.463 | ppm   | 93     |
| 37) Isophorone                | 5.491 | 82   | 15568    | 2.401 | ppm   | 98     |
| 38) 2-Nitrophenol             | 5.571 | 139  | 3555     | 2.190 | ppm   | 82     |

Data Path : I:\ACQUDATA\5973D\Data\102617\  
 Data File : BM197.D  
 Acq On : 26 Oct 2017 10:22 am  
 Operator : J.Misiurewicz  
 Sample : 2.5 ppm STD  
 Misc : Initial Calibration 8270D/625  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 26 14:09:18 2017  
 Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
 Quant Title : 8270 BNA ANALYSIS  
 QLast Update : Thu Oct 26 14:03:10 2017  
 Response via : Initial Calibration

| Compound                      | R.T.  | QIon | Response | Conc  | Units | Dev(Min) |
|-------------------------------|-------|------|----------|-------|-------|----------|
| 40) 2,4-Dimethylphenol        | 5.598 | 107  | 6697     | 2.174 | ppm   | 83       |
| 41) bis(-2-Chloroethoxy)Me... | 5.689 | 93   | 9041     | 2.332 | ppm   | 87       |
| 42) 2,4-Dichlorophenol        | 5.796 | 162  | 5915     | 2.342 | ppm   | 84       |
| 43) a,a-Dimethylphenethyla... | 5.876 | 58   | 8811     | 1.265 | ppm   | 79       |
| 44) 1,2,4-Trichlorobenzene    | 5.876 | 180  | 7357     | 2.566 | ppm   | 93       |
| 45) Naphthalene               | 5.951 | 128  | 23013    | 2.519 | ppm   | 99       |
| 46) 4-Chloroaniline           | 6.004 | 127  | 9802     | 2.559 | ppm   | 88       |
| 47) 2,6-Dichlorophenol        | 6.010 | 162  | 6505     | 2.560 | ppm   | 86       |
| 48) Hexachlorobutadiene       | 6.063 | 225  | 4000     | 2.449 | ppm   | 80       |
| 49) Hexachloropropene         | 6.037 | 213  | 4486     | 2.309 | ppm   | 90       |
| 50) 4-Chloro-3-methylphenol   | 6.464 | 107  | 5307     | 2.135 | ppm   | 84       |
| 51) N-N-di-n-butylamine       | 6.320 | 84   | 5822     | 2.591 | ppm   | 85       |
| 52) Caprolactam               | 6.325 | 113  | 2046m    | 2.402 | ppm   |          |
| 53) p-Phenylenediamine        | 6.341 | 80   | 7578     | 5.123 | ppm   | 96       |
| 54) Safrole                   | 6.529 | 162  | 5437     | 2.311 | ppm   | 93       |
| 55) 2-Methylnaphthalene       | 6.620 | 142  | 14839    | 2.443 | ppm   | 87       |
| 56) 1-Methylnaphthalene       | 6.716 | 142  | 13623    | 2.472 | ppm   | 80       |
| 58) Hexachlorocyclopentadiene | 6.769 | 237  | 3757     | 2.060 | ppm   | 90       |
| 59) 1,2,4,5-Tetrachloroben... | 6.780 | 216  | 6800     | 2.300 | ppm   | 92       |
| 60) 1,2,3,4-Tetrachloroben... | 7.058 | 216  | 6044     | 2.275 | ppm   | 95       |
| 61) 2,4,6-Trichlorophenol     | 6.892 | 196  | 4324     | 2.282 | ppm   | 87       |
| 62) 2,4,5-Trichlorophenol     | 6.930 | 196  | 4724     | 2.501 | ppm   | 96       |
| 64) Isosafrole                | 7.037 | 104  | 2664     | 2.255 | ppm   | 91       |
| 65) 1,1'-Biphenyl             | 7.074 | 154  | 17542    | 2.334 | ppm   | 84       |
| 66) 2-Chloronaphthalene       | 7.096 | 162  | 14129    | 2.408 | ppm   | 97       |
| 67) 2-Nitroaniline            | 7.192 | 65   | 3380     | 2.095 | ppm   | 77       |
| 68) 1,4-Naphthoquinone        | 7.267 | 158  | 1739     | 2.777 | ppm   | 91       |
| 69) m-Dinitrobenzene          | 7.400 | 168  | 1750     | 1.914 | ppm   | # 60     |
| 70) Acenaphthylene            | 7.502 | 152  | 23429    | 2.538 | ppm   | 96       |
| 71) Dimethyl phthalate        | 7.368 | 163  | 15618    | 2.458 | ppm   | 98       |
| 72) 2,6-Dinitrotoluene        | 7.427 | 165  | 3612     | 2.300 | ppm   | 88       |
| 73) Acenaphthene              | 7.673 | 153  | 14426    | 2.358 | ppm   | 93       |
| 74) 3-Nitroaniline            | 7.593 | 138  | 3345     | 2.140 | ppm   | 83       |
| 75) 2,4-Dinitrophenol         | 7.695 | 184  | 857      | 6.592 | ppm   | 84       |
| 76) Dibenzofuran              | 7.839 | 168  | 21911    | 2.681 | ppm   | 95       |
| 77) 2,4-Dinitrotoluene        | 7.823 | 165  | 3707     | 3.042 | ppm   | 98       |
| 78) 4-Nitrophenol             | 7.764 | 65   | 2844     | 2.110 | ppm   | # 71     |
| 79) Pentachlorobenzene        | 7.802 | 250  | 6961     | 2.671 | ppm   | 87       |
| 80) 1-Naphthylamine           | 7.919 | 143  | 12168    | 2.565 | ppm   | 81       |
| 81) 2-Naphthylamine           | 7.994 | 143  | 12773    | 2.514 | ppm   | 96       |
| 82) 2,3,4,6-Tetrachlorophenol | 7.962 | 232  | 3499     | 2.400 | ppm   | 95       |
| 83) Fluorene                  | 8.181 | 166  | 17488    | 2.623 | ppm   | 94       |
| 84) 4-Chlorophenyl-phenyle... | 8.181 | 204  | 9755     | 2.790 | ppm   | 84       |
| 85) Diethylphthalate          | 8.064 | 149  | 18056    | 2.655 | ppm   | 94       |
| 86) 4-Nitroaniline            | 8.197 | 138  | 4091     | 2.338 | ppm   | # 76     |
| 87) 5-Nitro-o-toluidine       | 8.192 | 152  | 3910     | 2.150 | ppm   | 76       |
| 89) Sulfotepp                 | 8.454 | 322  | 2726     | 2.520 | ppm   | 91       |
| 90) Octachlorocyclopentene    | 8.427 | 307  | 2228     | 1.939 | ppm   | # 64     |
| 92) Thionazin                 | 8.144 | 107  | 2812     | 2.726 | ppm   | 88       |
| 93) 4,6-Dinitro-2-methylph... | 8.224 | 198  | 1311     | 4.455 | ppm   | 84       |
| 94) Diphenylamine             | 8.294 | 169  | 23491    | 4.737 | ppm   | 87       |
| 95) 1,2 Diphenylhydrazine     | 8.336 | 77   | 16704    | 2.431 | ppm   | 97       |
| 96) N-Nitrosodiphenylamine    | 8.294 | 169  | 23491    | 4.737 | ppm   | 87       |
| 97) 1,3,5-Trinirobenzene      | 8.556 | 213  | 678      | 1.249 | ppm   | # 60     |
| 98) Diallate                  | 8.577 | 86   | 6725     | 2.938 | ppm   | 87       |
| 99) Phorate                   | 8.593 | 121  | 3058     | 2.622 | ppm   | # 67     |

Data Path : I:\ACQUDATA\5973D\Data\102617\  
 Data File : BM197.D  
 Acq On : 26 Oct 2017 10:22 am  
 Operator : J.Misiurewicz  
 Sample : 2.5 ppm STD  
 Misc : Initial Calibration 8270D/625  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 26 14:09:18 2017  
 Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
 Quant Title : 8270 BNA ANALYSIS  
 QLast Update : Thu Oct 26 14:03:10 2017  
 Response via : Initial Calibration

| Compound                       | R.T.   | QIon | Response | Conc  | Units | Dev(Min) |
|--------------------------------|--------|------|----------|-------|-------|----------|
| 100) Phenacetin                | 8.598  | 108  | 7761     | 2.371 | ppm   | 94       |
| 101) 4-Bromophenyl-phenylether | 8.663  | 248  | 6117     | 2.902 | ppm   | 94       |
| 102) Hexachlorobenzene         | 8.722  | 284  | 6120     | 2.670 | ppm   | 82       |
| 103) Dimethoate                | 8.754  | 87   | 5018     | 2.489 | ppm   | 89       |
| 104) Atrazine                  | 8.823  | 215  | 1720     | 2.874 | ppm # | 54       |
| 105) Pentachlorophenol         | 8.919  | 266  | 1273     | 3.876 | ppm # | 71       |
| 106) 4-Aminobiphenyl           | 8.919  | 169  | 12187    | 2.204 | ppm   | 96       |
| 107) Pentachloronitrobenzene   | 8.925  | 237  | 1467     | 1.795 | ppm   | 67       |
| 108) Pronamide                 | 8.973  | 173  | 6118     | 2.160 | ppm   | 92       |
| 109) Dinoseb                   | 9.096  | 211  | 1437     | 1.012 | ppm   | 72       |
| 110) Disulfoton                | 9.107  | 88   | 9494     | 3.585 | ppm   | 76       |
| 111) Phenanthrene              | 9.133  | 178  | 24732    | 2.733 | ppm   | 97       |
| 112) Anthracene                | 9.181  | 178  | 24492    | 2.741 | ppm   | 97       |
| 113) Carbazole                 | 9.342  | 167  | 23116    | 2.583 | ppm   | 96       |
| 114) Di-n-butylphthalate       | 9.684  | 149  | 27484    | 2.385 | ppm   | 96       |
| 115) 4-Nitroquinoline-1-oxide  | 9.904  | 190  | 924      | 1.310 | ppm   | 84       |
| 116) Fluoranthene              | 10.348 | 202  | 26806    | 2.712 | ppm   | 97       |
| 118) Methyl Parathion          | 9.476  | 109  | 3455     | 2.269 | ppm   | 78       |
| 119) Ethyl Parathion           | 9.861  | 97   | 2182     | 1.738 | ppm   | 90       |
| 120) Methapyrilene             | 9.978  | 58   | 6046     | 2.325 | ppm   | 98       |
| 121) Isodrin                   | 10.182 | 193  | 2218     | 2.328 | ppm   | 66       |
| 122) Benzidine                 | 10.503 | 184  | 14364    | 2.403 | ppm   | 92       |
| 123) Pyrene                    | 10.610 | 202  | 27629    | 2.822 | ppm   | 96       |
| 125) Aramite                   | 10.877 | 185  | 3218m    | 2.639 | ppm   |          |
| 126) p-(Dimethylamino)azobe... | 10.984 | 120  | 6786     | 2.509 | ppm   | 87       |
| 127) Chlorobenzilate           | 11.048 | 139  | 7980     | 2.502 | ppm   | 92       |
| 128) Butyl benzyl phthalate    | 11.492 | 149  | 12879    | 2.657 | ppm   | 99       |
| 129) 3,3-Dimethylbenzidine     | 11.460 | 212  | 13126    | 2.309 | ppm   | 87       |
| 130) 2-Acetylaminofluorene     | 11.840 | 181  | 8678     | 2.199 | ppm   | 92       |
| 131) 3,3'-Dichlorobenzidine    | 12.332 | 252  | 9216     | 2.279 | ppm   | 90       |
| 132) Benzo(a)anthracene        | 12.359 | 228  | 25808    | 2.722 | ppm   | 95       |
| 133) Chrysene                  | 12.423 | 228  | 23117    | 2.535 | ppm   | 97       |
| 134) bis(2-Ethylhexyl)phtha... | 12.482 | 149  | 16705    | 2.351 | ppm   | 94       |
| 136) Di-n-octyl phthalate      | 13.813 | 149  | 25968    | 2.181 | ppm   | 90       |
| 137) 7,12-Dimethylbenz(a)an... | 14.471 | 256  | 10049    | 2.239 | ppm   | 94       |
| 138) Benzo(b)Fluoranthene      | 14.477 | 252  | 25012    | 2.405 | ppm   | 88       |
| 139) Benzo(k)fluoranthene      | 14.530 | 252  | 23589    | 2.361 | ppm   | 91       |
| 140) Benzo(a)pyrene            | 15.177 | 252  | 21516    | 2.364 | ppm   | 95       |
| 141) 3-Methylcholanthrene      | 15.958 | 268  | 12321    | 2.355 | ppm   | 91       |
| 142) Indeno(1,2,3-cd)Pyrene    | 17.253 | 276  | 23878    | 2.629 | ppm   | 83       |
| 143) Dibenz(a,h)anthracene     | 17.306 | 278  | 23183    | 2.418 | ppm   | 96       |
| 144) Benzo(g,h,i)perylene      | 17.707 | 276  | 22603    | 2.552 | ppm   | 90       |

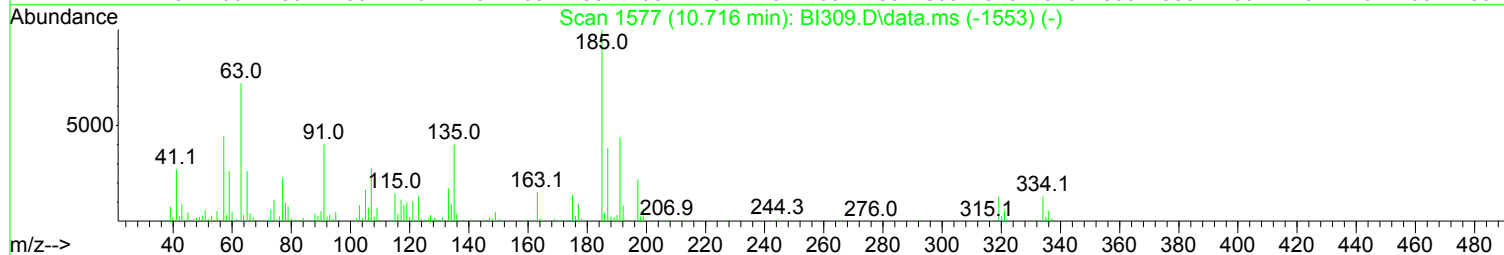
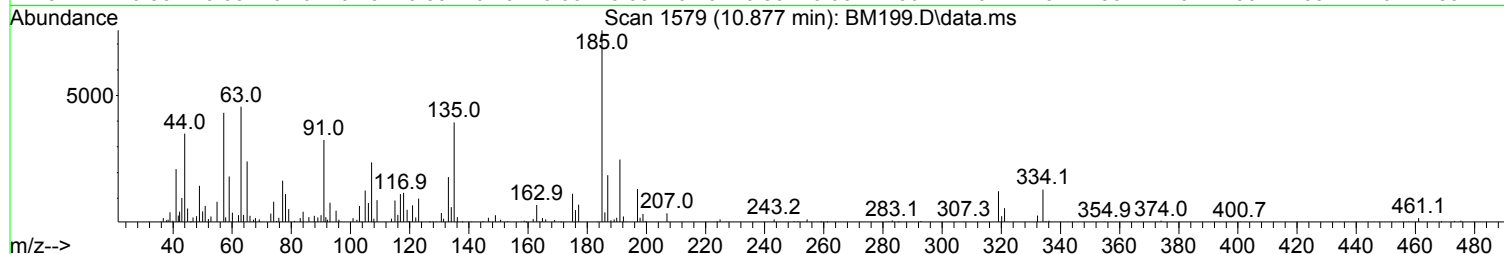
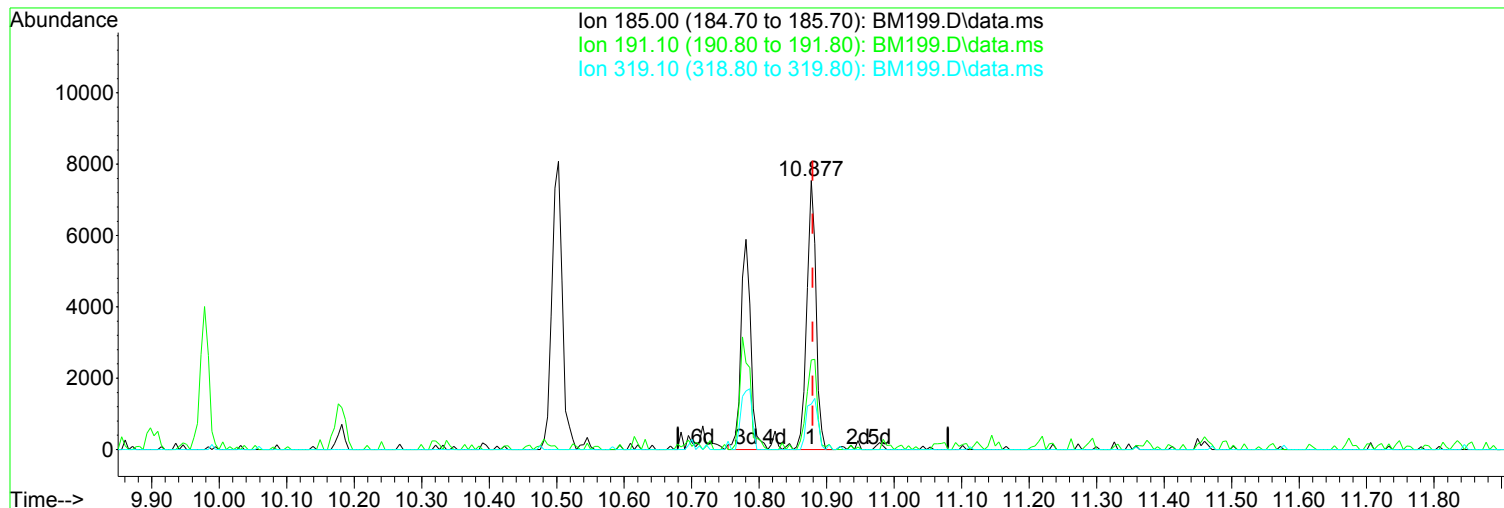
(#) = qualifier out of range (m) = manual integration (+) = signals summed





Data Path : I:\ACQUDATA\5973D\Data\102617\  
Data File : BM199.D  
Acq On : 26 Oct 2017 11:19 am  
Operator : J.Misiurewicz  
Sample : 10 ppm STD  
Misc : Initial Calibration 8270D/625  
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 26 14:09:32 2017  
Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
Quant Title : 8270 BNA ANALYSIS  
QLast Update : Thu Oct 26 14:03:10 2017  
Response via : Initial Calibration



TIC: BM199.D\data.ms

(125) Aramite (TM)

Manual Integration:

10.877min (-0.003) 9.44 ppm m

After

response 13406

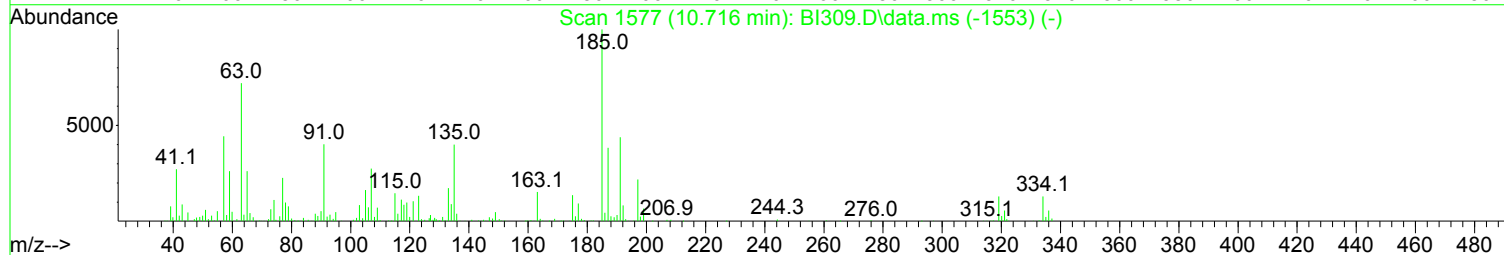
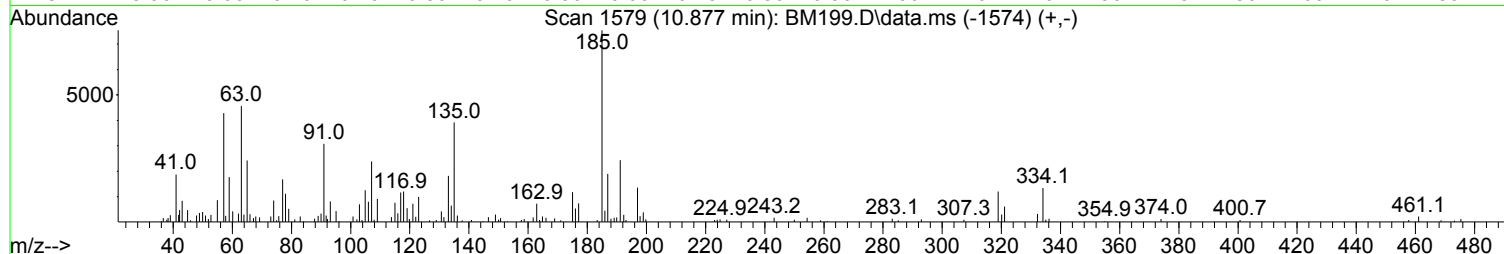
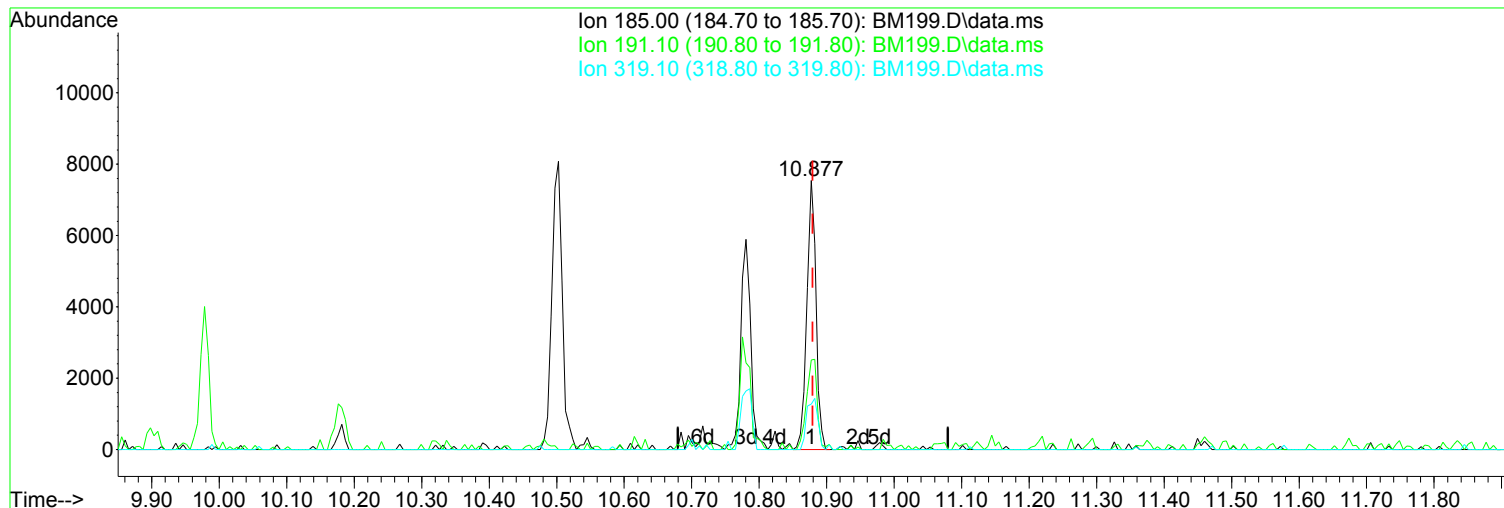
Split Peak.

| Ion    | Exp%   | Act%   |
|--------|--------|--------|
| 185.00 | 100.00 | 100.00 |
| 191.10 | 51.80  | 33.28  |
| 319.10 | 22.50  | 16.91  |
| 0.00   | 0.00   | 0.00   |

10/26/17

Data Path : I:\ACQUDATA\5973D\Data\102617\  
Data File : BM199.D  
Acq On : 26 Oct 2017 11:19 am  
Operator : J.Misiurewicz  
Sample : 10 ppm STD  
Misc : Initial Calibration 8270D/625  
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 26 14:09:32 2017  
Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
Quant Title : 8270 BNA ANALYSIS  
QLast Update : Thu Oct 26 14:03:10 2017  
Response via : Initial Calibration



TIC: BM199.D\data.ms

(125) Aramite (TM)

Manual Integration:

10.877min (-0.003) 5.01 ppm

Before

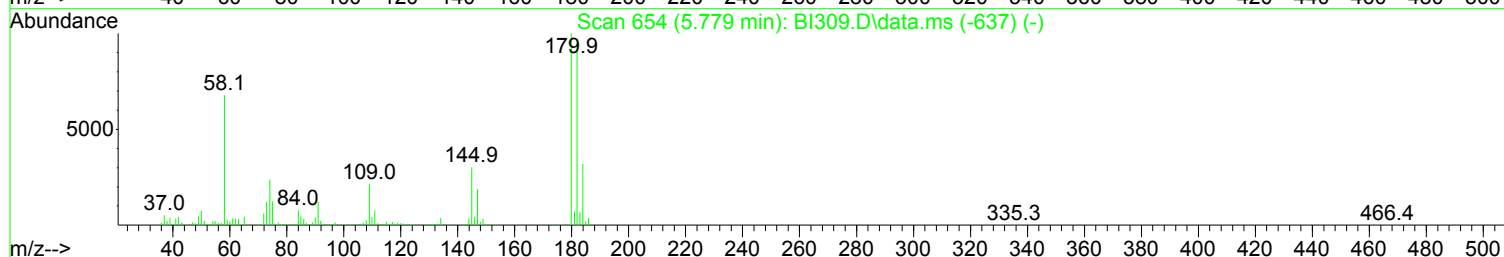
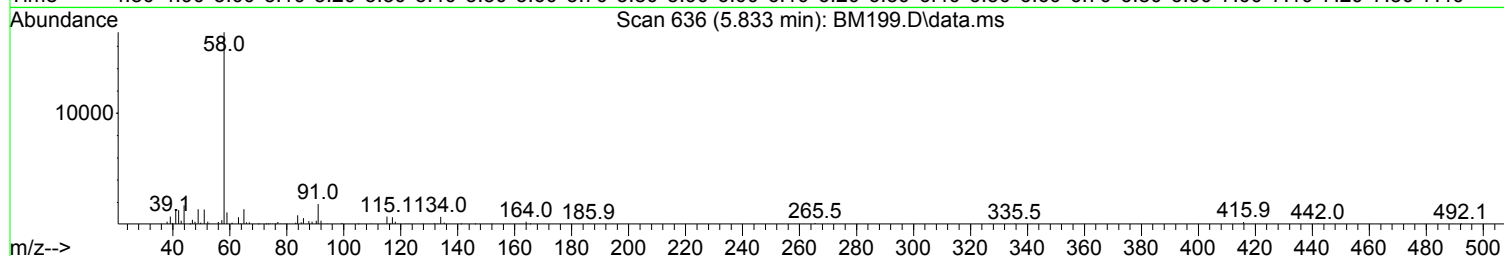
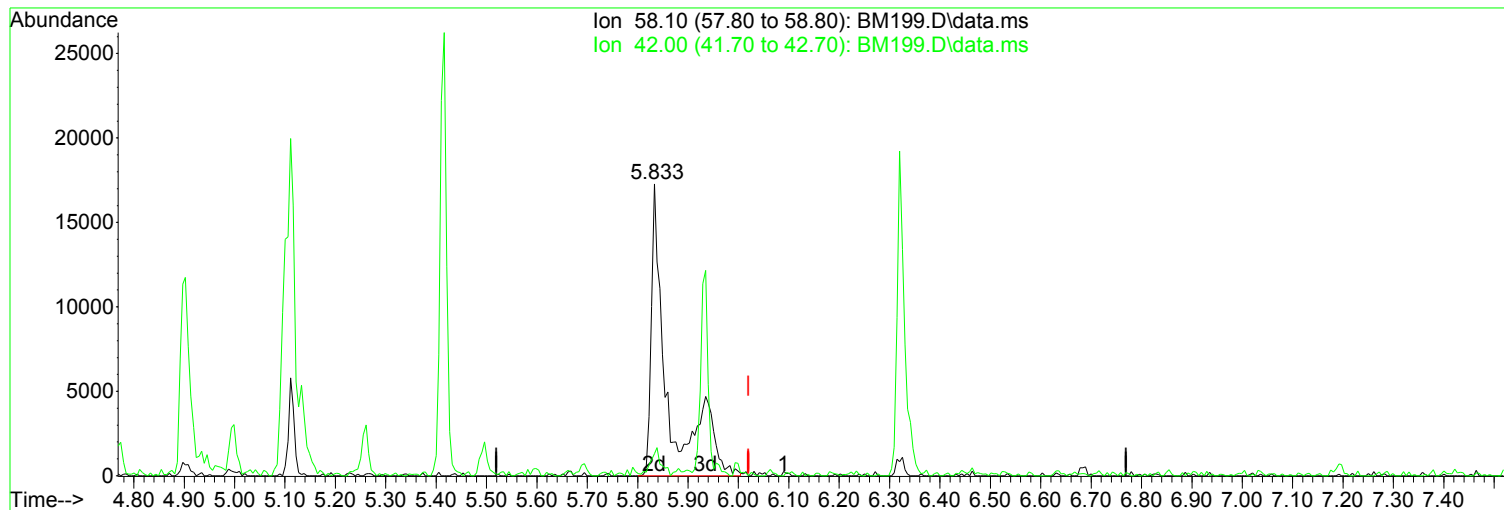
response 7118

| Ion    | Exp%   | Act%   |
|--------|--------|--------|
| 185.00 | 100.00 | 100.00 |
| 191.10 | 51.80  | 32.36  |
| 319.10 | 22.50  | 16.00  |
| 0.00   | 0.00   | 0.00   |

10/26/17

Data Path : I:\ACQUDATA\5973D\Data\102617\  
Data File : BM199.D  
Acq On : 26 Oct 2017 11:19 am  
Operator : J.Misiurewicz  
Sample : 10 ppm STD  
Misc : Initial Calibration 8270D/625  
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 26 14:09:32 2017  
Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
Quant Title : 8270 BNA ANALYSIS  
QLast Update : Thu Oct 26 14:03:10 2017  
Response via : Initial Calibration



TIC: BM199.D\data.ms

(43) a,a-Dimethylphenethylamine (TM)

Manual Integration:

5.833min (-0.187) 5.07 ppm m

After

response 39396

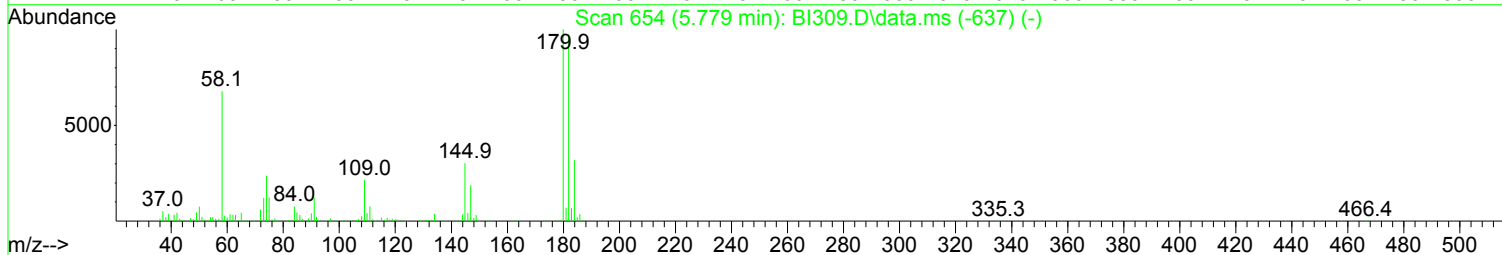
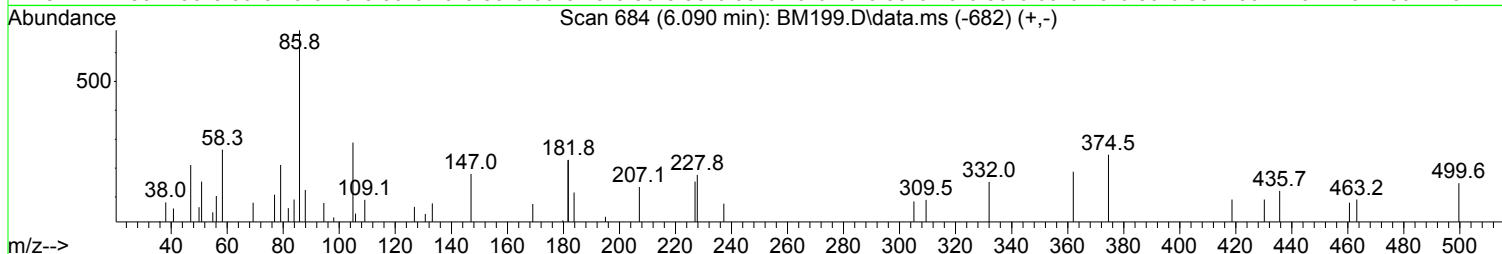
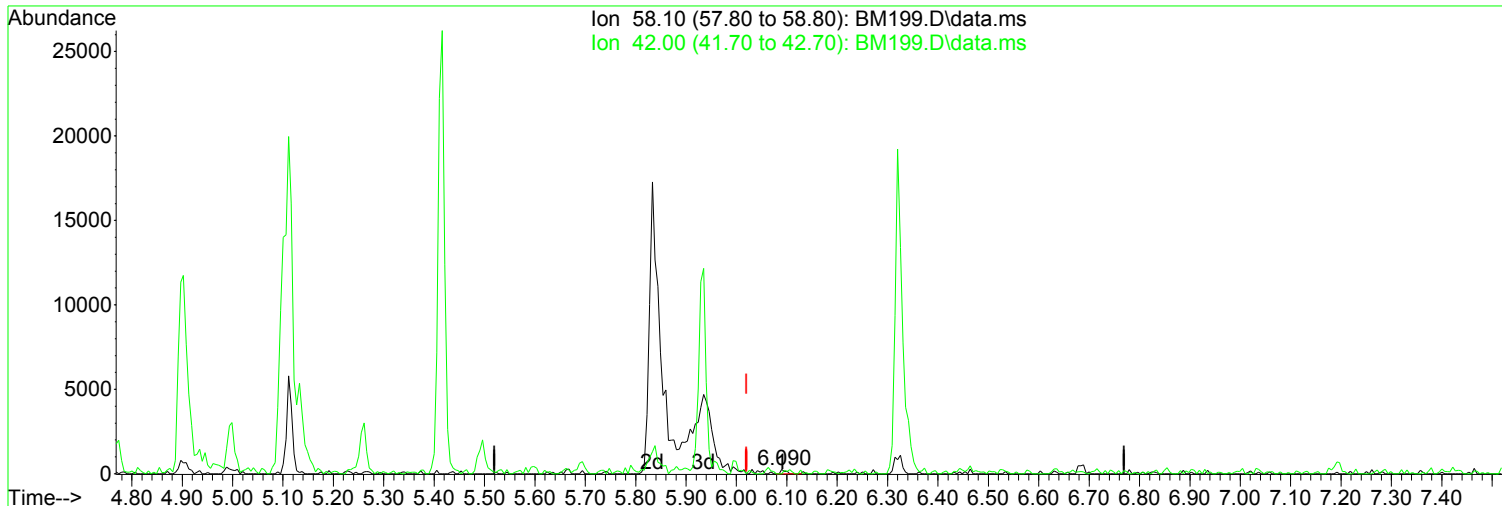
Peak not found.

| Ion   | Exp%   | Act%   |
|-------|--------|--------|
| 58.10 | 100.00 | 100.00 |
| 42.00 | 8.90   | 7.54   |
| 0.00  | 0.00   | 0.00   |
| 0.00  | 0.00   | 0.00   |

10/26/17

Data Path : I:\ACQUDATA\5973D\Data\102617\  
Data File : BM199.D  
Acq On : 26 Oct 2017 11:19 am  
Operator : J.Misiurewicz  
Sample : 10 ppm STD  
Misc : Initial Calibration 8270D/625  
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 26 14:09:32 2017  
Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
Quant Title : 8270 BNA ANALYSIS  
QLast Update : Thu Oct 26 14:03:10 2017  
Response via : Initial Calibration



(43) a,a-Dimethylphenethylamine (TM)

Manual Integration:

6.090min (+ 0.070) 0.02 ppm

Before

response 177

| Ion   | Exp%   | Act%   |          |
|-------|--------|--------|----------|
| 58.10 | 100.00 | 100.00 | 10/26/17 |
| 42.00 | 8.90   | 0.00   |          |
| 0.00  | 0.00   | 0.00   |          |
| 0.00  | 0.00   | 0.00   |          |

Data Path : I:\ACQUDATA\5973D\Data\102617\  
 Data File : BM199.D  
 Acq On : 26 Oct 2017 11:19 am  
 Operator : J.Misiurewicz  
 Sample : 10 ppm STD  
 Misc : Initial Calibration 8270D/625  
 ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 26 14:09:32 2017  
 Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
 Quant Title : 8270 BNA ANALYSIS  
 QLast Update : Thu Oct 26 14:03:10 2017  
 Response via : Initial Calibration

| Compound                  | R.T.   | QIon | Response | Conc  | Units | Dev(Min) |
|---------------------------|--------|------|----------|-------|-------|----------|
| Internal Standards        |        |      |          |       |       |          |
| 1) d4-1,4-Dichlorobenzene | 4.774  | 152  | 103990   | 40.00 | ppm   | 0.00     |
| 33) d8-Naphthalene        | 5.935  | 136  | 400368   | 40.00 | ppm   | 0.00     |
| 57) d10-Acenaphthene      | 7.641  | 164  | 202045   | 40.00 | ppm   | 0.00     |
| 91) d10-Phenanthrene      | 9.107  | 188  | 317586   | 40.00 | ppm   | 0.00     |
| 117) d12-Chrysene         | 12.375 | 240  | 376917   | 40.00 | ppm   | 0.00     |
| 135) d12-Perylene         | 15.306 | 264  | 352836   | 40.00 | ppm   | 0.00     |

|                               |         |       |          |          |     |         |
|-------------------------------|---------|-------|----------|----------|-----|---------|
| System Monitoring Compounds   |         |       |          |          |     |         |
| 7) SURR1,2-FLUOROPHENOL       | 3.704   | 112   | 34993    | 10.20    | ppm | 0.00    |
| Spiked Amount                 | 200.000 | Range | 10 - 105 | Recovery | =   | 5.10%#  |
| 12) SURR2,PHENOL-D6           | 4.432   | 99    | 37651    | 9.20     | ppm | 0.00    |
| Spiked Amount                 | 200.000 | Range | 10 - 107 | Recovery | =   | 4.60%#  |
| 34) SURR4,NITROBENZENE-D5     | 5.261   | 82    | 36514    | 10.18    | ppm | 0.00    |
| Spiked Amount                 | 100.000 | Range | 37 - 117 | Recovery | =   | 10.18%# |
| 63) SURR5,2-FLUOROBIPHENYL    | 6.972   | 172   | 74180    | 9.79     | ppm | 0.00    |
| Spiked Amount                 | 100.000 | Range | 39 - 119 | Recovery | =   | 9.79%#  |
| 88) SURR3,2,4,6-TRIBROMOPH... | 8.417   | 330   | 11605    | 8.74     | ppm | 0.00    |
| Spiked Amount                 | 200.000 | Range | 28 - 157 | Recovery | =   | 4.37%#  |
| 124) SURR6,TERPHENYL-D14      | 10.802  | 244   | 75665    | 8.98     | ppm | 0.00    |
| Spiked Amount                 | 100.000 | Range | 40 - 133 | Recovery | =   | 8.98%#  |

| Target Compounds              |       |     |       |        |     | Qvalue |
|-------------------------------|-------|-----|-------|--------|-----|--------|
| 2) Pyridine                   | 2.774 | 79  | 33911 | 10.116 | ppm | 96     |
| 3) N-Nitrosodimethylamine     | 2.736 | 74  | 17014 | 9.599  | ppm | 97     |
| 4) 2-Picoline                 | 3.298 | 93  | 34960 | 9.866  | ppm | 90     |
| 5) N-Nitrosomethylamine       | 3.367 | 42  | 17742 | 9.297  | ppm | 89     |
| 6) Methyl Methansulfonate     | 3.581 | 80  | 17923 | 10.063 | ppm | 90     |
| 8) N-Nitrosodiethylamine      | 3.886 | 102 | 14331 | 9.236  | ppm | 85     |
| 9) Ethyl Mathanesulfonate     | 4.111 | 79  | 22326 | 9.014  | ppm | 95     |
| 10) Benzaldehyde              | 4.405 | 106 | 20745 | 10.141 | ppm | 95     |
| 11) Aniline                   | 4.485 | 93  | 52779 | 9.786  | ppm | 96     |
| 13) Phenol                    | 4.442 | 94  | 39338 | 9.218  | ppm | 97     |
| 14) bis(2-Clethyl)Ether       | 4.533 | 93  | 31092 | 9.231  | ppm | 96     |
| 15) Pentachloroethane         | 4.533 | 117 | 11842 | 9.302  | ppm | 98     |
| 16) 2-Chlorophenol            | 4.592 | 128 | 32249 | 9.134  | ppm | 98     |
| 17) 1,3-Diclbzene             | 4.726 | 146 | 34282 | 8.924  | ppm | 96     |
| 18) 1,4-Dichlorobenzene       | 4.790 | 146 | 38133 | 9.835  | ppm | 97     |
| 19) 1,2-Diclbzene             | 4.924 | 146 | 36367 | 9.883  | ppm | 96     |
| 20) Benzyl Alcohol            | 4.881 | 79  | 28638 | 9.854  | ppm | 93     |
| 21) 1-Methyl-2-pyrrolidinone  | 4.902 | 99  | 21970 | 10.222 | ppm | 97     |
| 22) 2,2'-oxybis(1-Chloropr... | 4.999 | 45  | 48689 | 9.973  | ppm | 96     |
| 23) 2-Methylphenol            | 4.972 | 108 | 29028 | 9.692  | ppm | 90     |
| 24) 3+4-Methylphenol          | 5.106 | 108 | 32393 | 9.833  | ppm | 93     |
| 25) Acetophenone              | 5.122 | 105 | 48250 | 10.199 | ppm | 95     |
| 26) N-Nitroso-Di-n-propyla... | 5.111 | 70  | 24982 | 9.671  | ppm | 93     |
| 27) N-Nitrosopyrrolidine      | 5.100 | 100 | 18112 | 10.397 | ppm | 87     |
| 28) N-Nitrosomorpholine       | 5.132 | 56  | 22143 | 10.192 | ppm | 98     |
| 29) o-Toluidine               | 5.149 | 106 | 53049 | 10.216 | ppm | 98     |
| 30) Hexachloroethane          | 5.223 | 117 | 15750 | 9.748  | ppm | 95     |
| 31) o,o,o-Triethylphosphor... | 5.662 | 198 | 13582 | 9.198  | ppm | 94     |
| 32) Alpha-terpinol            | 5.956 | 121 | 12565 | 9.541  | ppm | 90     |
| 35) Nitrobenzene              | 5.277 | 77  | 38893 | 9.729  | ppm | 97     |
| 36) N-Nitrosopiperidine       | 5.416 | 42  | 23621 | 9.983  | ppm | 93     |
| 37) Isophorone                | 5.491 | 82  | 73062 | 10.106 | ppm | 98     |
| 38) 2-Nitrophenol             | 5.571 | 139 | 17542 | 9.694  | ppm | 88     |

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 Misc : Initial Calibration 8270D/625  
 ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 26 14:09:32 2017  
 Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
 Quant Title : 8270 BNA ANALYSIS  
 QLast Update : Thu Oct 26 14:03:10 2017  
 Response via : Initial Calibration

| Compound                      | R.T.  | QIon | Response | Conc   | Units | Dev(Min) |
|-------------------------------|-------|------|----------|--------|-------|----------|
| 39) Benzoic Acid              | 5.657 | 105  | 6528     | 3.466  | ppm   | 90       |
| 40) 2,4-Dimethylphenol        | 5.598 | 107  | 34786    | 10.127 | ppm   | 97       |
| 41) bis(-2-Chloroethoxy)Me... | 5.689 | 93   | 43841    | 10.142 | ppm   | 99       |
| 42) 2,4-Dichlorophenol        | 5.796 | 162  | 28070    | 9.969  | ppm   | 92       |
| 43) a,a-Dimethylphenethyla... | 5.833 | 58   | 39396m   | 5.073  | ppm   |          |
| 44) 1,2,4-Trichlorobenzene    | 5.876 | 180  | 30924    | 9.673  | ppm   | 95       |
| 45) Naphthalene               | 5.951 | 128  | 100470   | 9.863  | ppm   | 99       |
| 46) 4-Chloroaniline           | 5.999 | 127  | 41272    | 9.665  | ppm   | 98       |
| 47) 2,6-Dichlorophenol        | 6.010 | 162  | 27140    | 9.580  | ppm   | 90       |
| 48) Hexachlorobutadiene       | 6.063 | 225  | 18668    | 10.250 | ppm   | 86       |
| 49) Hexachloropropene         | 6.036 | 213  | 20217    | 9.331  | ppm   | 85       |
| 50) 4-Chloro-3-methylphenol   | 6.464 | 107  | 28588    | 10.317 | ppm   | 97       |
| 51) N-N-di-n-butylamine       | 6.320 | 84   | 29252    | 11.675 | ppm   | 98       |
| 52) Caprolactam               | 6.325 | 113  | 9396     | 9.893  | ppm   | # 72     |
| 53) p-Phenylenediamine        | 6.341 | 80   | 38462    | 23.320 | ppm   | 88       |
| 54) Safrole                   | 6.534 | 162  | 25874    | 9.866  | ppm   | 96       |
| 55) 2-Methylnaphthalene       | 6.619 | 142  | 67785    | 10.008 | ppm   | 95       |
| 56) 1-Methylnaphthalene       | 6.716 | 142  | 61104    | 9.944  | ppm   | 99       |
| 58) Hexachlorocyclopentadiene | 6.769 | 237  | 19132    | 9.479  | ppm   | 91       |
| 59) 1,2,4,5-Tetrachloroben... | 6.780 | 216  | 30801    | 9.414  | ppm   | 97       |
| 60) 1,2,3,4-Tetrachloroben... | 7.058 | 216  | 29940    | 10.186 | ppm   | 98       |
| 61) 2,4,6-Trichlorophenol     | 6.892 | 196  | 19574    | 9.336  | ppm   | 100      |
| 62) 2,4,5-Trichlorophenol     | 6.930 | 196  | 21233    | 10.162 | ppm   | 92       |
| 64) Isosafrole                | 7.037 | 104  | 12547    | 9.597  | ppm   | # 78     |
| 65) 1,1'-Biphenyl             | 7.074 | 154  | 83166    | 10.000 | ppm   | 98       |
| 66) 2-Chloronaphthalene       | 7.095 | 162  | 62602    | 9.641  | ppm   | 95       |
| 67) 2-Nitroaniline            | 7.192 | 65   | 17397    | 9.744  | ppm   | 92       |
| 68) 1,4-Naphthoquinone        | 7.272 | 158  | 7716     | 11.138 | ppm   | 90       |
| 69) m-Dinitrobenzene          | 7.400 | 168  | 8096     | 8.002  | ppm   | # 50     |
| 70) Acenaphthylene            | 7.502 | 152  | 97867    | 9.582  | ppm   | 97       |
| 71) Dimethyl phthalate        | 7.368 | 163  | 73317    | 10.431 | ppm   | 99       |
| 72) 2,6-Dinitrotoluene        | 7.427 | 165  | 18407    | 10.595 | ppm   | 97       |
| 73) Acenaphthene              | 7.673 | 153  | 69855    | 10.321 | ppm   | 98       |
| 74) 3-Nitroaniline            | 7.593 | 138  | 14156    | 8.184  | ppm   | # 69     |
| 75) 2,4-Dinitrophenol         | 7.700 | 184  | 3599     | 10.090 | ppm   | 71       |
| 76) Dibenzofuran              | 7.839 | 168  | 88493    | 9.785  | ppm   | 100      |
| 77) 2,4-Dinitrotoluene        | 7.823 | 165  | 17107    | 9.122  | ppm   | 88       |
| 78) 4-Nitrophenol             | 7.764 | 65   | 11860    | 7.954  | ppm   | 82       |
| 79) Pentachlorobenzene        | 7.796 | 250  | 28679    | 9.946  | ppm   | 96       |
| 80) 1-Naphthylamine           | 7.919 | 143  | 52123    | 9.929  | ppm   | 90       |
| 81) 2-Naphthylamine           | 7.994 | 143  | 54544    | 9.701  | ppm   | 95       |
| 82) 2,3,4,6-Tetrachlorophenol | 7.962 | 232  | 14056    | 8.713  | ppm   | 86       |
| 83) Fluorene                  | 8.181 | 166  | 72463    | 9.823  | ppm   | 94       |
| 84) 4-Chlorophenyl-phenyle... | 8.176 | 204  | 37442    | 9.680  | ppm   | 95       |
| 85) Diethylphthalate          | 8.064 | 149  | 70037    | 9.309  | ppm   | 98       |
| 86) 4-Nitroaniline            | 8.192 | 138  | 17383    | 8.978  | ppm   | 90       |
| 87) 5-Nitro-o-toluidine       | 8.187 | 152  | 17240    | 8.566  | ppm   | 82       |
| 89) Sulfotepp                 | 8.454 | 322  | 10915    | 9.120  | ppm   | 95       |
| 90) Octachlorocyclopentene    | 8.427 | 307  | 12062    | 9.488  | ppm   | 98       |
| 92) Thionazin                 | 8.144 | 107  | 10097    | 10.362 | ppm   | 84       |
| 93) 4,6-Dinitro-2-methylph... | 8.224 | 198  | 7047     | 10.010 | ppm   | 93       |
| 94) Diphenylamine             | 8.294 | 169  | 108073   | 23.070 | ppm   | 97       |
| 95) 1,2 Diphenylhydrazine     | 8.336 | 77   | 75979    | 11.707 | ppm   | 91       |
| 96) N-Nitrosodiphenylamine    | 8.294 | 169  | 108073   | 23.069 | ppm   | 97       |
| 97) 1,3,5-Trinitrobenzene     | 8.556 | 213  | 4023     | 7.842  | ppm   | # 8      |
| 98) Diallate                  | 8.577 | 86   | 23969    | 11.086 | ppm   | 81       |

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Acq On : 26 Oct 2017 11:19 am  
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Misc : Initial Calibration 8270D/625  
ALS Vial : 6 Sample Multiplier: 1

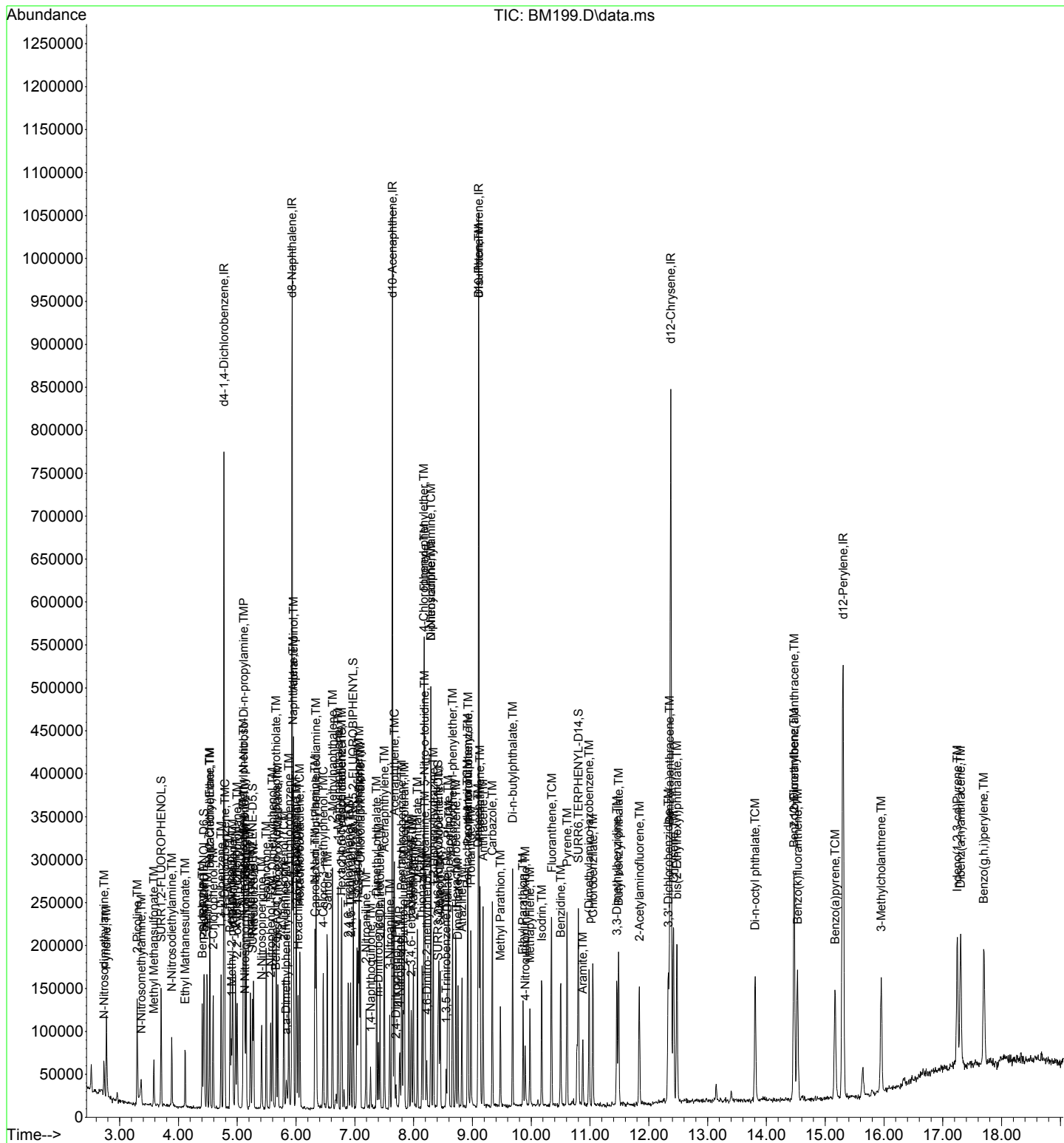
Quant Time: Oct 26 14:09:32 2017  
Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
Quant Title : 8270 BNA ANALYSIS  
QLast Update : Thu Oct 26 14:03:10 2017  
Response via : Initial Calibration

| Compound                       | R.T.   | QIon | Response | Conc   | Units | Dev(Min) |     |
|--------------------------------|--------|------|----------|--------|-------|----------|-----|
| 99) Phorate                    | 8.588  | 121  | 11384    | 10.331 | ppm   | #        | 76  |
| 100) Phenacetin                | 8.598  | 108  | 34036    | 11.004 | ppm   |          | 91  |
| 101) 4-Bromophenyl-phenylether | 8.663  | 248  | 23509    | 11.804 | ppm   |          | 93  |
| 102) Hexachlorobenzene         | 8.721  | 284  | 25613    | 11.827 | ppm   |          | 90  |
| 103) Dimethoate                | 8.754  | 87   | 22704    | 11.923 | ppm   |          | 99  |
| 104) Atrazine                  | 8.823  | 215  | 7818     | 13.828 | ppm   |          | 89  |
| 105) Pentachlorophenol         | 8.914  | 266  | 8274     | 10.042 | ppm   |          | 89  |
| 106) 4-Aminobiphenyl           | 8.919  | 169  | 56240    | 10.765 | ppm   |          | 97  |
| 107) Pentachloronitrobenzene   | 8.925  | 237  | 7462     | 9.667  | ppm   |          | 92  |
| 108) Pronamide                 | 8.973  | 173  | 28292    | 10.572 | ppm   |          | 95  |
| 109) Dinoseb                   | 9.096  | 211  | 8990     | 6.699  | ppm   |          | 90  |
| 110) Disulfoton                | 9.107  | 88   | 24313    | 9.719  | ppm   |          | 91  |
| 111) Phenanthrene              | 9.128  | 178  | 86529    | 10.123 | ppm   |          | 97  |
| 112) Anthracene                | 9.181  | 178  | 82759    | 9.805  | ppm   |          | 100 |
| 113) Carbazole                 | 9.337  | 167  | 96380    | 11.400 | ppm   |          | 95  |
| 114) Di-n-butylphthalate       | 9.684  | 149  | 120002   | 11.025 | ppm   |          | 99  |
| 115) 4-Nitroquinonline-1-oxide | 9.898  | 190  | 5347     | 8.022  | ppm   |          | 77  |
| 116) Fluoranthene              | 10.347 | 202  | 97050    | 10.393 | ppm   |          | 99  |
| 118) Methyl Parathion          | 9.476  | 109  | 16136    | 9.094  | ppm   |          | 83  |
| 119) Ethyl Parathion           | 9.861  | 97   | 10981    | 7.507  | ppm   |          | 82  |
| 120) Methapyrilene             | 9.978  | 58   | 30234    | 9.976  | ppm   |          | 98  |
| 121) Isodrin                   | 10.182 | 193  | 9424     | 8.487  | ppm   |          | 89  |
| 122) Benzidine                 | 10.503 | 184  | 61141    | 8.776  | ppm   |          | 97  |
| 123) Pyrene                    | 10.609 | 202  | 101511   | 8.897  | ppm   |          | 99  |
| 125) Aramite                   | 10.877 | 185  | 13406m   | 9.436  | ppm   |          |     |
| 126) p-(Dimethylamino)azobe... | 10.984 | 120  | 29299    | 9.296  | ppm   |          | 96  |
| 127) Chlorobenzilate           | 11.048 | 139  | 35320    | 9.504  | ppm   |          | 95  |
| 128) Butyl benzyl phthalate    | 11.487 | 149  | 50423    | 8.926  | ppm   |          | 93  |
| 129) 3,3-Dimethylbenzidine     | 11.455 | 212  | 59531    | 8.987  | ppm   |          | 95  |
| 130) 2-Acetylaminofluorene     | 11.840 | 181  | 40394    | 8.782  | ppm   |          | 95  |
| 131) 3,3'-Dichlorobenzidine    | 12.332 | 252  | 44836    | 9.514  | ppm   |          | 99  |
| 132) Benzo(a)anthracene        | 12.353 | 228  | 105935   | 9.589  | ppm   |          | 98  |
| 133) Chrysene                  | 12.423 | 228  | 105574   | 9.936  | ppm   |          | 97  |
| 134) bis(2-Ethylhexyl)phtha... | 12.482 | 149  | 81574    | 9.852  | ppm   |          | 95  |
| 136) Di-n-octyl phthalate      | 13.808 | 149  | 118154   | 9.727  | ppm   |          | 100 |
| 137) 7,12-Dimethylbenz(a)an... | 14.471 | 256  | 44886    | 9.806  | ppm   |          | 92  |
| 138) Benzo(b)Fluoranthene      | 14.466 | 252  | 98217    | 9.258  | ppm   |          | 97  |
| 139) Benzo(k)fluoranthene      | 14.530 | 252  | 97608    | 9.578  | ppm   |          | 96  |
| 140) Benzo(a)pyrene            | 15.167 | 252  | 89841    | 9.678  | ppm   |          | 98  |
| 141) 3-Methylcholanthrene      | 15.953 | 268  | 52528    | 9.842  | ppm   |          | 93  |
| 142) Indeno(1,2,3-cd)Pyrene    | 17.247 | 276  | 95676    | 10.326 | ppm   |          | 98  |
| 143) Dibenz(a,h)anthracene     | 17.306 | 278  | 97880    | 10.007 | ppm   |          | 96  |
| 144) Benzo(g,h,i)perylene      | 17.696 | 276  | 94166    | 10.425 | ppm   |          | 96  |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

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ALS Vial : 6 Sample Multiplier: 1

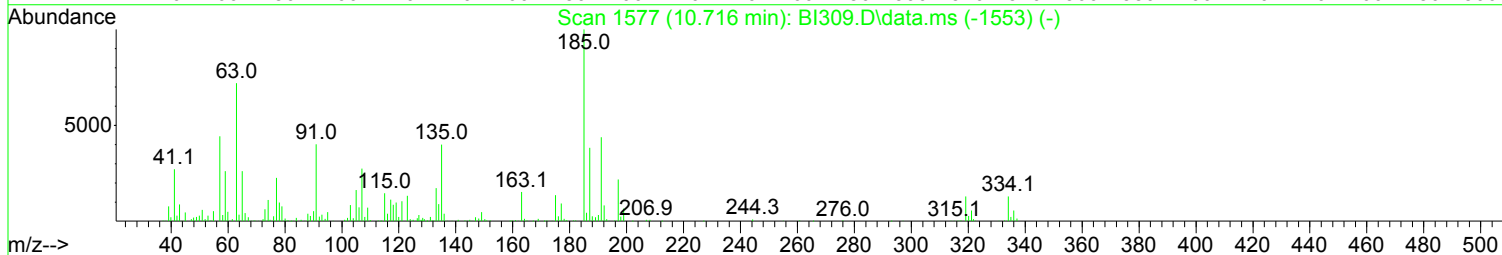
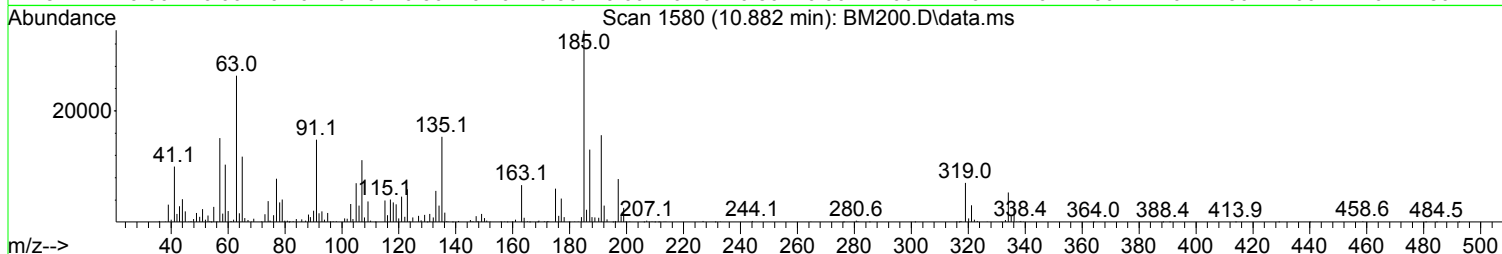
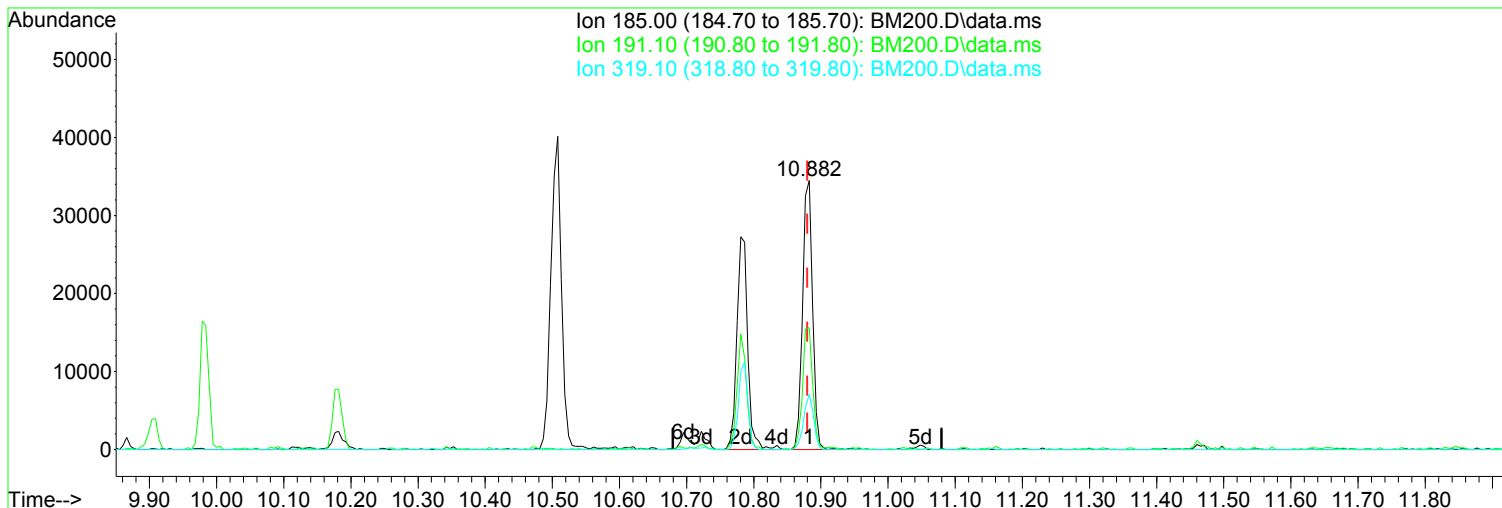
Quant Time: Oct 26 14:09:32 2017  
Quant Method : I:\ACQUADATA\5973D-Methods\8270102617D.M  
Quant Title : 8270 BNA ANALYSIS  
QLast Update : Thu Oct 26 14:03:10 2017  
Response via : Initial Calibration





Data Path : I:\ACQUDATA\5973D\Data\102617\  
Data File : BM200.D  
Acq On : 26 Oct 2017 11:47 am  
Operator : J.Misiurewicz  
Sample : 50 ppm STD  
Misc : Initial Calibration 8270D/625  
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Oct 26 14:09:39 2017  
Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
Quant Title : 8270 BNA ANALYSIS  
QLast Update : Thu Oct 26 14:03:10 2017  
Response via : Initial Calibration



(125) Aramite (TM)

Manual Integration:

10.882min (+ 0.002) 50.96 ppm m

After

response 65897

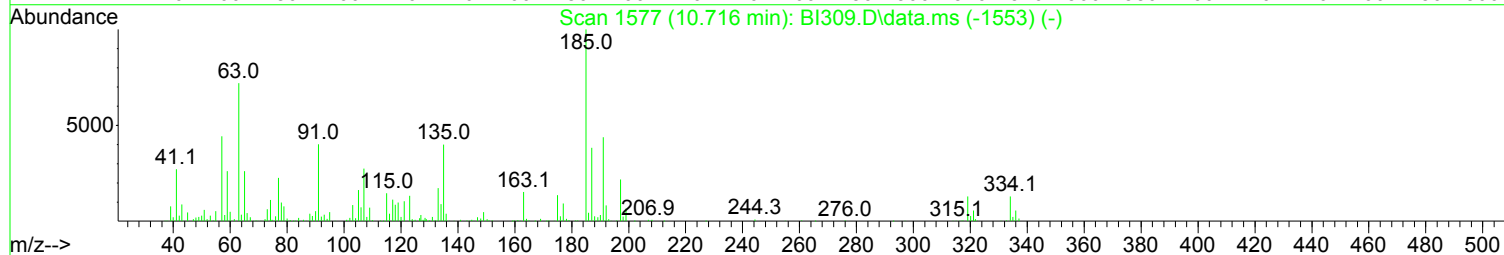
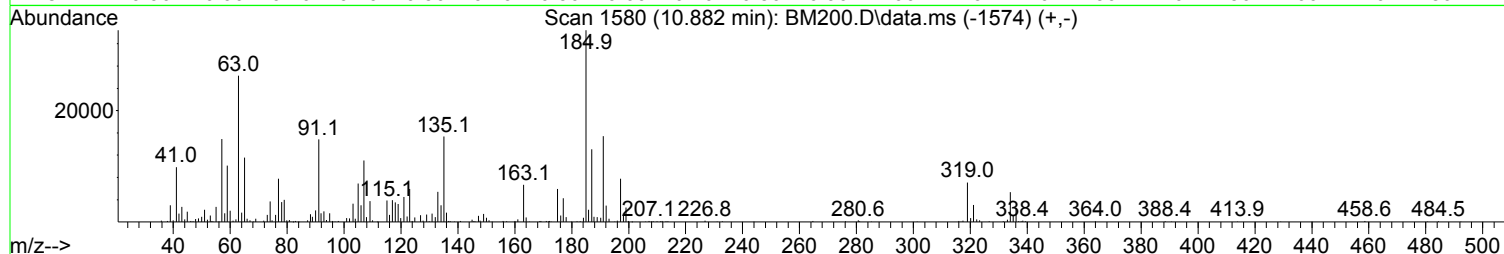
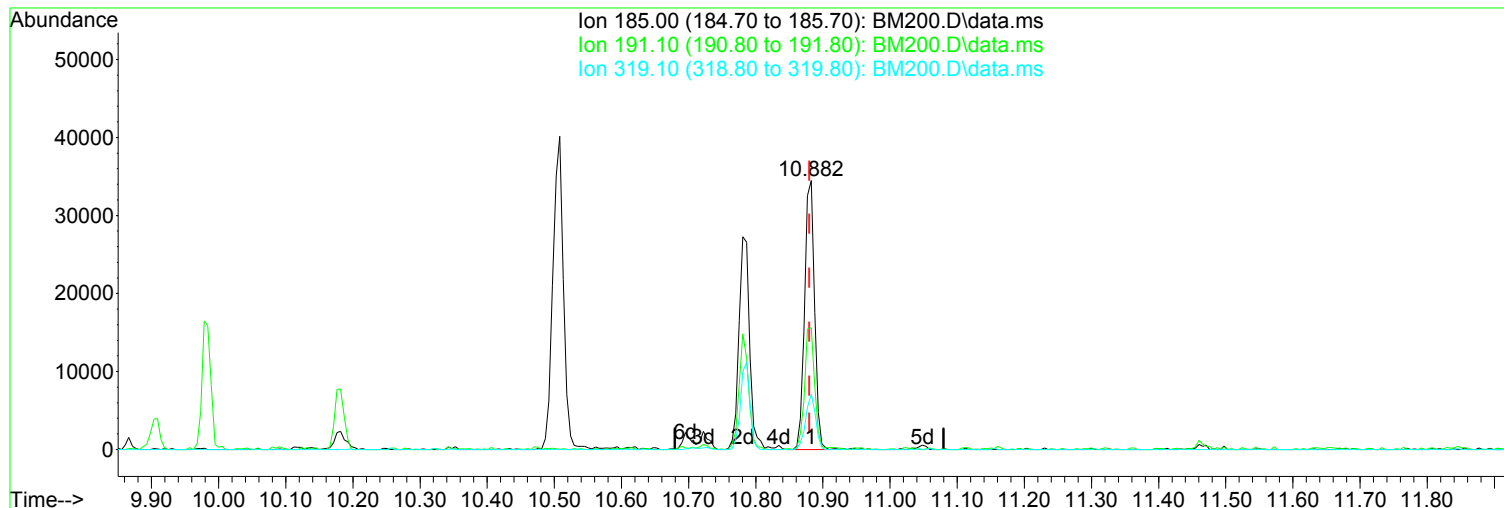
Split Peak.

| Ion    | Exp%   | Act%   |
|--------|--------|--------|
| 185.00 | 100.00 | 100.00 |
| 191.10 | 51.80  | 45.30  |
| 319.10 | 22.50  | 20.54  |
| 0.00   | 0.00   | 0.00   |

10/26/17

Data Path : I:\ACQUDATA\5973D\Data\102617\  
 Data File : BM200.D  
 Acq On : 26 Oct 2017 11:47 am  
 Operator : J.Misiurewicz  
 Sample : 50 ppm STD  
 Misc : Initial Calibration 8270D/625  
 ALS Vial : 7 Sample Multiplier: 1

Quant Time: Oct 26 14:09:39 2017  
 Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
 Quant Title : 8270 BNA ANALYSIS  
 QLast Update : Thu Oct 26 14:03:10 2017  
 Response via : Initial Calibration

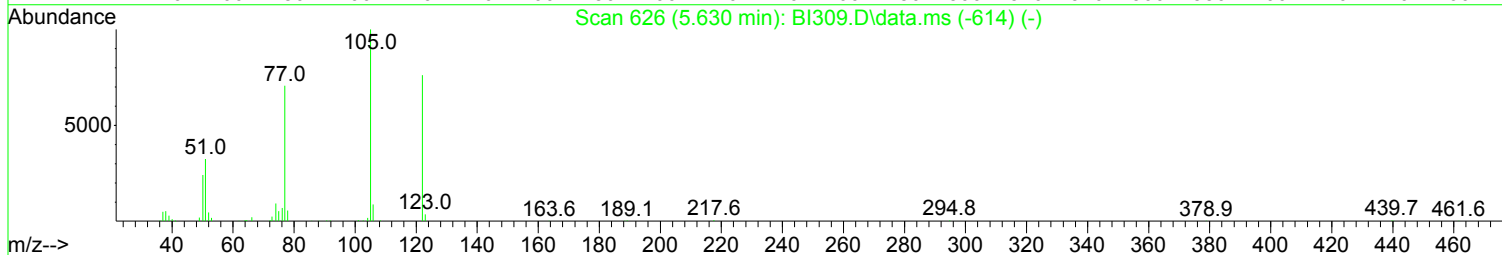
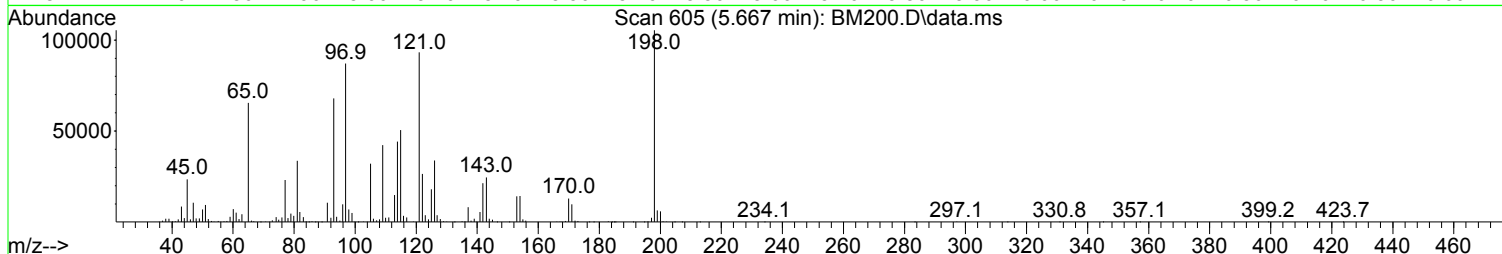
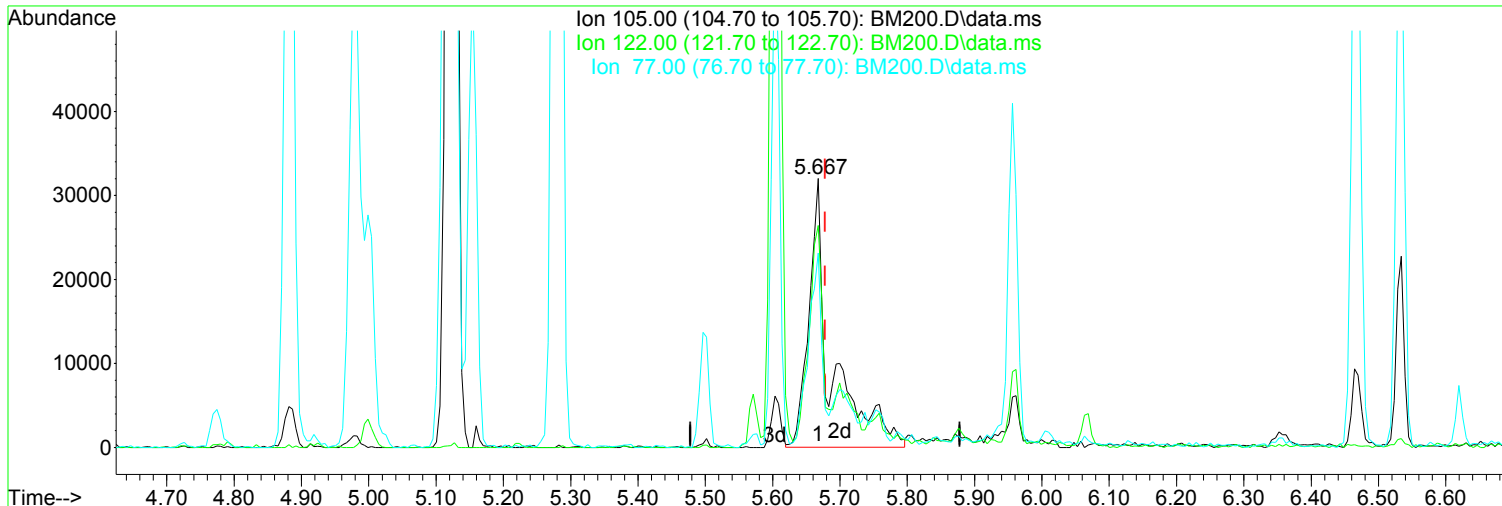


TIC: BM200.D\data.ms

| (125) Aramite (TM)            |        |        | Manual Integration: |
|-------------------------------|--------|--------|---------------------|
| 10.882min (+ 0.002) 27.30 ppm |        |        | Before              |
| response                      | 35300  |        |                     |
| Ion                           | Exp%   | Act%   | 10/26/17            |
| 185.00                        | 100.00 | 100.00 |                     |
| 191.10                        | 51.80  | 44.80  |                     |
| 319.10                        | 22.50  | 20.59  |                     |
| 0.00                          | 0.00   | 0.00   |                     |

Data Path : I:\ACQUDATA\5973D\Data\102617\  
Data File : BM200.D  
Acq On : 26 Oct 2017 11:47 am  
Operator : J.Misiurewicz  
Sample : 50 ppm STD  
Misc : Initial Calibration 8270D/625  
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Oct 26 14:09:39 2017  
Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
Quant Title : 8270 BNA ANALYSIS  
QLast Update : Thu Oct 26 14:03:10 2017  
Response via : Initial Calibration



(39) Benzoic Acid (TM)

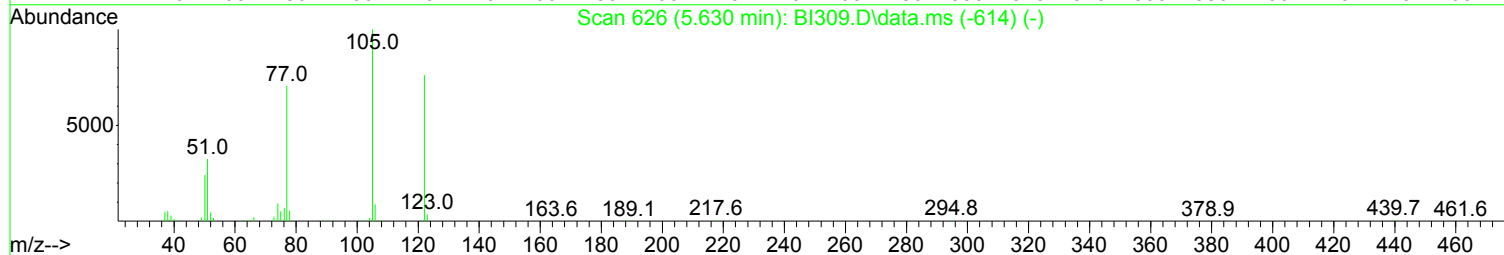
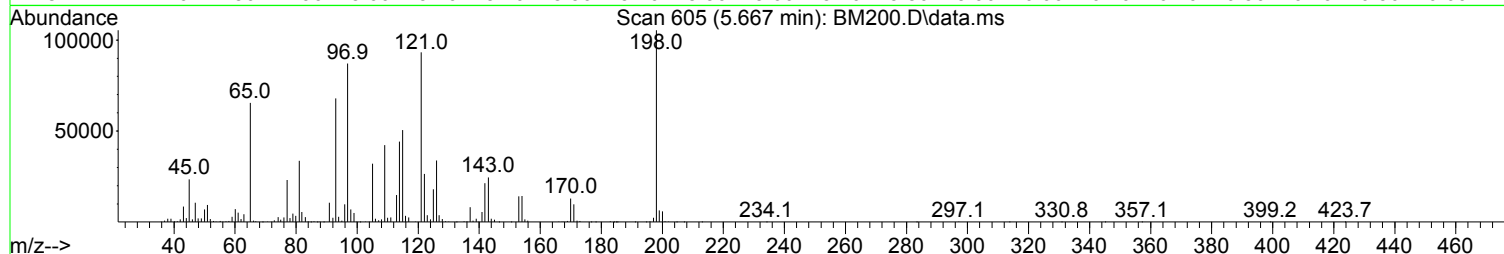
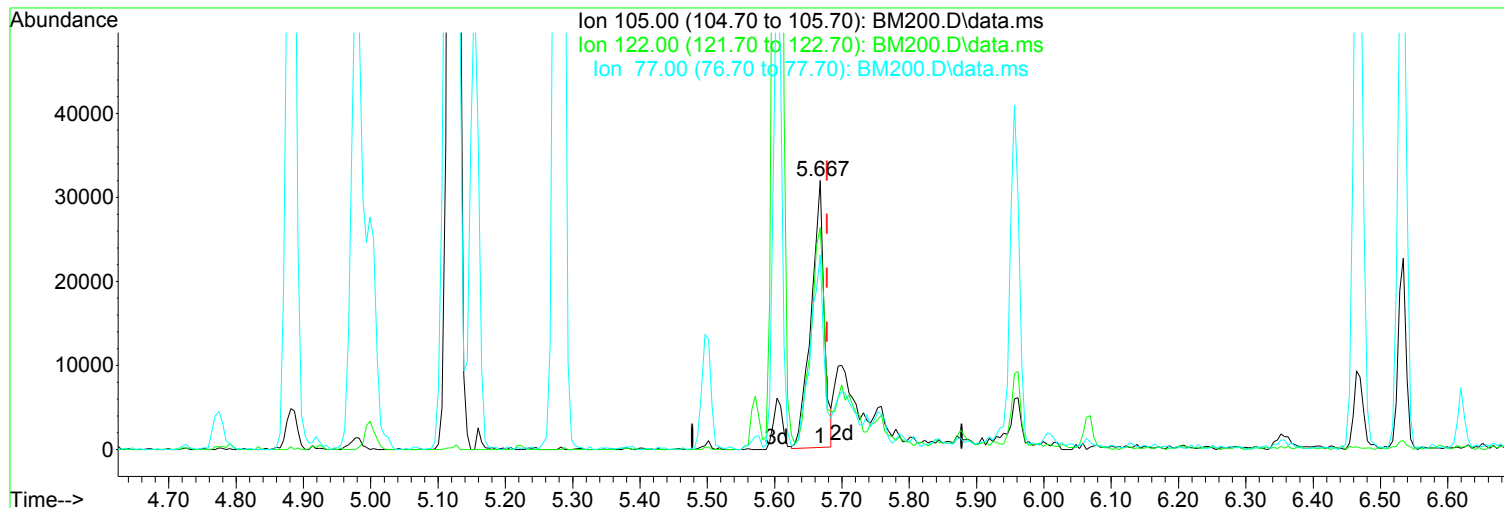
5.667min (-0.011) 40.43 ppm m

| response | 74000         |
|----------|---------------|
| Ion      | Exp% Act%     |
| 105.00   | 100.00 100.00 |
| 122.00   | 75.90 82.56   |
| 77.00    | 78.10 72.31   |
| 0.00     | 0.00 0.00     |

Manual Integration:  
After  
Poor integration.  
10/26/17

Data Path : I:\ACQUDATA\5973D\Data\102617\  
Data File : BM200.D  
Acq On : 26 Oct 2017 11:47 am  
Operator : J.Misiurewicz  
Sample : 50 ppm STD  
Misc : Initial Calibration 8270D/625  
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Oct 26 14:09:39 2017  
Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
Quant Title : 8270 BNA ANALYSIS  
QLast Update : Thu Oct 26 14:03:10 2017  
Response via : Initial Calibration



TIC: BM200.D\data.ms

(39) Benzoic Acid (TM)

Manual Integration:

5.667min (-0.011) 23.29 ppm

Before

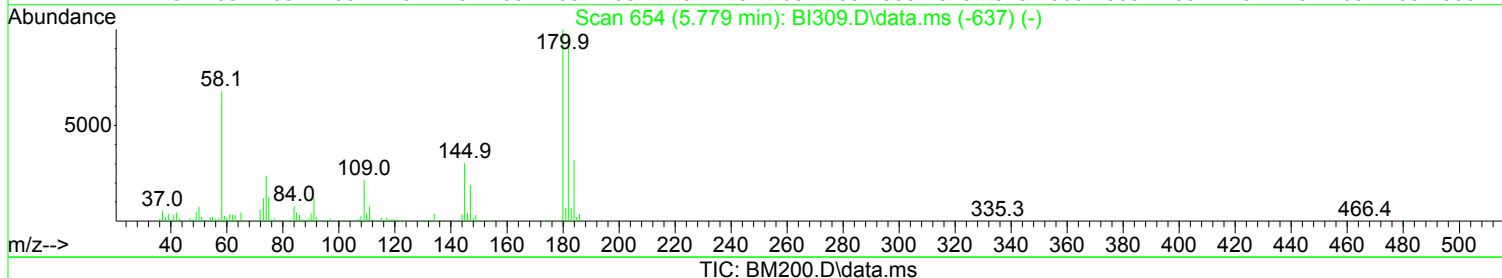
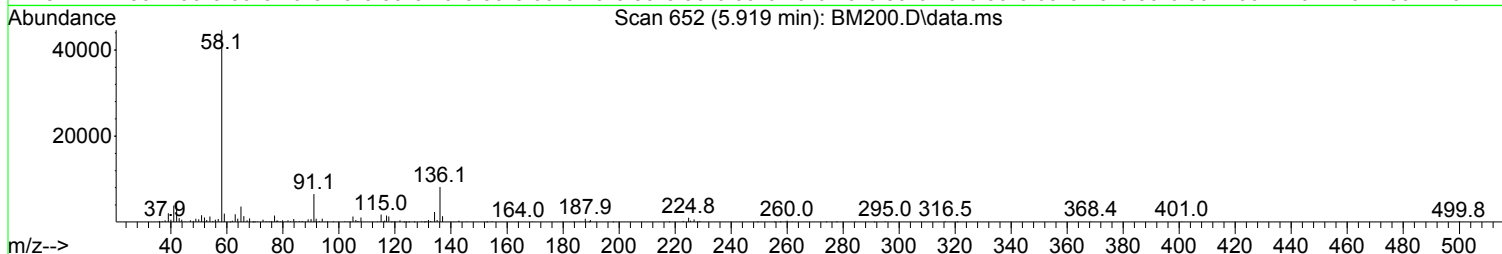
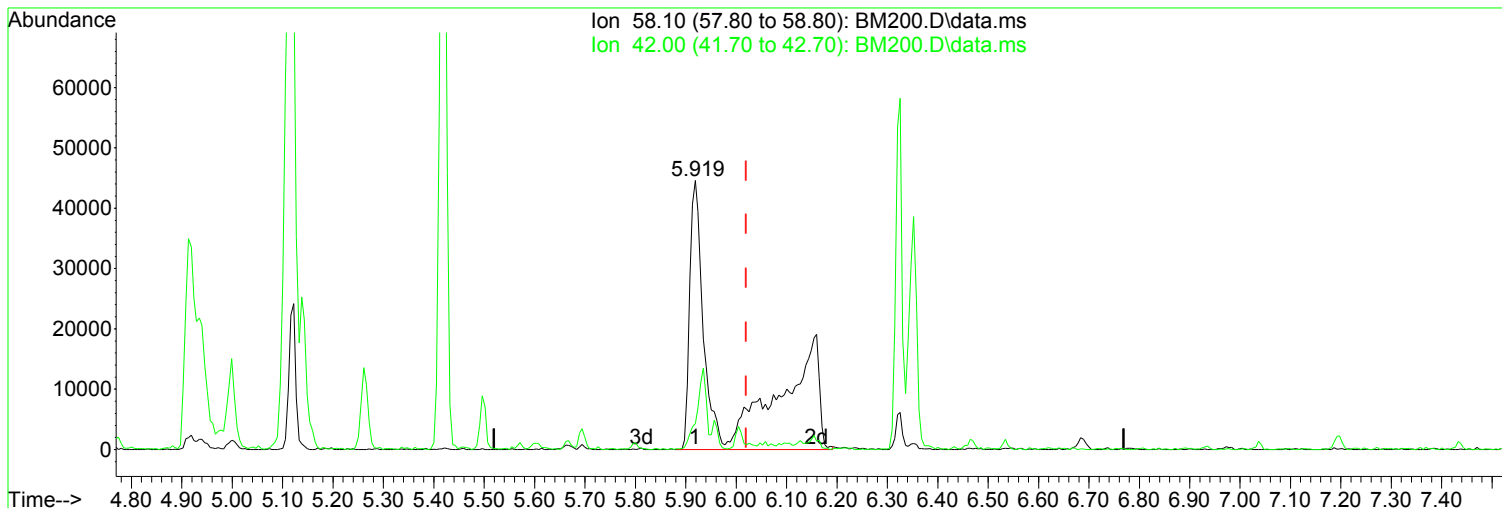
response 42631

| Ion    | Exp%   | Act%   |
|--------|--------|--------|
| 105.00 | 100.00 | 100.00 |
| 122.00 | 75.90  | 82.56  |
| 77.00  | 78.10  | 72.31  |
| 0.00   | 0.00   | 0.00   |

10/26/17

Data Path : I:\ACQUDATA\5973D\Data\102617\  
Data File : BM200.D  
Acq On : 26 Oct 2017 11:47 am  
Operator : J.Misiurewicz  
Sample : 50 ppm STD  
Misc : Initial Calibration 8270D/625  
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Oct 26 14:09:39 2017  
Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
Quant Title : 8270 BNA ANALYSIS  
QLast Update : Thu Oct 26 14:03:10 2017  
Response via : Initial Calibration



(43) a,a-Dimethylphenethylamine (TM)

Manual Integration:

5.919min (-0.101) 24.34 ppm m

After

response 183679

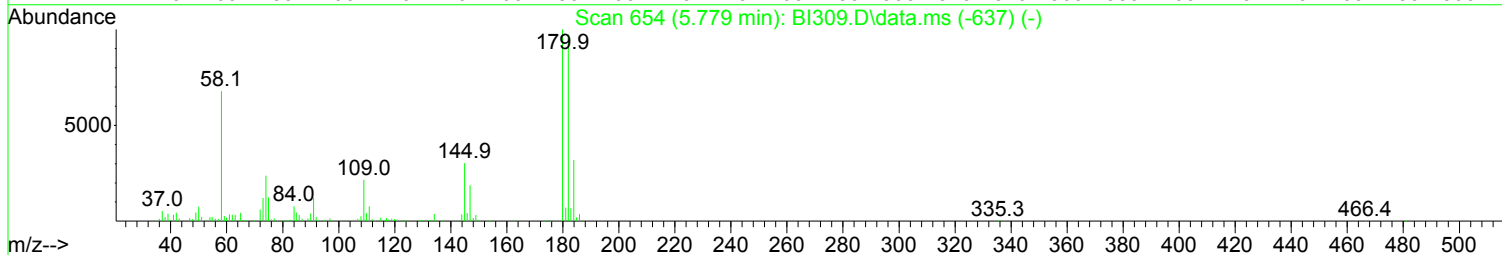
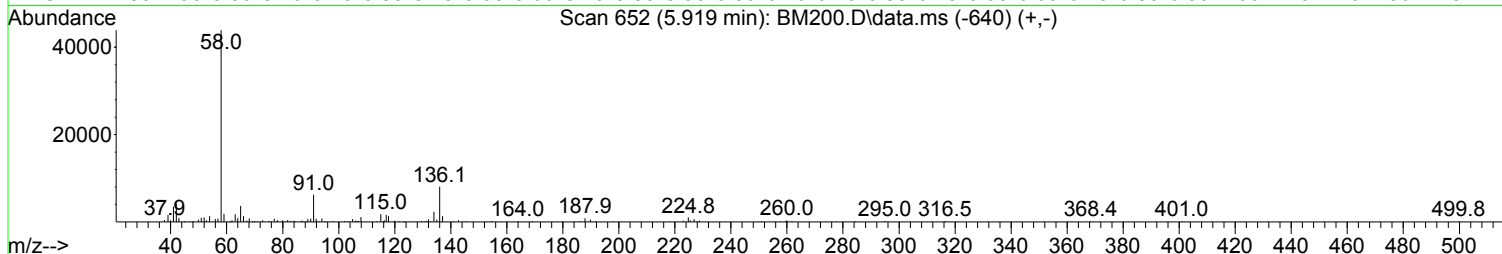
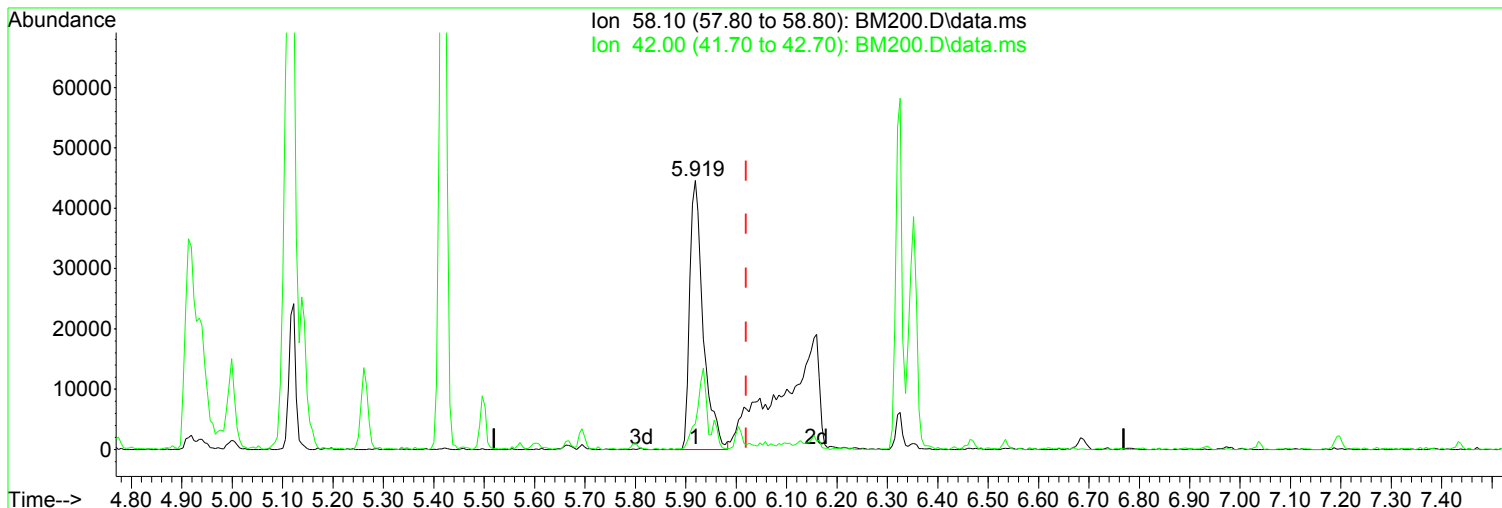
Poor integration.

| Ion   | Exp%   | Act%   |
|-------|--------|--------|
| 58.10 | 100.00 | 100.00 |
| 42.00 | 8.90   | 9.62   |
| 0.00  | 0.00   | 0.00   |
| 0.00  | 0.00   | 0.00   |

10/26/17

Data Path : I:\ACQUDATA\5973D\Data\102617\  
Data File : BM200.D  
Acq On : 26 Oct 2017 11:47 am  
Operator : J.Misiurewicz  
Sample : 50 ppm STD  
Misc : Initial Calibration 8270D/625  
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Oct 26 14:09:39 2017  
Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
Quant Title : 8270 BNA ANALYSIS  
QLast Update : Thu Oct 26 14:03:10 2017  
Response via : Initial Calibration



(43) a,a-Dimethylphenethylamine (TM)

Manual Integration:

5.919min (-0.101) 10.97 ppm

Before

response 82751

| Ion   | Exp%   | Act%   |
|-------|--------|--------|
| 58.10 | 100.00 | 100.00 |
| 42.00 | 8.90   | 9.47   |
| 0.00  | 0.00   | 0.00   |
| 0.00  | 0.00   | 0.00   |

10/26/17

Data Path : I:\ACQUDATA\5973D\Data\102617\  
 Data File : BM200.D  
 Acq On : 26 Oct 2017 11:47 am  
 Operator : J.Misiurewicz  
 Sample : 50 ppm STD  
 Misc : Initial Calibration 8270D/625  
 ALS Vial : 7 Sample Multiplier: 1

Quant Time: Oct 26 14:09:39 2017  
 Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
 Quant Title : 8270 BNA ANALYSIS  
 QLast Update : Thu Oct 26 14:03:10 2017  
 Response via : Initial Calibration

| Compound                  | R.T.   | QIon | Response | Conc  | Units | Dev(Min) |
|---------------------------|--------|------|----------|-------|-------|----------|
| Internal Standards        |        |      |          |       |       |          |
| 1) d4-1,4-Dichlorobenzene | 4.774  | 152  | 100948   | 40.00 | ppm   | 0.00     |
| 33) d8-Naphthalene        | 5.935  | 136  | 389023   | 40.00 | ppm   | 0.00     |
| 57) d10-Acenaphthene      | 7.641  | 164  | 195042   | 40.00 | ppm   | 0.00     |
| 91) d10-Phenanthrene      | 9.112  | 188  | 342456   | 40.00 | ppm   | 0.00     |
| 117) d12-Chrysene         | 12.380 | 240  | 343025   | 40.00 | ppm   | 0.00     |
| 135) d12-Perylene         | 15.306 | 264  | 313294   | 40.00 | ppm   | 0.00     |

|                               |         |       |          |          |     |         |
|-------------------------------|---------|-------|----------|----------|-----|---------|
| System Monitoring Compounds   |         |       |          |          |     |         |
| 7) SURR1,2-FLUOROPHENOL       | 3.710   | 112   | 163909   | 49.22    | ppm | 0.00    |
| Spiked Amount                 | 200.000 | Range | 10 - 105 | Recovery | =   | 24.61%  |
| 12) SURR2,PHENOL-D6           | 4.432   | 99    | 202925   | 51.09    | ppm | 0.00    |
| Spiked Amount                 | 200.000 | Range | 10 - 107 | Recovery | =   | 25.55%  |
| 34) SURR4,NITROBENZENE-D5     | 5.261   | 82    | 174089   | 49.96    | ppm | 0.00    |
| Spiked Amount                 | 100.000 | Range | 37 - 117 | Recovery | =   | 49.96%  |
| 63) SURR5,2-FLUOROBIPHENYL    | 6.978   | 172   | 363205   | 49.65    | ppm | 0.00    |
| Spiked Amount                 | 100.000 | Range | 39 - 119 | Recovery | =   | 49.65%  |
| 88) SURR3,2,4,6-TRIBROMOPH... | 8.422   | 330   | 60166    | 46.93    | ppm | 0.00    |
| Spiked Amount                 | 200.000 | Range | 28 - 157 | Recovery | =   | 23.47%# |
| 124) SURR6,TERPHENYL-D14      | 10.802  | 244   | 381561   | 49.74    | ppm | 0.00    |
| Spiked Amount                 | 100.000 | Range | 40 - 133 | Recovery | =   | 49.74%  |

| Target Compounds              |       |     |        |        |     | Qvalue |
|-------------------------------|-------|-----|--------|--------|-----|--------|
| 2) Pyridine                   | 2.769 | 79  | 168220 | 51.692 | ppm | 100    |
| 3) N-Nitrosodimethylamine     | 2.731 | 74  | 87800  | 51.026 | ppm | 94     |
| 4) 2-Picoline                 | 3.298 | 93  | 169041 | 49.142 | ppm | 98     |
| 5) N-Nitrosomethylamine       | 3.362 | 42  | 87993  | 47.501 | ppm | 99     |
| 6) Methyl Methansulfonate     | 3.582 | 80  | 85542  | 49.477 | ppm | 98     |
| 8) N-Nitrosodiethylamine      | 3.886 | 102 | 74566  | 49.503 | ppm | 83     |
| 9) Ethyl Mathanesulfonate     | 4.116 | 79  | 115163 | 47.899 | ppm | 95     |
| 10) Benzaldehyde              | 4.405 | 106 | 108492 | 54.634 | ppm | 95     |
| 11) Aniline                   | 4.491 | 93  | 276101 | 52.735 | ppm | 97     |
| 13) Phenol                    | 4.448 | 94  | 208556 | 50.345 | ppm | 97     |
| 14) bis(2-Clethyl)Ether       | 4.534 | 93  | 170758 | 52.223 | ppm | 98     |
| 15) Pentachloroethane         | 4.534 | 117 | 63836  | 51.656 | ppm | 100    |
| 16) 2-Chlorophenol            | 4.592 | 128 | 172729 | 50.398 | ppm | 98     |
| 17) 1,3-Diclbzene             | 4.726 | 146 | 186875 | 50.110 | ppm | 94     |
| 18) 1,4-Dichlorobenzene       | 4.790 | 146 | 185876 | 49.384 | ppm | 100    |
| 19) 1,2-Diclbzene             | 4.919 | 146 | 180541 | 50.543 | ppm | 97     |
| 20) Benzyl Alcohol            | 4.881 | 79  | 141832 | 50.276 | ppm | 98     |
| 21) 1-Methyl-2-pyrrolidinone  | 4.913 | 99  | 109869 | 52.660 | ppm | 98     |
| 22) 2,2'-oxybis(1-Chloropr... | 4.999 | 45  | 245185 | 51.732 | ppm | 98     |
| 23) 2-Methylphenol            | 4.978 | 108 | 143368 | 49.313 | ppm | 95     |
| 24) 3+4-Methylphenol          | 5.117 | 108 | 161140 | 50.389 | ppm | 96     |
| 25) Acetophenone              | 5.122 | 105 | 236025 | 51.393 | ppm | 98     |
| 26) N-Nitroso-Di-n-propyla... | 5.122 | 70  | 128954 | 51.425 | ppm | 85     |
| 27) N-Nitrosopyrrolidine      | 5.106 | 100 | 86240  | 50.998 | ppm | 93     |
| 28) N-Nitrosomorpholine       | 5.138 | 56  | 103126 | 48.896 | ppm | 100    |
| 29) o-Toluidine               | 5.154 | 106 | 258790 | 51.337 | ppm | 98     |
| 30) Hexachloroethane          | 5.224 | 117 | 80620  | 51.400 | ppm | 94     |
| 31) o,o,o-Triethylphosphor... | 5.667 | 198 | 76124  | 53.109 | ppm | 94     |
| 32) Alpha-terpinol            | 5.962 | 121 | 64438  | 50.406 | ppm | 97     |
| 35) Nitrobenzene              | 5.282 | 77  | 199991 | 51.488 | ppm | 100    |
| 36) N-Nitrosopiperidine       | 5.416 | 42  | 116982 | 50.881 | ppm | 95     |
| 37) Isophorone                | 5.496 | 82  | 356178 | 50.706 | ppm | 98     |
| 38) 2-Nitrophenol             | 5.571 | 139 | 88410  | 50.280 | ppm | 98     |

Data Path : I:\ACQUDATA\5973D\Data\102617\  
 Data File : BM200.D  
 Acq On : 26 Oct 2017 11:47 am  
 Operator : J.Misiurewicz  
 Sample : 50 ppm STD  
 Misc : Initial Calibration 8270D/625  
 ALS Vial : 7 Sample Multiplier: 1

Quant Time: Oct 26 14:09:39 2017  
 Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
 Quant Title : 8270 BNA ANALYSIS  
 QLast Update : Thu Oct 26 14:03:10 2017  
 Response via : Initial Calibration

| Compound                      | R.T.  | QIon | Response | Conc   | Units | Dev(Min) |
|-------------------------------|-------|------|----------|--------|-------|----------|
| 39) Benzoic Acid              | 5.667 | 105  | 74000m   | 40.435 | ppm   |          |
| 40) 2,4-Dimethylphenol        | 5.603 | 107  | 168676   | 50.539 | ppm   | 98       |
| 41) bis(-2-Chloroethoxy)Me... | 5.694 | 93   | 214688   | 51.113 | ppm   | 99       |
| 42) 2,4-Dichlorophenol        | 5.801 | 162  | 136036   | 49.724 | ppm   | 96       |
| 43) a,a-Dimethylphenethyla... | 5.919 | 58   | 183679m  | 24.340 | ppm   |          |
| 44) 1,2,4-Trichlorobenzene    | 5.876 | 180  | 155901   | 50.186 | ppm   | 98       |
| 45) Naphthalene               | 5.956 | 128  | 500888   | 50.607 | ppm   | 99       |
| 46) 4-Chloroaniline           | 6.004 | 127  | 209708   | 50.539 | ppm   | 98       |
| 47) 2,6-Dichlorophenol        | 6.010 | 162  | 138100   | 50.171 | ppm   | 92       |
| 48) Hexachlorobutadiene       | 6.069 | 225  | 91594    | 51.760 | ppm   | 95       |
| 49) Hexachloropropene         | 6.037 | 213  | 107961   | 51.283 | ppm   | 100      |
| 50) 4-Chloro-3-methylphenol   | 6.464 | 107  | 137557   | 51.092 | ppm   | 98       |
| 51) N-N-di-n-butylamine       | 6.325 | 84   | 118378   | 48.623 | ppm   | 94       |
| 52) Caprolactam               | 6.352 | 113  | 46501    | 50.389 | ppm   | 95       |
| 53) p-Phenylenediamine        | 6.352 | 80   | 81753    | 51.013 | ppm   | 98       |
| 54) Safrole                   | 6.534 | 162  | 130243   | 51.109 | ppm   | 96       |
| 55) 2-Methylnaphthalene       | 6.620 | 142  | 332173   | 50.474 | ppm   | 95       |
| 56) 1-Methylnaphthalene       | 6.716 | 142  | 303318   | 50.802 | ppm   | 98       |
| 58) Hexachlorocyclopentadiene | 6.769 | 237  | 93540    | 48.009 | ppm   | 99       |
| 59) 1,2,4,5-Tetrachloroben... | 6.780 | 216  | 153634   | 48.641 | ppm   | 97       |
| 60) 1,2,3,4-Tetrachloroben... | 7.058 | 216  | 141696   | 49.936 | ppm   | 98       |
| 61) 2,4,6-Trichlorophenol     | 6.892 | 196  | 100279   | 49.546 | ppm   | 99       |
| 62) 2,4,5-Trichlorophenol     | 6.930 | 196  | 93118    | 46.165 | ppm   | 98       |
| 64) Isosafrole                | 7.037 | 104  | 61636    | 48.836 | ppm   | 91       |
| 65) 1,1'-Biphenyl             | 7.074 | 154  | 398707   | 49.662 | ppm   | 98       |
| 66) 2-Chloronaphthalene       | 7.096 | 162  | 309081   | 49.311 | ppm   | 99       |
| 67) 2-Nitroaniline            | 7.197 | 65   | 85032    | 49.337 | ppm   | 92       |
| 68) 1,4-Naphthoquinone        | 7.272 | 158  | 33962    | 50.785 | ppm   | 97       |
| 69) m-Dinitrobenzene          | 7.406 | 168  | 45349    | 46.434 | ppm   | 90       |
| 70) Acenaphthylene            | 7.502 | 152  | 497255   | 50.434 | ppm   | 100      |
| 71) Dimethyl phthalate        | 7.374 | 163  | 329315   | 48.533 | ppm   | 98       |
| 72) 2,6-Dinitrotoluene        | 7.433 | 165  | 82678    | 49.299 | ppm   | 93       |
| 73) Acenaphthene              | 7.673 | 153  | 321330   | 49.182 | ppm   | 99       |
| 74) 3-Nitroaniline            | 7.598 | 138  | 81906    | 49.055 | ppm   | 88       |
| 75) 2,4-Dinitrophenol         | 7.705 | 184  | 31593    | 44.632 | ppm   | 80       |
| 76) Dibenzofuran              | 7.844 | 168  | 436544   | 50.003 | ppm   | 98       |
| 77) 2,4-Dinitrotoluene        | 7.828 | 165  | 105063   | 49.082 | ppm   | 97       |
| 78) 4-Nitrophenol             | 7.769 | 65   | 68500    | 47.589 | ppm   | 95       |
| 79) Pentachlorobenzene        | 7.802 | 250  | 136964   | 49.205 | ppm   | 94       |
| 80) 1-Naphthylamine           | 7.925 | 143  | 243890   | 48.126 | ppm   | 93       |
| 81) 2-Naphthylamine           | 7.999 | 143  | 263503   | 48.548 | ppm   | 95       |
| 82) 2,3,4,6-Tetrachlorophenol | 7.962 | 232  | 72804    | 46.750 | ppm   | 97       |
| 83) Fluorene                  | 8.181 | 166  | 357387   | 50.186 | ppm   | 100      |
| 84) 4-Chlorophenyl-phenyle... | 8.181 | 204  | 182892   | 48.982 | ppm   | 93       |
| 85) Diethylphthalate          | 8.069 | 149  | 341469   | 47.018 | ppm   | 99       |
| 86) 4-Nitroaniline            | 8.203 | 138  | 97681    | 52.260 | ppm   | 98       |
| 87) 5-Nitro-o-toluidine       | 8.197 | 152  | 96165    | 49.499 | ppm   | 93       |
| 89) Sulfotepp                 | 8.454 | 322  | 54743    | 47.381 | ppm   | 83       |
| 90) Octachlorocyclopentene    | 8.433 | 307  | 61921    | 50.454 | ppm   | 97       |
| 92) Thionazin                 | 8.149 | 107  | 50449    | 48.015 | ppm   | 99       |
| 93) 4,6-Dinitro-2-methylph... | 8.229 | 198  | 54024    | 49.695 | ppm   | 97       |
| 94) Diphenylamine             | 8.299 | 169  | 496981   | 98.384 | ppm   | 99       |
| 95) 1,2 Diphenylhydrazine     | 8.336 | 77   | 371441   | 53.076 | ppm   | 96       |
| 96) N-Nitrosodiphenylamine    | 8.299 | 169  | 496981   | 98.381 | ppm   | 99       |
| 97) 1,3,5-Trinitrobenzene     | 8.566 | 213  | 25760    | 46.568 | ppm   | # 1      |
| 98) Diallate                  | 8.582 | 86   | 113374   | 48.629 | ppm   | 93       |



Data Path : I:\ACQUDATA\5973D\Data\102617\  
 Data File : BM200.D  
 Acq On : 26 Oct 2017 11:47 am  
 Operator : J.Misiurewicz  
 Sample : 50 ppm STD  
 Misc : Initial Calibration 8270D/625  
 ALS Vial : 7 Sample Multiplier: 1

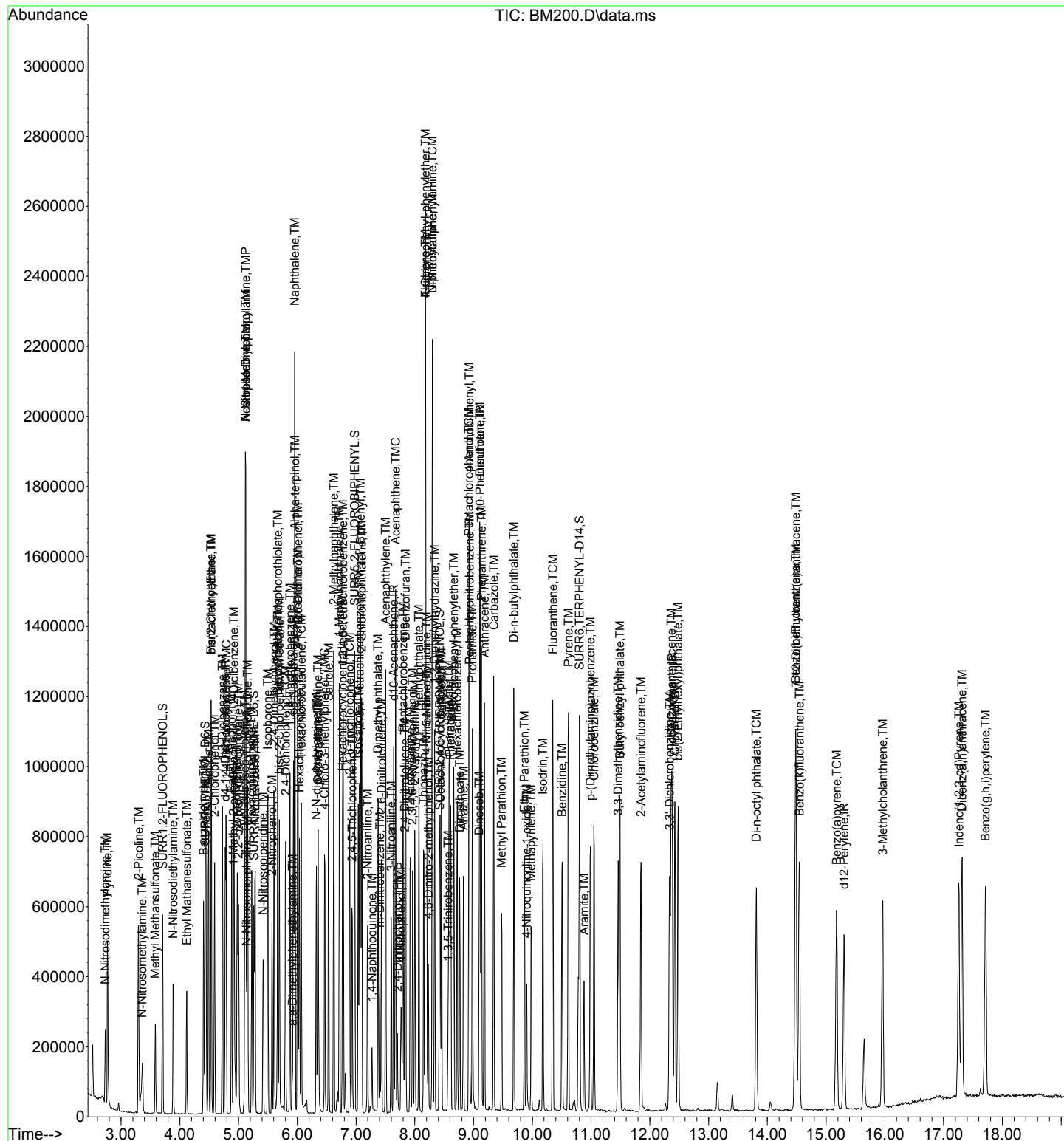
Quant Time: Oct 26 14:09:39 2017  
 Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
 Quant Title : 8270 BNA ANALYSIS  
 QLast Update : Thu Oct 26 14:03:10 2017  
 Response via : Initial Calibration

| Compound                       | R.T.   | QIon | Response | Conc   | Units | Dev(Min) |
|--------------------------------|--------|------|----------|--------|-------|----------|
| 99) Phorate                    | 8.593  | 121  | 59640    | 50.193 | ppm   | 94       |
| 100) Phenacetin                | 8.609  | 108  | 178992   | 53.669 | ppm   | 99       |
| 101) 4-Bromophenyl-phenylether | 8.663  | 248  | 102968   | 47.945 | ppm   | 92       |
| 102) Hexachlorobenzene         | 8.722  | 284  | 112064   | 47.989 | ppm   | 97       |
| 103) Dimethoate                | 8.764  | 87   | 114333   | 55.681 | ppm   | 98       |
| 104) Atrazine                  | 8.829  | 215  | 31949    | 52.404 | ppm # | 92       |
| 105) Pentachlorophenol         | 8.919  | 266  | 58167    | 47.453 | ppm   | 96       |
| 106) 4-Aminobiphenyl           | 8.925  | 169  | 312446   | 55.462 | ppm   | 98       |
| 107) Pentachloronitrobenzene   | 8.930  | 237  | 44335    | 53.266 | ppm   | 95       |
| 108) Pronamide                 | 8.978  | 173  | 155217   | 53.787 | ppm   | 98       |
| 109) Dinoseb                   | 9.096  | 211  | 69400    | 47.961 | ppm   | 97       |
| 110) Disulfoton                | 9.107  | 88   | 132667   | 49.180 | ppm   | 95       |
| 111) Phenanthrene              | 9.133  | 178  | 460255   | 49.936 | ppm   | 98       |
| 112) Anthracene                | 9.187  | 178  | 461420   | 50.697 | ppm   | 100      |
| 113) Carbazole                 | 9.342  | 167  | 464169   | 50.915 | ppm   | 98       |
| 114) Di-n-butylphthalate       | 9.684  | 149  | 596112   | 50.790 | ppm   | 99       |
| 115) 4-Nitroquinonline-1-oxide | 9.904  | 190  | 34141    | 47.499 | ppm   | 91       |
| 116) Fluoranthene              | 10.348 | 202  | 504337   | 50.088 | ppm   | 98       |
| 118) Methyl Parathion          | 9.476  | 109  | 87288    | 54.054 | ppm   | 94       |
| 119) Ethyl Parathion           | 9.866  | 97   | 63517    | 47.711 | ppm   | 95       |
| 120) Methapyrilene             | 9.978  | 58   | 138905   | 50.364 | ppm   | 94       |
| 121) Isodrin                   | 10.182 | 193  | 51470    | 50.933 | ppm   | 96       |
| 122) Benzidine                 | 10.508 | 184  | 308143   | 48.600 | ppm   | 98       |
| 123) Pyrene                    | 10.615 | 202  | 515263   | 49.620 | ppm   | 99       |
| 125) Aramite                   | 10.882 | 185  | 65897m   | 50.963 | ppm   |          |
| 126) p-(Dimethylamino)azobe... | 10.989 | 120  | 152515   | 53.168 | ppm   | 97       |
| 127) Chlorobenzilate           | 11.048 | 139  | 173407   | 51.274 | ppm   | 88       |
| 128) Butyl benzyl phthalate    | 11.492 | 149  | 264760   | 51.501 | ppm   | 96       |
| 129) 3,3-Dimethylbenzidine     | 11.460 | 212  | 298501   | 49.514 | ppm   | 99       |
| 130) 2-Acetylaminofluorene     | 11.851 | 181  | 209720   | 50.102 | ppm   | 97       |
| 131) 3,3'-Dichlorobenzidine    | 12.337 | 252  | 202164   | 47.135 | ppm   | 99       |
| 132) Benzo(a)anthracene        | 12.364 | 228  | 473743   | 47.121 | ppm   | 98       |
| 133) Chrysene                  | 12.428 | 228  | 457415   | 47.303 | ppm   | 99       |
| 134) bis(2-Ethylhexyl)phtha... | 12.482 | 149  | 360178   | 47.799 | ppm   | 97       |
| 136) Di-n-octyl phthalate      | 13.813 | 149  | 539876   | 50.053 | ppm   | 98       |
| 137) 7,12-Dimethylbenz(a)an... | 14.487 | 256  | 208300   | 51.249 | ppm   | 98       |
| 138) Benzo(b)Fluoranthene      | 14.482 | 252  | 484783   | 51.465 | ppm   | 98       |
| 139) Benzo(k)fluoranthene      | 14.546 | 252  | 468548   | 51.781 | ppm   | 97       |
| 140) Benzo(a)pyrene            | 15.177 | 252  | 423393   | 51.364 | ppm   | 98       |
| 141) 3-Methylcholanthrene      | 15.964 | 268  | 240422   | 50.732 | ppm   | 99       |
| 142) Indeno(1,2,3-cd)Pyrene    | 17.263 | 276  | 431970   | 52.503 | ppm   | 93       |
| 143) Dibenz(a,h)anthracene     | 17.317 | 278  | 454953   | 52.383 | ppm   | 97       |
| 144) Benzo(g,h,i)perylene      | 17.713 | 276  | 434867   | 54.218 | ppm   | 98       |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

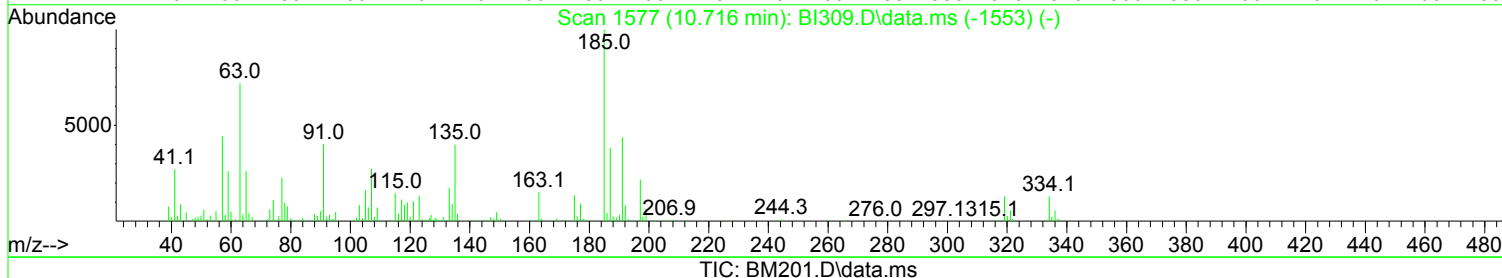
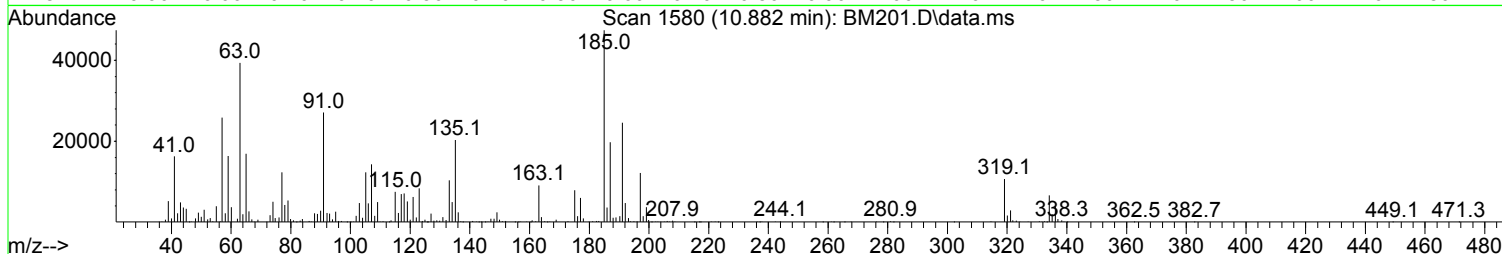
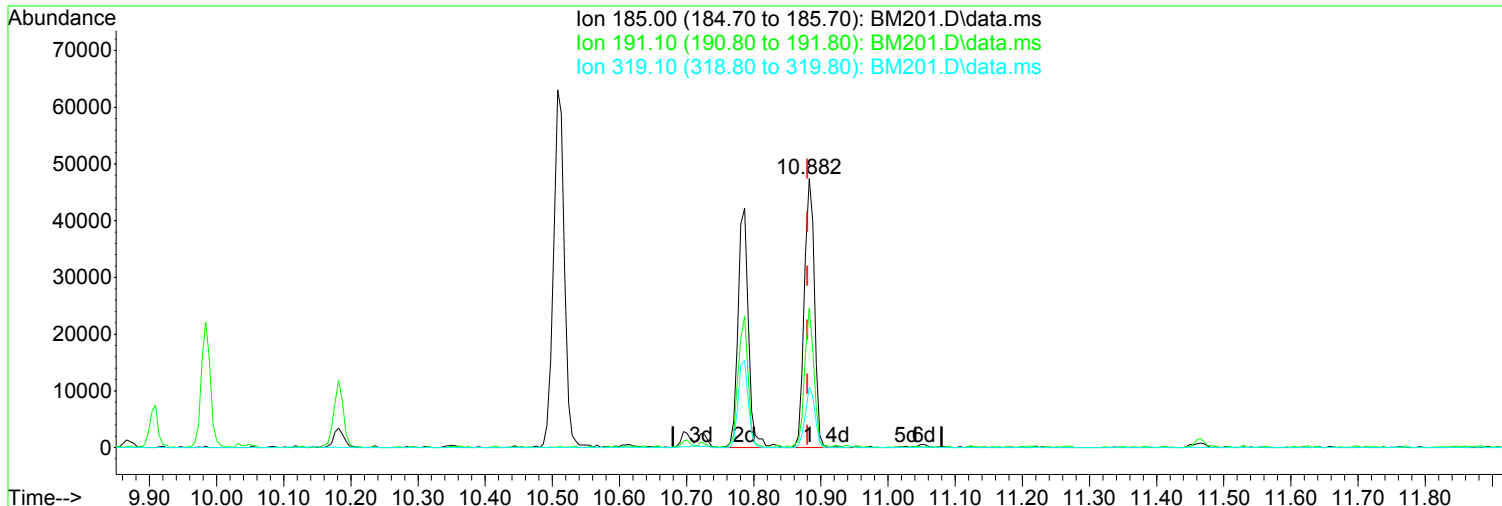
Data Path : I:\ACQUDATA\5973D\Data\102617\  
Data File : BM200.D  
Acq On : 26 Oct 2017 11:47 am  
Operator : J.Misiurewicz  
Sample : 50 ppm STD  
Misc : Initial Calibration 8270D/625  
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Oct 26 14:09:39 2017  
Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
Quant Title : 8270 BNA ANALYSIS  
QLast Update : Thu Oct 26 14:03:10 2017  
Response via : Initial Calibration



Data Path : I:\ACQUDATA\5973D\Data\102617\  
Data File : BM201.D  
Acq On : 26 Oct 2017 12:16 pm  
Operator : J.Misiurewicz  
Sample : 80 ppm STD  
Misc : Initial Calibration 8270D/625  
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Oct 26 14:09:46 2017  
Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
Quant Title : 8270 BNA ANALYSIS  
QLast Update : Thu Oct 26 14:03:10 2017  
Response via : Initial Calibration



(125) Aramite (TM)

Manual Integration:

10.882min (+ 0.002) 83.63 ppm m

After

response 95223

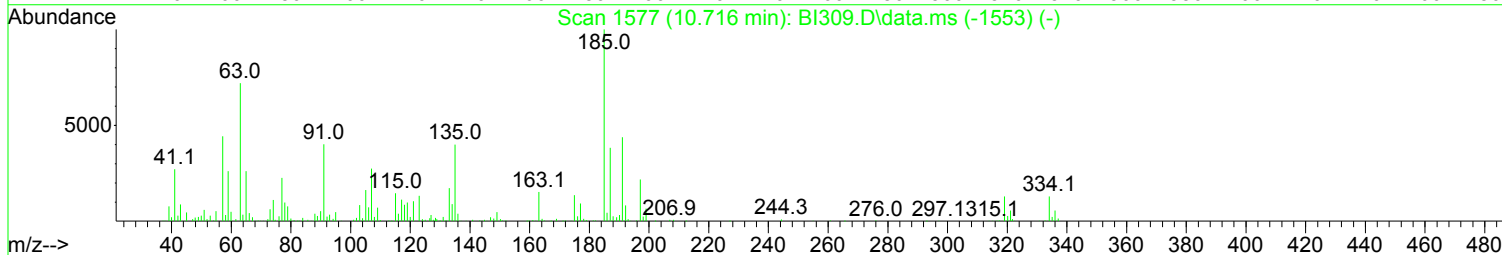
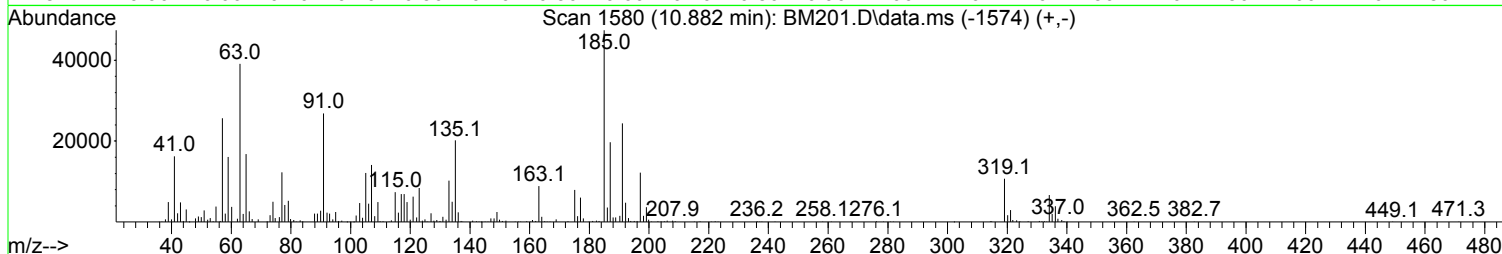
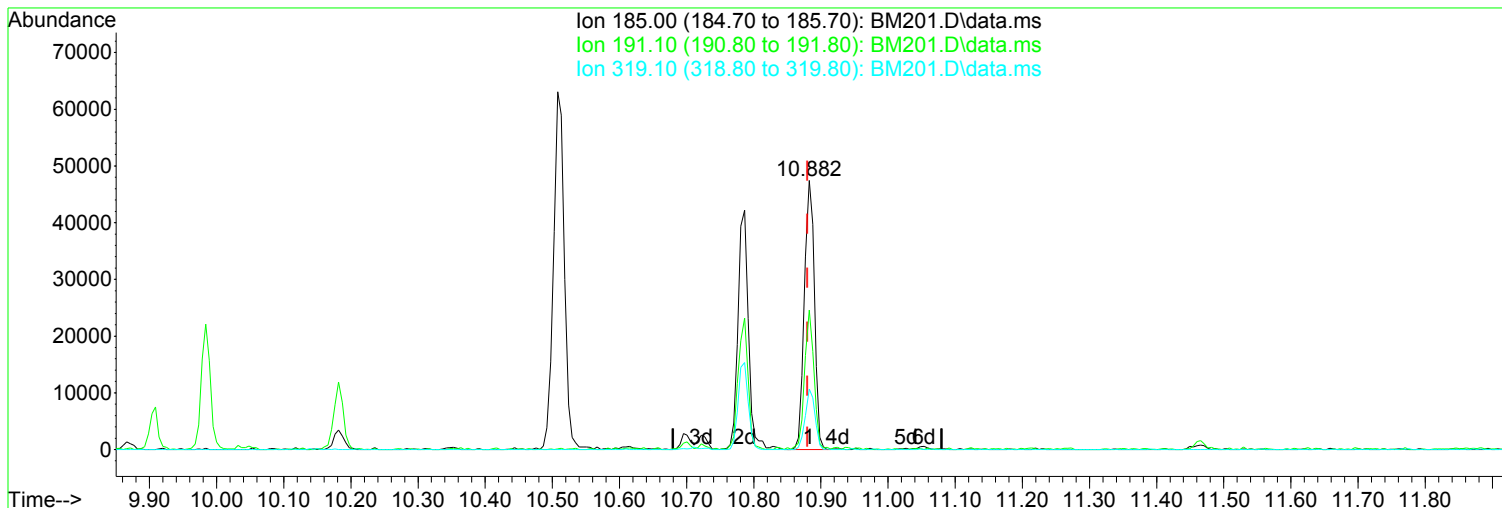
Split Peak.

| Ion    | Exp%   | Act%   |
|--------|--------|--------|
| 185.00 | 100.00 | 100.00 |
| 191.10 | 51.80  | 51.83  |
| 319.10 | 22.50  | 22.53  |
| 0.00   | 0.00   | 0.00   |

10/26/17

Data Path : I:\ACQUDATA\5973D\Data\102617\  
Data File : BM201.D  
Acq On : 26 Oct 2017 12:16 pm  
Operator : J.Misiurewicz  
Sample : 80 ppm STD  
Misc : Initial Calibration 8270D/625  
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Oct 26 14:09:46 2017  
Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
Quant Title : 8270 BNA ANALYSIS  
QLast Update : Thu Oct 26 14:03:10 2017  
Response via : Initial Calibration



(125) Aramite (TM)

Manual Integration:

10.882min (+ 0.002) 43.36 ppm

Before

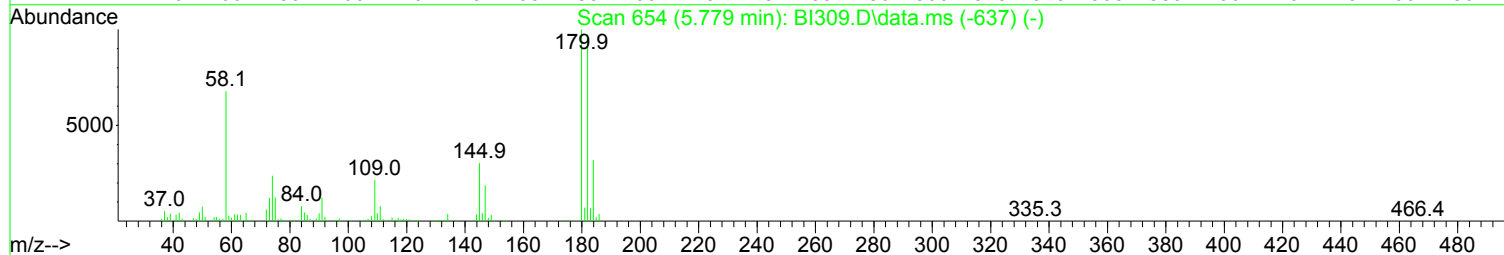
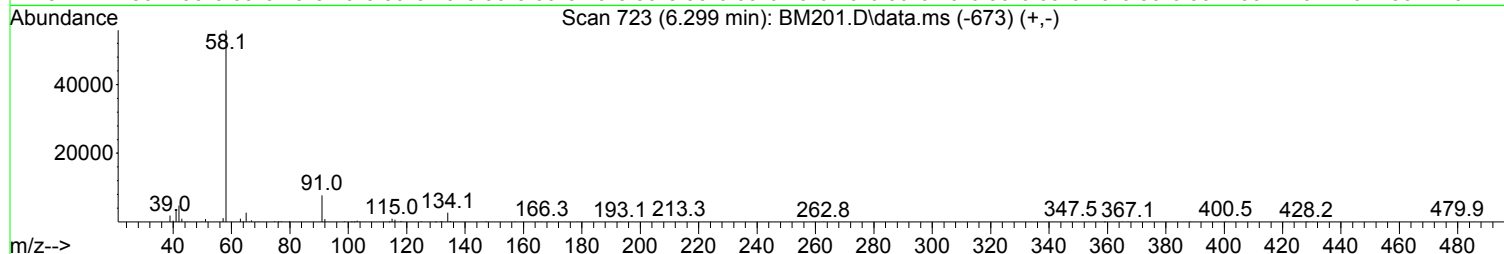
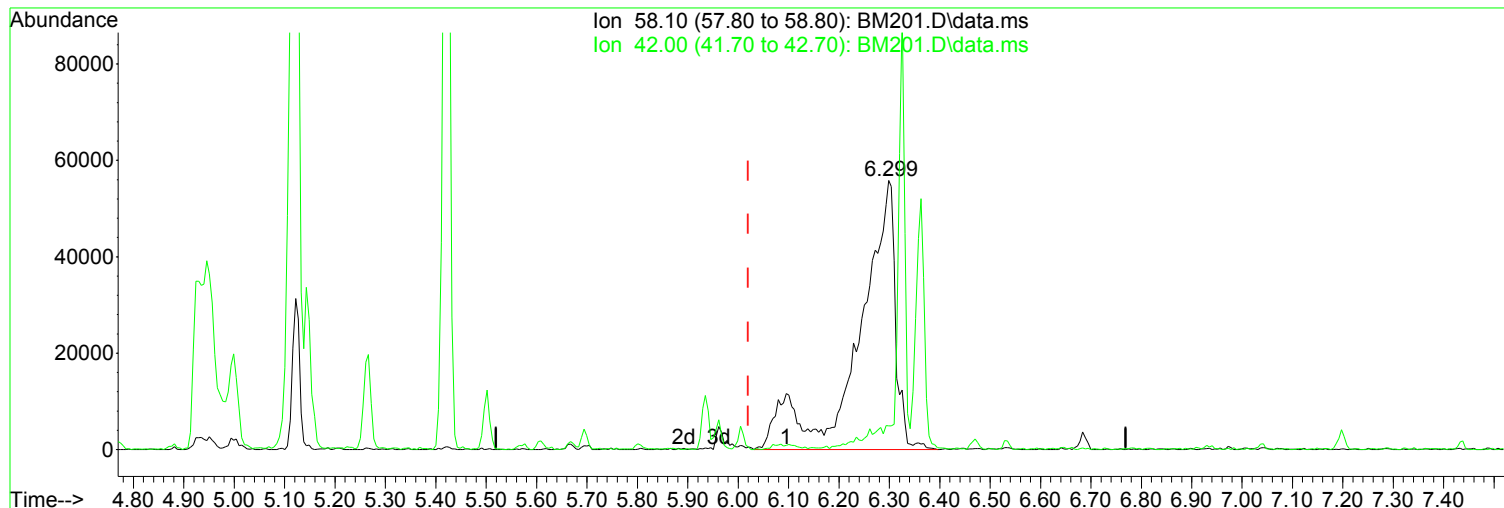
response 49375

| Ion    | Exp%   | Act%   |
|--------|--------|--------|
| 185.00 | 100.00 | 100.00 |
| 191.10 | 51.80  | 51.44  |
| 319.10 | 22.50  | 22.55  |
| 0.00   | 0.00   | 0.00   |

10/26/17

Data Path : I:\ACQUDATA\5973D\Data\102617\  
Data File : BM201.D  
Acq On : 26 Oct 2017 12:16 pm  
Operator : J.Misiurewicz  
Sample : 80 ppm STD  
Misc : Initial Calibration 8270D/625  
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Oct 26 14:09:46 2017  
Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
Quant Title : 8270 BNA ANALYSIS  
QLast Update : Thu Oct 26 14:03:10 2017  
Response via : Initial Calibration



TIC: BM201.D\data.ms

(43) a,a-Dimethylphenethylamine (TM)

Manual Integration:

6.299min (+ 0.279) 40.75 ppm m

After

response 281305

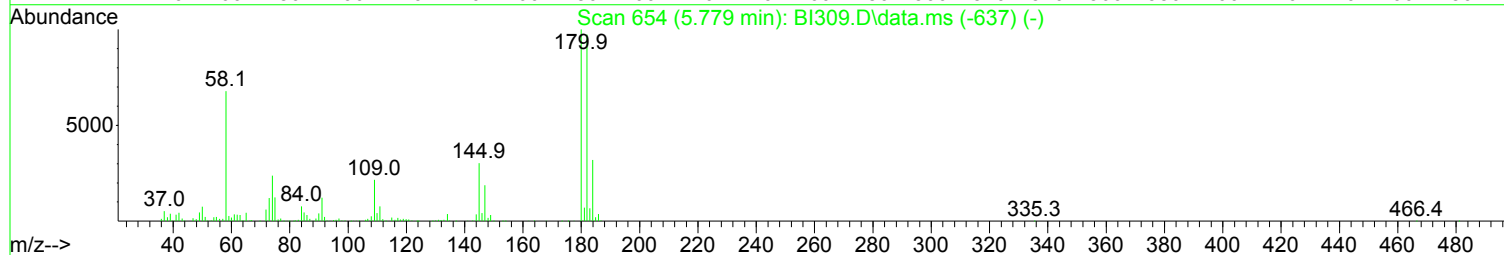
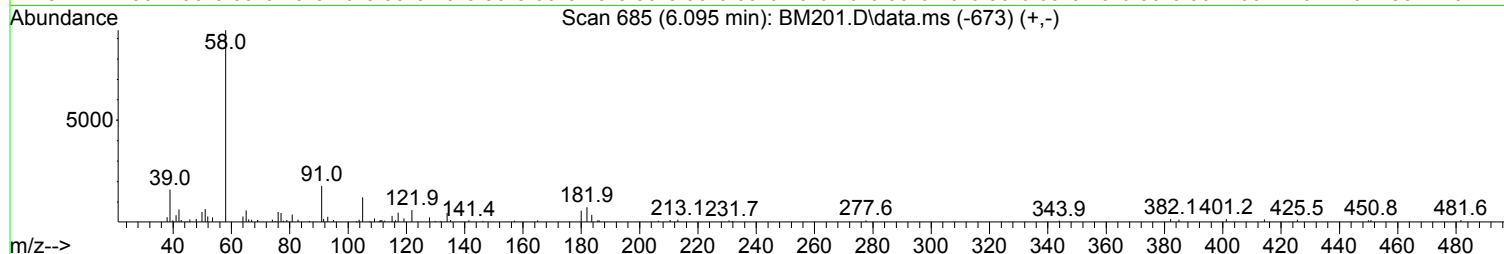
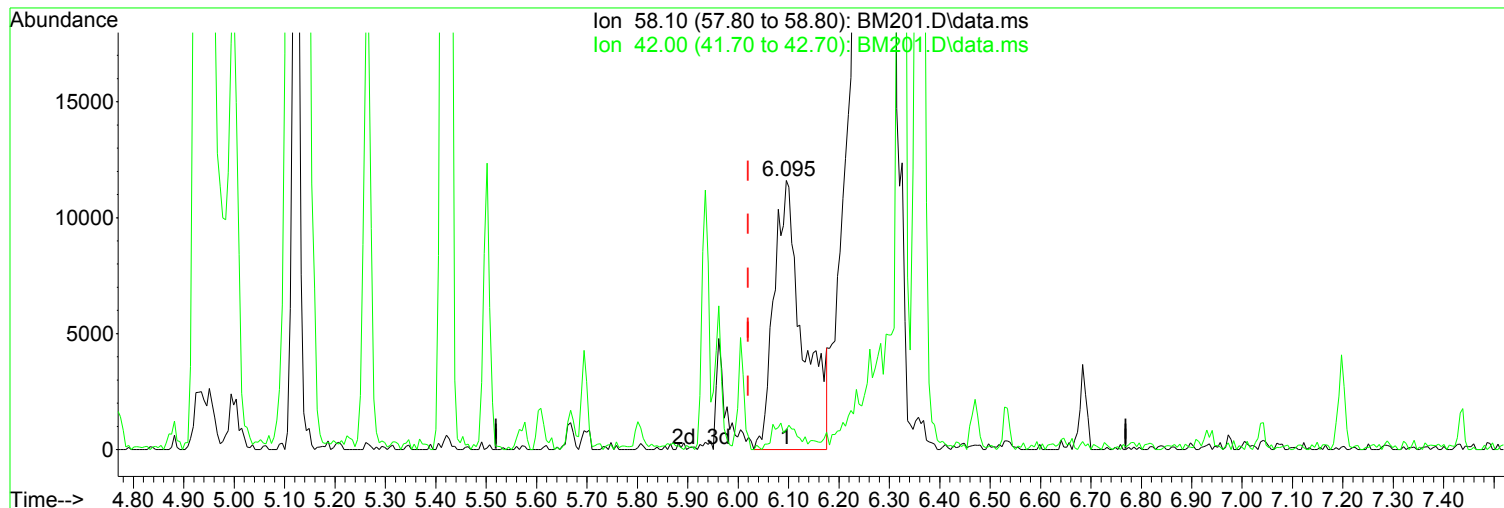
Poor integration.

| Ion   | Exp%   | Act%   |
|-------|--------|--------|
| 58.10 | 100.00 | 100.00 |
| 42.00 | 8.90   | 8.86   |
| 0.00  | 0.00   | 0.00   |
| 0.00  | 0.00   | 0.00   |

10/26/17

Data Path : I:\ACQUDATA\5973D\Data\102617\  
Data File : BM201.D  
Acq On : 26 Oct 2017 12:16 pm  
Operator : J.Misiurewicz  
Sample : 80 ppm STD  
Misc : Initial Calibration 8270D/625  
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Oct 26 14:09:46 2017  
Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
Quant Title : 8270 BNA ANALYSIS  
QLast Update : Thu Oct 26 14:03:10 2017  
Response via : Initial Calibration



TIC: BM201.D\data.ms

(43) a,a-Dimethylphenethylamine (TM)

Manual Integration:

6.095min (+ 0.076) 6.66 ppm

Before

response 45989

| Ion   | Exp%   | Act%   |
|-------|--------|--------|
| 58.10 | 100.00 | 100.00 |
| 42.00 | 8.90   | 4.96   |
| 0.00  | 0.00   | 0.00   |
| 0.00  | 0.00   | 0.00   |

10/26/17

Data Path : I:\ACQUDATA\5973D\Data\102617\  
 Data File : BM201.D  
 Acq On : 26 Oct 2017 12:16 pm  
 Operator : J.Misiurewicz  
 Sample : 80 ppm STD  
 Misc : Initial Calibration 8270D/625  
 ALS Vial : 8 Sample Multiplier: 1

Quant Time: Oct 26 14:09:46 2017  
 Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
 Quant Title : 8270 BNA ANALYSIS  
 QLast Update : Thu Oct 26 14:03:10 2017  
 Response via : Initial Calibration

| Compound                  | R.T.   | QIon | Response | Conc  | Units | Dev(Min) |
|---------------------------|--------|------|----------|-------|-------|----------|
| Internal Standards        |        |      |          |       |       |          |
| 1) d4-1,4-Dichlorobenzene | 4.774  | 152  | 89827    | 40.00 | ppm   | 0.00     |
| 33) d8-Naphthalene        | 5.935  | 136  | 355823   | 40.00 | ppm   | 0.00     |
| 57) d10-Acenaphthene      | 7.641  | 164  | 162488   | 40.00 | ppm   | 0.00     |
| 91) d10-Phenanthrene      | 9.112  | 188  | 328074   | 40.00 | ppm   | 0.00     |
| 117) d12-Chrysene         | 12.385 | 240  | 302066   | 40.00 | ppm   | 0.00     |
| 135) d12-Perylene         | 15.311 | 264  | 306382   | 40.00 | ppm   | 0.00     |

|                               |         |       |          |          |     |        |
|-------------------------------|---------|-------|----------|----------|-----|--------|
| System Monitoring Compounds   |         |       |          |          |     |        |
| 7) SURR1,2-FLUOROPHENOL       | 3.710   | 112   | 244568   | 82.54    | ppm | 0.00   |
| Spiked Amount                 | 200.000 | Range | 10 - 105 | Recovery | =   | 41.27% |
| 12) SURR2,PHENOL-D6           | 4.437   | 99    | 289240   | 81.84    | ppm | 0.00   |
| Spiked Amount                 | 200.000 | Range | 10 - 107 | Recovery | =   | 40.92% |
| 34) SURR4,NITROBENZENE-D5     | 5.266   | 82    | 252125   | 79.10    | ppm | 0.00   |
| Spiked Amount                 | 100.000 | Range | 37 - 117 | Recovery | =   | 79.10% |
| 63) SURR5,2-FLUOROBIPHENYL    | 6.978   | 172   | 518145   | 85.02    | ppm | 0.00   |
| Spiked Amount                 | 100.000 | Range | 39 - 119 | Recovery | =   | 85.02% |
| 88) SURR3,2,4,6-TRIBROMOPH... | 8.422   | 330   | 90791    | 85.00    | ppm | 0.00   |
| Spiked Amount                 | 200.000 | Range | 28 - 157 | Recovery | =   | 42.50% |
| 124) SURR6,TERPHENYL-D14      | 10.808  | 244   | 582328   | 86.21    | ppm | 0.00   |
| Spiked Amount                 | 100.000 | Range | 40 - 133 | Recovery | =   | 86.21% |

| Target Compounds              |       |     |        |        |     | Qvalue |
|-------------------------------|-------|-----|--------|--------|-----|--------|
| 2) Pyridine                   | 2.769 | 79  | 245084 | 84.635 | ppm | 100    |
| 3) N-Nitrosodimethylamine     | 2.731 | 74  | 130693 | 85.357 | ppm | 100    |
| 4) 2-Picoline                 | 3.293 | 93  | 251383 | 82.127 | ppm | 100    |
| 5) N-Nitrosomethylamine       | 3.362 | 42  | 132328 | 80.279 | ppm | 100    |
| 6) Methyl Methansulfonate     | 3.587 | 80  | 128908 | 83.791 | ppm | 100    |
| 8) N-Nitrosodiethylamine      | 3.892 | 102 | 111293 | 83.033 | ppm | 100    |
| 9) Ethyl Mathanesulfonate     | 4.116 | 79  | 180537 | 84.385 | ppm | 100    |
| 10) Benzaldehyde              | 4.405 | 106 | 125408 | 70.971 | ppm | 100    |
| 11) Aniline                   | 4.491 | 93  | 388253 | 83.336 | ppm | 100    |
| 13) Phenol                    | 4.448 | 94  | 300384 | 81.489 | ppm | 100    |
| 14) bis(2-Clethyl)Ether       | 4.534 | 93  | 237187 | 81.519 | ppm | 100    |
| 15) Pentachloroethane         | 4.534 | 117 | 90161  | 81.990 | ppm | 100    |
| 16) 2-Chlorophenol            | 4.592 | 128 | 248262 | 81.405 | ppm | 100    |
| 17) 1,3-Diclbzene             | 4.726 | 146 | 275932 | 83.151 | ppm | 100    |
| 18) 1,4-Dichlorobenzene       | 4.790 | 146 | 279975 | 83.593 | ppm | 100    |
| 19) 1,2-Diclbzene             | 4.924 | 146 | 259669 | 81.695 | ppm | 100    |
| 20) Benzyl Alcohol            | 4.881 | 79  | 209254 | 83.358 | ppm | 100    |
| 21) 1-Methyl-2-pyrrolidinone  | 4.945 | 99  | 159485 | 85.905 | ppm | 99     |
| 22) 2,2'-oxybis(1-Chloropr... | 4.999 | 45  | 333156 | 78.996 | ppm | 100    |
| 23) 2-Methylphenol            | 4.983 | 108 | 210025 | 81.184 | ppm | 100    |
| 24) 3+4-Methylphenol          | 5.117 | 108 | 229376 | 80.606 | ppm | 100    |
| 25) Acetophenone              | 5.127 | 105 | 323110 | 79.066 | ppm | 100    |
| 26) N-Nitroso-Di-n-propyla... | 5.122 | 70  | 176030 | 78.888 | ppm | 100    |
| 27) N-Nitrosopyrrolidine      | 5.111 | 100 | 117267 | 77.931 | ppm | 100    |
| 28) N-Nitrosomorpholine       | 5.143 | 56  | 145058 | 77.292 | ppm | 100    |
| 29) o-Toluidine               | 5.154 | 106 | 363732 | 81.088 | ppm | 100    |
| 30) Hexachloroethane          | 5.224 | 117 | 110649 | 79.279 | ppm | 100    |
| 31) o,o,o-Triethylphosphor... | 5.668 | 198 | 107866 | 84.570 | ppm | 100    |
| 32) Alpha-terpinol            | 5.962 | 121 | 104092 | 91.506 | ppm | 100    |
| 35) Nitrobenzene              | 5.282 | 77  | 278214 | 78.309 | ppm | 100    |
| 36) N-Nitrosopiperidine       | 5.421 | 42  | 168205 | 79.986 | ppm | 100    |
| 37) Isophorone                | 5.502 | 82  | 503375 | 78.347 | ppm | 100    |
| 38) 2-Nitrophenol             | 5.571 | 139 | 130715 | 81.276 | ppm | 100    |

Data Path : I:\ACQUDATA\5973D\Data\102617\  
 Data File : BM201.D  
 Acq On : 26 Oct 2017 12:16 pm  
 Operator : J.Misiurewicz  
 Sample : 80 ppm STD  
 Misc : Initial Calibration 8270D/625  
 ALS Vial : 8 Sample Multiplier: 1

Quant Time: Oct 26 14:09:46 2017  
 Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
 Quant Title : 8270 BNA ANALYSIS  
 QLast Update : Thu Oct 26 14:03:10 2017  
 Response via : Initial Calibration

| Compound                      | R.T.  | QIon | Response | Conc    | Units | Dev(Min) |
|-------------------------------|-------|------|----------|---------|-------|----------|
| 39) Benzoic Acid              | 5.684 | 105  | 126651   | 75.661  | ppm   | 100      |
| 40) 2,4-Dimethylphenol        | 5.609 | 107  | 242327   | 79.380  | ppm   | 100      |
| 41) bis(-2-Chloroethoxy)Me... | 5.694 | 93   | 292061   | 76.022  | ppm   | 100      |
| 42) 2,4-Dichlorophenol        | 5.801 | 162  | 214682   | 85.792  | ppm   | 100      |
| 43) a,a-Dimethylphenethyla... | 6.299 | 58   | 281305m  | 40.754  | ppm   |          |
| 44) 1,2,4-Trichlorobenzene    | 5.876 | 180  | 240309   | 84.575  | ppm   | 100      |
| 45) Naphthalene               | 5.956 | 128  | 754577   | 83.353  | ppm   | 100      |
| 46) 4-Chloroaniline           | 6.004 | 127  | 317216   | 83.582  | ppm   | 100      |
| 47) 2,6-Dichlorophenol        | 6.015 | 162  | 211113   | 83.852  | ppm   | 100      |
| 48) Hexachlorobutadiene       | 6.069 | 225  | 136309   | 84.216  | ppm   | 100      |
| 49) Hexachloropropene         | 6.037 | 213  | 165918   | 86.168  | ppm   | 100      |
| 50) 4-Chloro-3-methylphenol   | 6.470 | 107  | 212190   | 86.166  | ppm   | 100      |
| 51) N-N-di-n-butylamine       | 6.325 | 84   | 171771   | 77.137  | ppm   | 100      |
| 52) Caprolactam               | 6.363 | 113  | 70912    | 84.010  | ppm   | 100      |
| 53) p-Phenylenediamine        | 6.357 | 80   | 106625   | 72.741  | ppm   | 100      |
| 54) Safrole                   | 6.534 | 162  | 199282   | 85.498  | ppm   | 100      |
| 55) 2-Methylnaphthalene       | 6.625 | 142  | 506677   | 84.173  | ppm   | 100      |
| 56) 1-Methylnaphthalene       | 6.721 | 142  | 456704   | 83.629  | ppm   | 100      |
| 58) Hexachlorocyclopentadiene | 6.769 | 237  | 146992   | 90.559  | ppm   | 100      |
| 59) 1,2,4,5-Tetrachloroben... | 6.780 | 216  | 228817   | 86.959  | ppm   | 100      |
| 60) 1,2,3,4-Tetrachloroben... | 7.064 | 216  | 202193   | 85.532  | ppm   | 100      |
| 61) 2,4,6-Trichlorophenol     | 6.892 | 196  | 150712   | 89.383  | ppm   | 100      |
| 62) 2,4,5-Trichlorophenol     | 6.935 | 196  | 137924   | 82.078  | ppm   | 100      |
| 64) Isosafrole                | 7.037 | 104  | 89095    | 84.736  | ppm   | 100      |
| 65) 1,1'-Biphenyl             | 7.074 | 154  | 574040   | 85.826  | ppm   | 100      |
| 66) 2-Chloronaphthalene       | 7.096 | 162  | 434323   | 83.175  | ppm   | 100      |
| 67) 2-Nitroaniline            | 7.197 | 65   | 121126   | 84.359  | ppm   | 100      |
| 68) 1,4-Naphthoquinone        | 7.272 | 158  | 44968    | 80.715  | ppm   | 100      |
| 69) m-Dinitrobenzene          | 7.411 | 168  | 72035    | 88.536  | ppm   | 100      |
| 70) Acenaphthylene            | 7.502 | 152  | 679371   | 82.710  | ppm   | 100      |
| 71) Dimethyl phthalate        | 7.379 | 163  | 464532   | 82.177  | ppm   | 100      |
| 72) 2,6-Dinitrotoluene        | 7.438 | 165  | 121415   | 86.901  | ppm   | 100      |
| 73) Acenaphthene              | 7.673 | 153  | 483191   | 88.773  | ppm   | 100      |
| 74) 3-Nitroaniline            | 7.604 | 138  | 124187   | 89.280  | ppm   | 100      |
| 75) 2,4-Dinitrophenol         | 7.705 | 184  | 60758    | 86.793  | ppm   | 100      |
| 76) Dibenzofuran              | 7.844 | 168  | 616207   | 84.724  | ppm   | 98       |
| 77) 2,4-Dinitrotoluene        | 7.834 | 165  | 167581   | 87.916  | ppm   | 100      |
| 78) 4-Nitrophenol             | 7.770 | 65   | 100819   | 84.075  | ppm   | 100      |
| 79) Pentachlorobenzene        | 7.802 | 250  | 198066   | 85.412  | ppm   | 100      |
| 80) 1-Naphthylamine           | 7.925 | 143  | 350960   | 83.129  | ppm   | 100      |
| 81) 2-Naphthylamine           | 8.005 | 143  | 401748   | 88.848  | ppm   | 100      |
| 82) 2,3,4,6-Tetrachlorophenol | 7.967 | 232  | 110759   | 85.372  | ppm   | 100      |
| 83) Fluorene                  | 8.181 | 166  | 487310   | 82.141  | ppm   | 100      |
| 84) 4-Chlorophenyl-phenyle... | 8.181 | 204  | 251184   | 80.750  | ppm   | 100      |
| 85) Diethylphthalate          | 8.074 | 149  | 502702   | 83.087  | ppm   | 100      |
| 86) 4-Nitroaniline            | 8.208 | 138  | 142511   | 91.520  | ppm   | 100      |
| 87) 5-Nitro-o-toluidine       | 8.203 | 152  | 146301   | 90.393  | ppm   | 100      |
| 89) Sulfotepp                 | 8.460 | 322  | 84087    | 87.360  | ppm   | 100      |
| 90) Octachlorocyclopentene    | 8.433 | 307  | 92331    | 90.304  | ppm   | 100      |
| 92) Thionazin                 | 8.155 | 107  | 77467    | 76.962  | ppm   | 100      |
| 93) 4,6-Dinitro-2-methylph... | 8.235 | 198  | 84268    | 77.226  | ppm   | 100      |
| 94) Diphenylamine             | 8.304 | 169  | 768669   | 158.839 | ppm   | 100      |
| 95) 1,2 Diphenylhydrazine     | 8.336 | 77   | 553275   | 82.525  | ppm   | 100      |
| 96) N-Nitrosodiphenylamine    | 8.304 | 169  | 768669   | 158.834 | ppm   | 100      |
| 97) 1,3,5-Trinitrobenzene     | 8.577 | 213  | 42308    | 79.836  | ppm   | 100      |
| 98) Diallate                  | 8.583 | 86   | 166912   | 74.732  | ppm   | 100      |



Data Path : I:\ACQUDATA\5973D\Data\102617\  
 Data File : BM201.D  
 Acq On : 26 Oct 2017 12:16 pm  
 Operator : J.Misiurewicz  
 Sample : 80 ppm STD  
 Misc : Initial Calibration 8270D/625  
 ALS Vial : 8 Sample Multiplier: 1

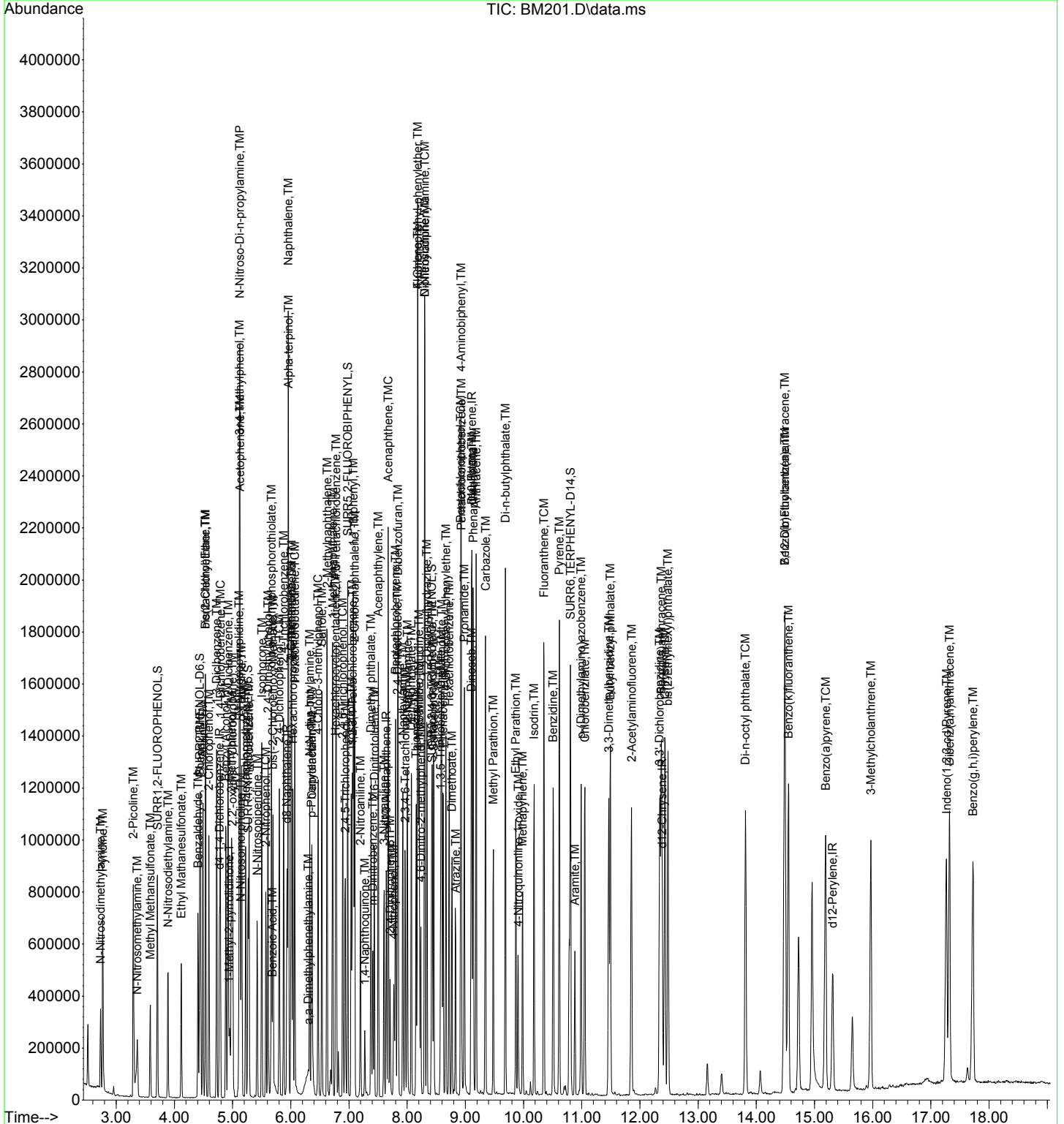
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 Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
 Quant Title : 8270 BNA ANALYSIS  
 QLast Update : Thu Oct 26 14:03:10 2017  
 Response via : Initial Calibration

| Compound                       | R.T.   | QIon | Response | Conc    | Units | Dev(Min) |
|--------------------------------|--------|------|----------|---------|-------|----------|
| 99) Phorate                    | 8.593  | 121  | 89717    | 78.816  | ppm   | 100      |
| 100) Phenacetin                | 8.615  | 108  | 253630   | 79.382  | ppm   | 100      |
| 101) 4-Bromophenyl-phenylether | 8.668  | 248  | 149322   | 72.577  | ppm   | 100      |
| 102) Hexachlorobenzene         | 8.722  | 284  | 167599   | 74.916  | ppm   | 100      |
| 103) Dimethoate                | 8.770  | 87   | 167496   | 85.148  | ppm   | 100      |
| 104) Atrazine                  | 8.834  | 215  | 39569    | 67.748  | ppm   | 100      |
| 105) Pentachlorophenol         | 8.919  | 266  | 102591   | 81.274  | ppm   | 100      |
| 106) 4-Aminobiphenyl           | 8.925  | 169  | 440786   | 81.673  | ppm   | 100      |
| 107) Pentachloronitrobenzene   | 8.930  | 237  | 65829    | 82.557  | ppm   | 100      |
| 108) Pronamide                 | 8.984  | 173  | 226253   | 81.841  | ppm   | 100      |
| 109) Dinoseb                   | 9.101  | 211  | 118377   | 85.395  | ppm   | 100      |
| 110) Disulfoton                | 9.112  | 88   | 201792   | 78.085  | ppm   | 100      |
| 111) Phenanthrene              | 9.133  | 178  | 715508   | 81.033  | ppm   | 100      |
| 112) Anthracene                | 9.187  | 178  | 723570   | 82.985  | ppm   | 100      |
| 113) Carbazole                 | 9.347  | 167  | 715532   | 81.928  | ppm   | 100      |
| 114) Di-n-butylphthalate       | 9.690  | 149  | 951588   | 84.632  | ppm   | 100      |
| 115) 4-Nitroquinonline-1-oxide | 9.909  | 190  | 57682    | 83.768  | ppm   | 100      |
| 116) Fluoranthene              | 10.348 | 202  | 763953   | 79.198  | ppm   | 100      |
| 118) Methyl Parathion          | 9.481  | 109  | 143838   | 101.152 | ppm   | 100      |
| 119) Ethyl Parathion           | 9.866  | 97   | 101935   | 86.951  | ppm   | 100      |
| 120) Methapyrilene             | 9.984  | 58   | 204402   | 84.160  | ppm   | 100      |
| 121) Isodrin                   | 10.182 | 193  | 77398    | 86.975  | ppm   | 100      |
| 122) Benzidine                 | 10.508 | 184  | 524870   | 94.007  | ppm   | 100      |
| 123) Pyrene                    | 10.615 | 202  | 790397   | 86.437  | ppm   | 100      |
| 125) Aramite                   | 10.882 | 185  | 95223m   | 83.629  | ppm   |          |
| 126) p-(Dimethylamino)azobe... | 10.989 | 120  | 216660   | 85.772  | ppm   | 100      |
| 127) Chlorobenzilate           | 11.054 | 139  | 256792   | 86.225  | ppm   | 100      |
| 128) Butyl benzyl phthalate    | 11.492 | 149  | 391589   | 86.501  | ppm   | 100      |
| 129) 3,3-Dimethylbenzidine     | 11.465 | 212  | 483015   | 90.984  | ppm   | 100      |
| 130) 2-Acetylaminofluorene     | 11.856 | 181  | 338523   | 91.839  | ppm   | 100      |
| 131) 3,3'-Dichlorobenzidine    | 12.337 | 252  | 329818   | 87.325  | ppm   | 100      |
| 132) Benzo(a)anthracene        | 12.369 | 228  | 734371   | 82.948  | ppm   | 100      |
| 133) Chrysene                  | 12.434 | 228  | 716459   | 84.139  | ppm   | 100      |
| 134) bis(2-Ethylhexyl)phtha... | 12.482 | 149  | 553575   | 83.425  | ppm   | 100      |
| 136) Di-n-octyl phthalate      | 13.813 | 149  | 941930   | 89.298  | ppm   | 100      |
| 137) 7,12-Dimethylbenz(a)an... | 14.493 | 256  | 357852   | 90.030  | ppm   | 100      |
| 138) Benzo(b)Fluoranthene      | 14.493 | 252  | 821389   | 89.167  | ppm   | 100      |
| 139) Benzo(k)fluoranthene      | 14.552 | 252  | 797876   | 90.166  | ppm   | 100      |
| 140) Benzo(a)pyrene            | 15.193 | 252  | 710252   | 88.108  | ppm   | 100      |
| 141) 3-Methylcholanthrene      | 15.969 | 268  | 388198   | 83.762  | ppm   | 100      |
| 142) Indeno(1,2,3-cd)Pyrene    | 17.269 | 276  | 646876   | 80.397  | ppm   | 100      |
| 143) Dibenz(a,h)anthracene     | 17.322 | 278  | 705546   | 83.069  | ppm   | 100      |
| 144) Benzo(g,h,i)perylene      | 17.723 | 276  | 650530   | 82.935  | ppm   | 100      |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

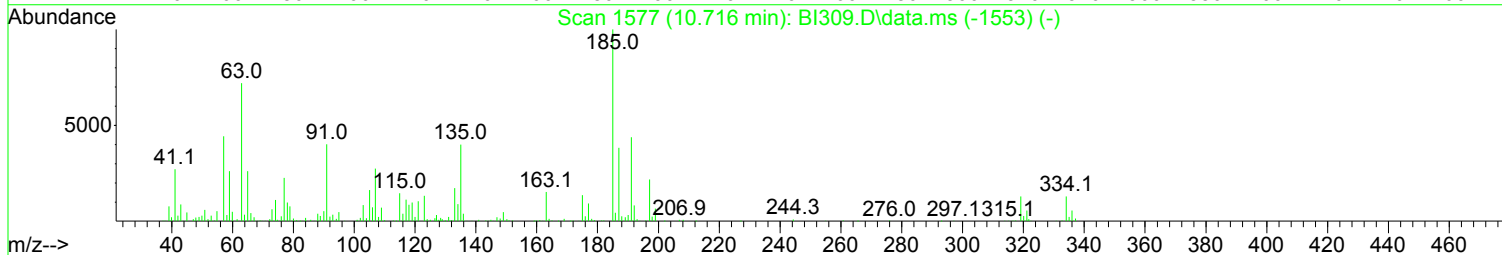
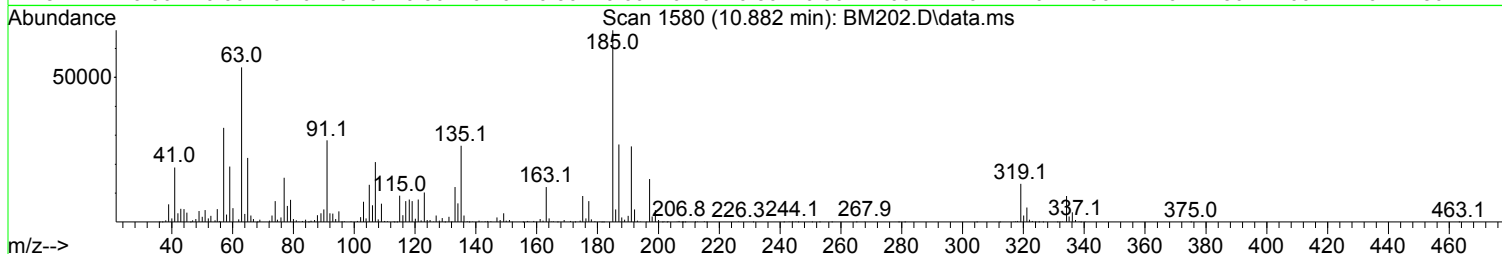
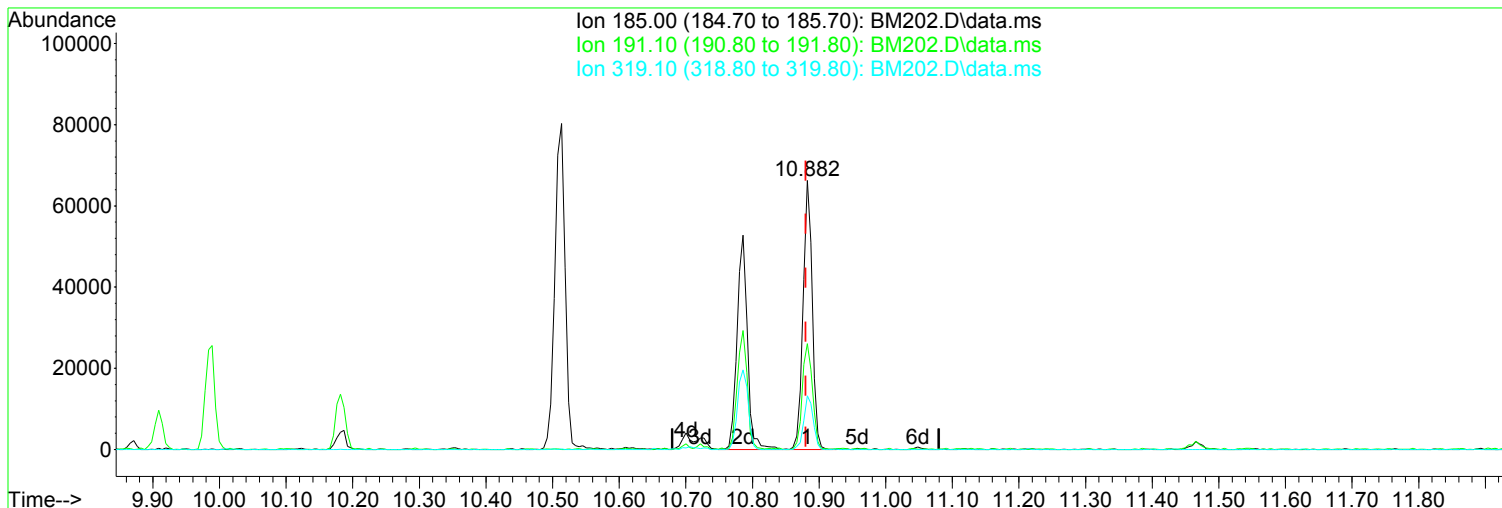
Data Path : I:\ACQUDATA\5973D\Data\102617\  
Data File : BM201.D  
Acq On : 26 Oct 2017 12:16 pm  
Operator : J.Misiurewicz  
Sample : 80 ppm STD  
Misc : Initial Calibration 8270D/625  
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Oct 26 14:09:46 2017  
Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
Quant Title : 8270 BNA ANALYSIS  
QLast Update : Thu Oct 26 14:03:10 2017  
Response via : Initial Calibration



Data Path : I:\ACQUDATA\5973D\Data\102617\  
 Data File : BM202.D  
 Acq On : 26 Oct 2017 12:44 pm  
 Operator : J.Misiurewicz  
 Sample : 100 ppm STD  
 Misc : Initial Calibration 8270D/625  
 ALS Vial : 9 Sample Multiplier: 1

Quant Time: Oct 26 14:09:54 2017  
 Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
 Quant Title : 8270 BNA ANALYSIS  
 QLast Update : Thu Oct 26 14:03:10 2017  
 Response via : Initial Calibration



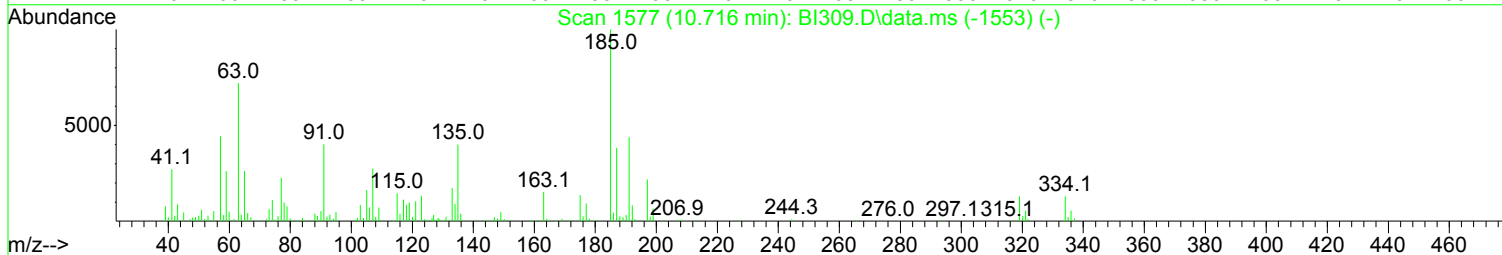
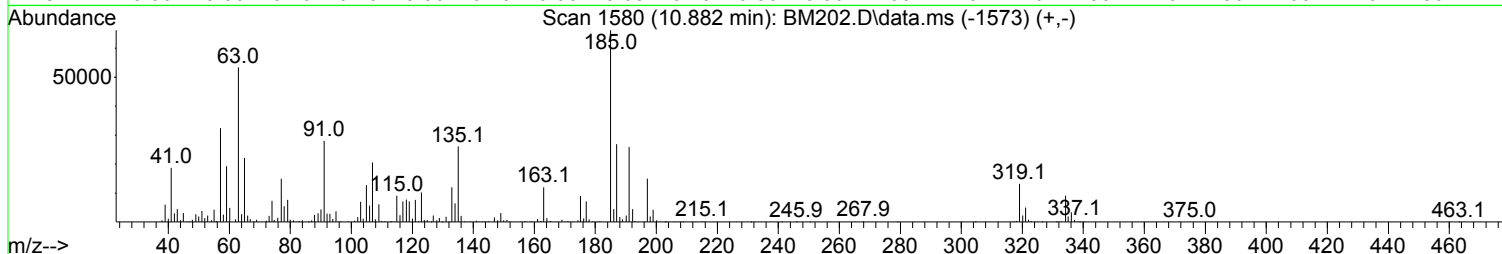
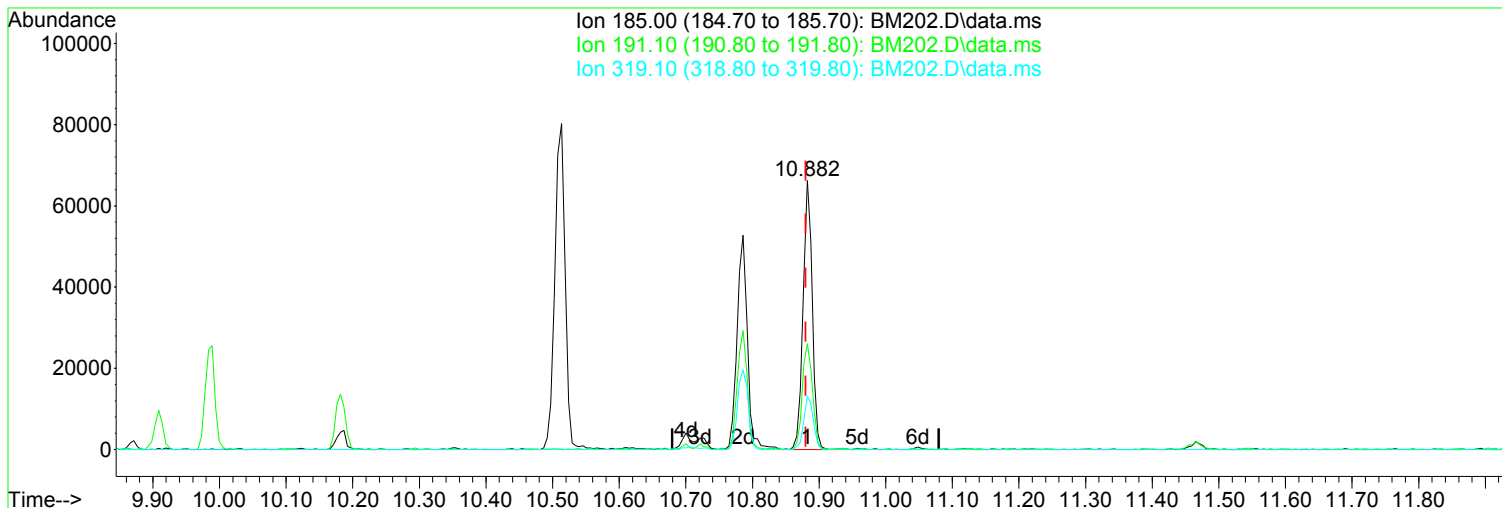
TIC: BM202.D\data.ms

| Ion    | Exp%   | Act%   |
|--------|--------|--------|
| 185.00 | 100.00 | 100.00 |
| 191.10 | 51.80  | 39.40  |
| 319.10 | 22.50  | 19.97  |
| 0.00   | 0.00   | 0.00   |

(125) Aramite (TM) Manual Integration:  
 10.882min (+ 0.002) 99.25 ppm m After  
 response 121016 Split Peak.  
 10/26/17

Data Path : I:\ACQUDATA\5973D\Data\102617\  
Data File : BM202.D  
Acq On : 26 Oct 2017 12:44 pm  
Operator : J.Misiurewicz  
Sample : 100 ppm STD  
Misc : Initial Calibration 8270D/625  
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Oct 26 14:09:54 2017  
Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
Quant Title : 8270 BNA ANALYSIS  
QLast Update : Thu Oct 26 14:03:10 2017  
Response via : Initial Calibration



TIC: BM202.D\data.ms

(125) Aramite (TM)

Manual Integration:

10.882min (+ 0.002) 52.68 ppm

Before

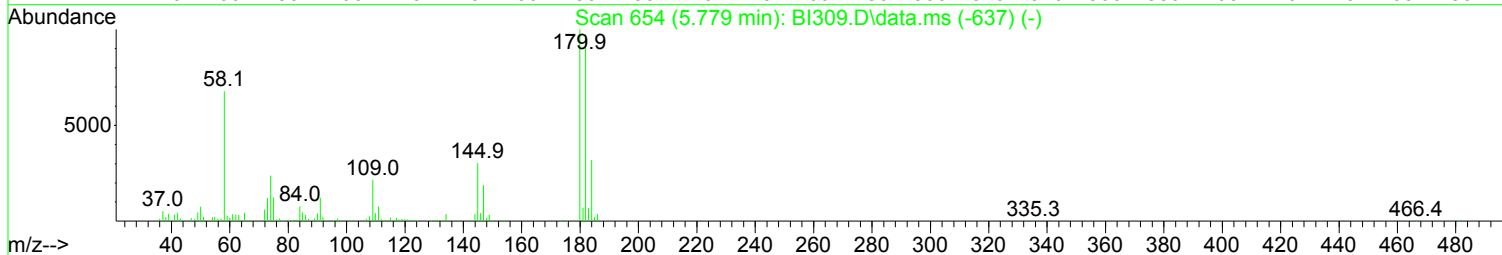
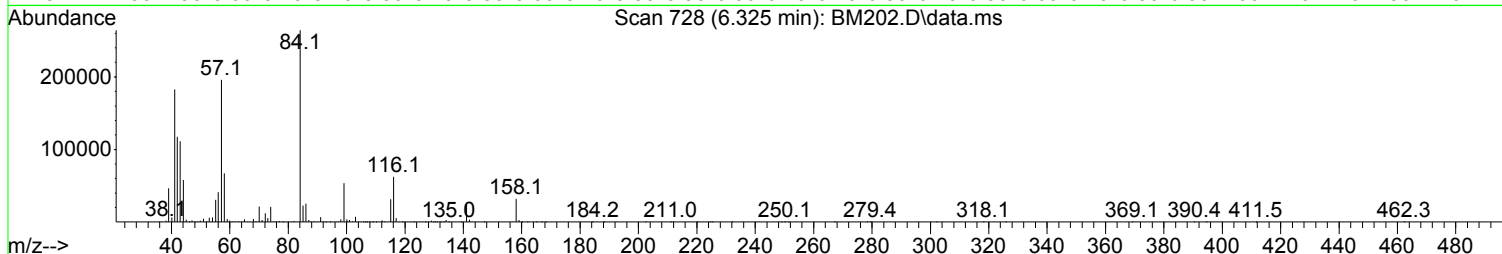
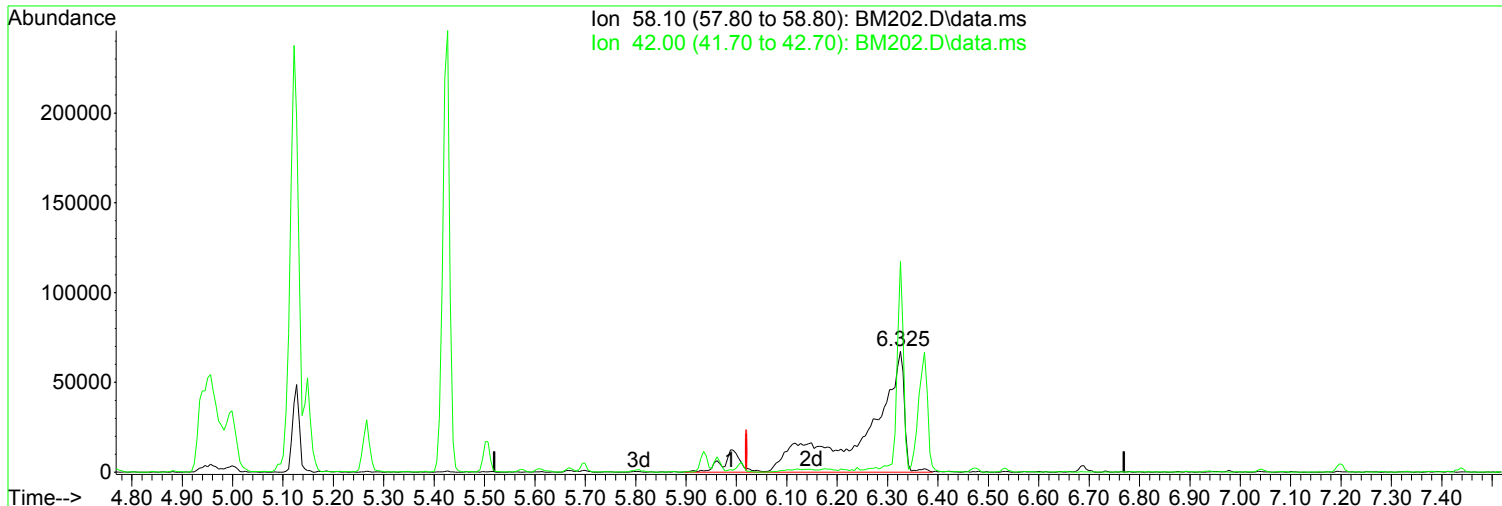
response 64233

| Ion    | Exp%   | Act%   |
|--------|--------|--------|
| 185.00 | 100.00 | 100.00 |
| 191.10 | 51.80  | 39.02  |
| 319.10 | 22.50  | 19.91  |
| 0.00   | 0.00   | 0.00   |

10/26/17

Data Path : I:\ACQUDATA\5973D\Data\102617\  
Data File : BM202.D  
Acq On : 26 Oct 2017 12:44 pm  
Operator : J.Misiurewicz  
Sample : 100 ppm STD  
Misc : Initial Calibration 8270D/625  
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Oct 26 14:09:54 2017  
Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
Quant Title : 8270 BNA ANALYSIS  
QLast Update : Thu Oct 26 14:03:10 2017  
Response via : Initial Calibration



(43) a,a-Dimethylphenethylamine (TM)

Manual Integration:

6.325min (+ 0.306) 49.31 ppm m

After

response 373286

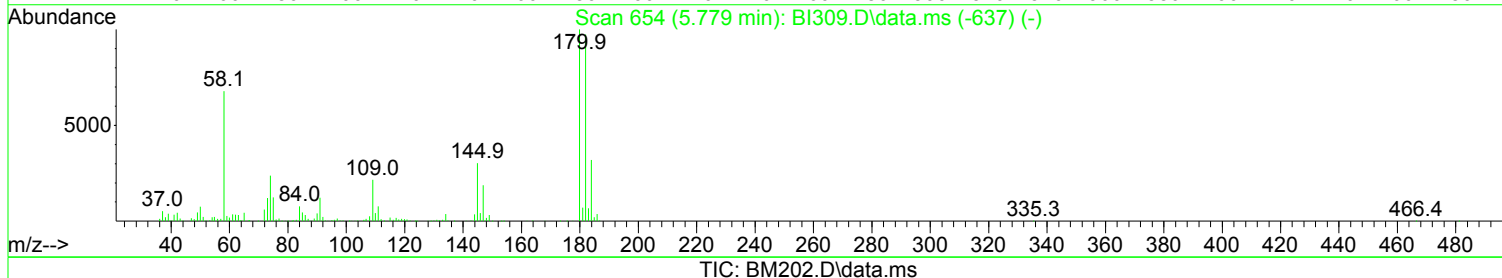
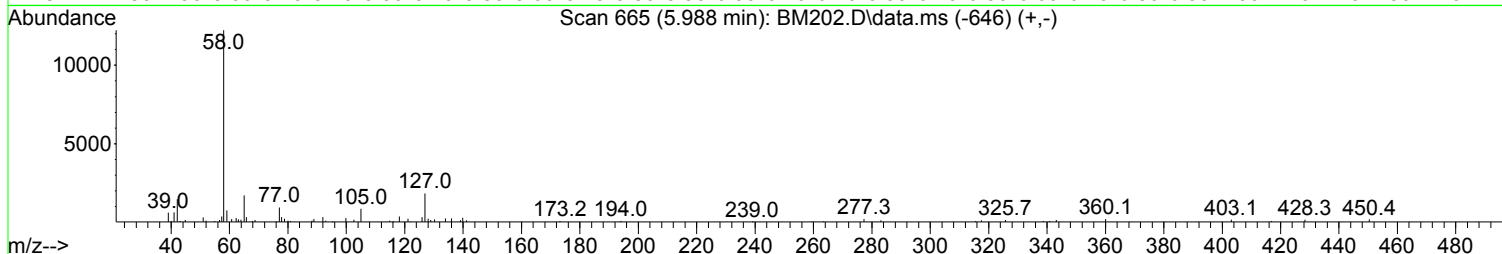
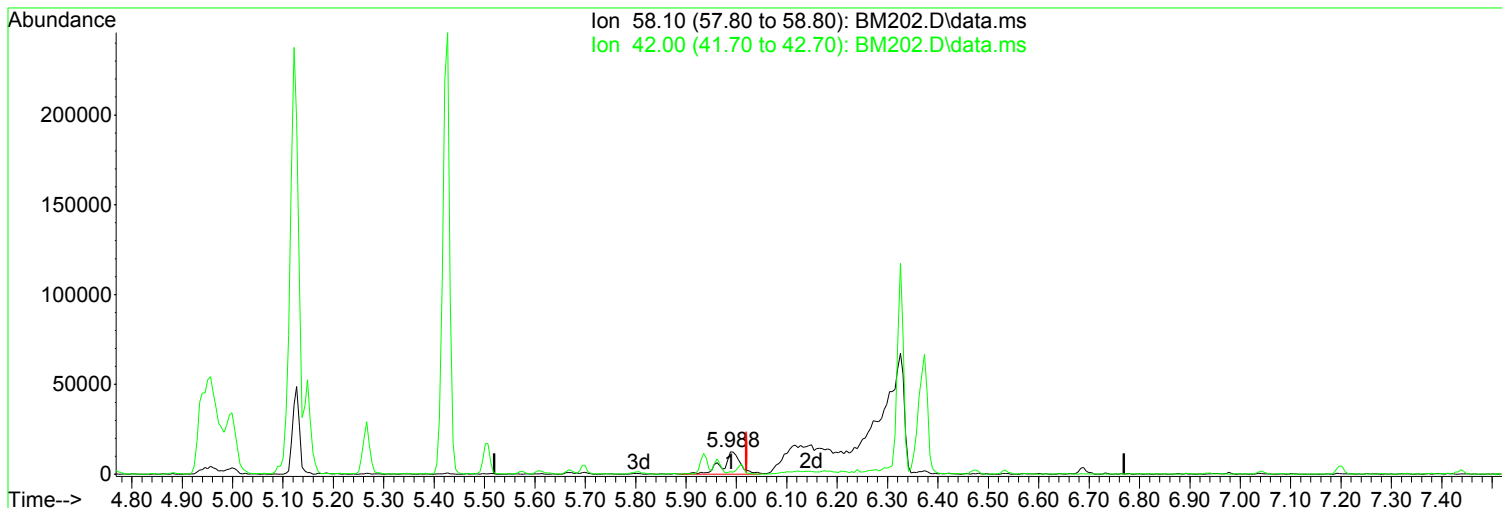
Poor integration.

| Ion   | Exp%   | Act%    |
|-------|--------|---------|
| 58.10 | 100.00 | 100.00  |
| 42.00 | 8.90   | 174.38# |
| 0.00  | 0.00   | 0.00    |
| 0.00  | 0.00   | 0.00    |

10/26/17

Data Path : I:\ACQUDATA\5973D\Data\102617\  
Data File : BM202.D  
Acq On : 26 Oct 2017 12:44 pm  
Operator : J.Misiurewicz  
Sample : 100 ppm STD  
Misc : Initial Calibration 8270D/625  
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Oct 26 14:09:54 2017  
Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
Quant Title : 8270 BNA ANALYSIS  
QLast Update : Thu Oct 26 14:03:10 2017  
Response via : Initial Calibration



(43) a,a-Dimethylphenethylamine (TM)

Manual Integration:

5.988min (-0.031) 4.17 ppm

Before

response 31574

| Ion   | Exp%   | Act%   | 10/26/17 |
|-------|--------|--------|----------|
| 58.10 | 100.00 | 100.00 |          |
| 42.00 | 8.90   | 11.62  |          |
| 0.00  | 0.00   | 0.00   |          |
| 0.00  | 0.00   | 0.00   |          |

Data Path : I:\ACQUDATA\5973D\Data\102617\  
Data File : BM202.D  
Acq On : 26 Oct 2017 12:44 pm  
Operator : J.Misiurewicz  
Sample : 100 ppm STD  
Misc : Initial Calibration 8270D/625  
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Oct 26 14:09:54 2017  
Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
Quant Title : 8270 BNA ANALYSIS  
QLast Update : Thu Oct 26 14:03:10 2017  
Response via : Initial Calibration

| Compound                  | R.T.   | QIon | Response | Conc  | Units | Dev(Min) |
|---------------------------|--------|------|----------|-------|-------|----------|
| Internal Standards        |        |      |          |       |       |          |
| 1) d4-1,4-Dichlorobenzene | 4.774  | 152  | 100721   | 40.00 | ppm   | 0.00     |
| 33) d8-Naphthalene        | 5.935  | 136  | 390253   | 40.00 | ppm   | 0.00     |
| 57) d10-Acenaphthene      | 7.641  | 164  | 176620   | 40.00 | ppm   | 0.00     |
| 91) d10-Phenanthrene      | 9.112  | 188  | 337009   | 40.00 | ppm   | 0.00     |
| 117) d12-Chrysene         | 12.385 | 240  | 323465   | 40.00 | ppm   | 0.00     |
| 135) d12-Perylene         | 15.311 | 264  | 340045   | 40.00 | ppm   | 0.00     |

|                               |         |       |          |          |     |         |
|-------------------------------|---------|-------|----------|----------|-----|---------|
| System Monitoring Compounds   |         |       |          |          |     |         |
| 7) SURR1,2-FLUOROPHENOL       | 3.710   | 112   | 339075   | 102.06   | ppm | 0.00    |
| Spiked Amount                 | 200.000 | Range | 10 - 105 | Recovery | =   | 51.03%  |
| 12) SURR2,PHENOL-D6           | 4.437   | 99    | 414483   | 104.59   | ppm | 0.00    |
| Spiked Amount                 | 200.000 | Range | 10 - 107 | Recovery | =   | 52.30%  |
| 34) SURR4,NITROBENZENE-D5     | 5.266   | 82    | 363427   | 103.96   | ppm | 0.00    |
| Spiked Amount                 | 100.000 | Range | 37 - 117 | Recovery | =   | 103.96% |
| 63) SURR5,2-FLUOROBIPHENYL    | 6.978   | 172   | 721698   | 108.94   | ppm | 0.00    |
| Spiked Amount                 | 100.000 | Range | 39 - 119 | Recovery | =   | 108.94% |
| 88) SURR3,2,4,6-TRIBROMOPH... | 8.422   | 330   | 122314   | 105.35   | ppm | 0.00    |
| Spiked Amount                 | 200.000 | Range | 28 - 157 | Recovery | =   | 52.67%  |
| 124) SURR6,TERPHENYL-D14      | 10.807  | 244   | 729266   | 100.82   | ppm | 0.00    |
| Spiked Amount                 | 100.000 | Range | 40 - 133 | Recovery | =   | 100.82% |

| Target Compounds              |       |     |        |         |     | Qvalue |
|-------------------------------|-------|-----|--------|---------|-----|--------|
| 2) Pyridine                   | 2.768 | 79  | 319112 | 98.280  | ppm | 98     |
| 3) N-Nitrosodimethylamine     | 2.731 | 74  | 176292 | 102.685 | ppm | 92     |
| 4) 2-Picoline                 | 3.293 | 93  | 350276 | 102.058 | ppm | 96     |
| 5) N-Nitrosomethylamine       | 3.362 | 42  | 180886 | 97.868  | ppm | 96     |
| 6) Methyl Methansulfonate     | 3.587 | 80  | 176277 | 102.188 | ppm | 96     |
| 8) N-Nitrosodiethylamine      | 3.892 | 102 | 160916 | 107.071 | ppm | 94     |
| 9) Ethyl Mathanesulfonate     | 4.122 | 79  | 244856 | 102.070 | ppm | 98     |
| 10) Benzaldehyde              | 4.405 | 106 | 196488 | 99.170  | ppm | 94     |
| 11) Aniline                   | 4.491 | 93  | 547252 | 104.759 | ppm | 99     |
| 13) Phenol                    | 4.448 | 94  | 424435 | 102.688 | ppm | 96     |
| 14) bis(2-Clethyl)Ether       | 4.539 | 93  | 346517 | 106.214 | ppm | 96     |
| 15) Pentachloroethane         | 4.539 | 117 | 126074 | 102.248 | ppm | 94     |
| 16) 2-Chlorophenol            | 4.592 | 128 | 356218 | 104.170 | ppm | 99     |
| 17) 1,3-Diclbzene             | 4.726 | 146 | 379691 | 102.043 | ppm | 97     |
| 18) 1,4-Dichlorobenzene       | 4.790 | 146 | 379765 | 101.124 | ppm | 99     |
| 19) 1,2-Diclbzene             | 4.924 | 146 | 368442 | 103.379 | ppm | 94     |
| 20) Benzyl Alcohol            | 4.886 | 79  | 292630 | 103.964 | ppm | 99     |
| 21) 1-Methyl-2-pyrrolidinone  | 4.951 | 99  | 214708 | 103.141 | ppm | 95     |
| 22) 2,2'-oxybis(1-Chloropr... | 4.999 | 45  | 487430 | 103.076 | ppm | 95     |
| 23) 2-Methylphenol            | 4.983 | 108 | 298515 | 102.909 | ppm | 97     |
| 24) 3+4-Methylphenol          | 5.122 | 108 | 329721 | 103.336 | ppm | 99     |
| 25) Acetophenone              | 5.127 | 105 | 456514 | 99.628  | ppm | 85     |
| 26) N-Nitroso-Di-n-propyla... | 5.127 | 70  | 252082 | 100.752 | ppm | 96     |
| 27) N-Nitrosopyrrolidine      | 5.116 | 100 | 172965 | 102.513 | ppm | 64     |
| 28) N-Nitrosomorpholine       | 5.149 | 56  | 207527 | 98.618  | ppm | 98     |
| 29) o-Toluidine               | 5.159 | 106 | 513385 | 102.071 | ppm | 92     |
| 30) Hexachloroethane          | 5.223 | 117 | 156580 | 100.054 | ppm | 97     |
| 31) o,o,o-Triethylphosphor... | 5.673 | 198 | 151451 | 105.899 | ppm | 98     |
| 32) Alpha-terpinol            | 5.962 | 121 | 131094 | 102.779 | ppm | 97     |
| 35) Nitrobenzene              | 5.282 | 77  | 400992 | 102.910 | ppm | 96     |
| 36) N-Nitrosopiperidine       | 5.427 | 42  | 233562 | 101.267 | ppm | 99     |
| 37) Isophorone                | 5.507 | 82  | 715680 | 101.564 | ppm | 98     |
| 38) 2-Nitrophenol             | 5.576 | 139 | 187120 | 106.083 | ppm | 95     |

Data Path : I:\ACQUDATA\5973D\Data\102617\  
 Data File : BM202.D  
 Acq On : 26 Oct 2017 12:44 pm  
 Operator : J.Misiurewicz  
 Sample : 100 ppm STD  
 Misc : Initial Calibration 8270D/625  
 ALS Vial : 9 Sample Multiplier: 1

Quant Time: Oct 26 14:09:54 2017  
 Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
 Quant Title : 8270 BNA ANALYSIS  
 QLast Update : Thu Oct 26 14:03:10 2017  
 Response via : Initial Calibration

| Compound                      | R.T.  | QIon | Response | Conc    | Units | Dev(Min) |
|-------------------------------|-------|------|----------|---------|-------|----------|
| 39) Benzoic Acid              | 5.699 | 105  | 192950   | 105.098 | ppm   | 96       |
| 40) 2,4-Dimethylphenol        | 5.609 | 107  | 344727   | 102.962 | ppm   | 93       |
| 41) bis(-2-Chloroethoxy)Me... | 5.699 | 93   | 416571   | 98.865  | ppm   | 97       |
| 42) 2,4-Dichlorophenol        | 5.806 | 162  | 275214   | 100.279 | ppm   | 97       |
| 43) a,a-Dimethylphenethyla... | 6.325 | 58   | 373286m  | 49.309  | ppm   |          |
| 44) 1,2,4-Trichlorobenzene    | 5.876 | 180  | 309441   | 99.297  | ppm   | 98       |
| 45) Naphthalene               | 5.956 | 128  | 987126   | 99.420  | ppm   | 100      |
| 46) 4-Chloroaniline           | 6.010 | 127  | 416206   | 99.989  | ppm   | 99       |
| 47) 2,6-Dichlorophenol        | 6.015 | 162  | 274056   | 99.249  | ppm   | 93       |
| 48) Hexachlorobutadiene       | 6.069 | 225  | 179457   | 101.092 | ppm   | 97       |
| 49) Hexachloropropene         | 6.036 | 213  | 216676   | 102.601 | ppm   | 98       |
| 50) 4-Chloro-3-methylphenol   | 6.475 | 107  | 277301   | 102.672 | ppm   | 99       |
| 51) N-N-di-n-butylamine       | 6.325 | 84   | 220410   | 90.247  | ppm   | 96       |
| 52) Caprolactam               | 6.373 | 113  | 95265    | 102.904 | ppm   | 97       |
| 53) p-Phenylenediamine        | 6.363 | 80   | 146978   | 91.424  | ppm   | 83       |
| 54) Safrole                   | 6.534 | 162  | 263178   | 102.949 | ppm   | 97       |
| 55) 2-Methylnaphthalene       | 6.625 | 142  | 660817   | 100.095 | ppm   | 96       |
| 56) 1-Methylnaphthalene       | 6.721 | 142  | 602981   | 100.673 | ppm   | 98       |
| 58) Hexachlorocyclopentadiene | 6.775 | 237  | 195017   | 110.532 | ppm   | 94       |
| 59) 1,2,4,5-Tetrachloroben... | 6.785 | 216  | 309726   | 108.289 | ppm   | 98       |
| 60) 1,2,3,4-Tetrachloroben... | 7.063 | 216  | 281848   | 109.688 | ppm   | 97       |
| 61) 2,4,6-Trichlorophenol     | 6.898 | 196  | 199795   | 109.012 | ppm   | 99       |
| 62) 2,4,5-Trichlorophenol     | 6.935 | 196  | 193932   | 106.173 | ppm   | 97       |
| 64) Isosafrole                | 7.042 | 104  | 125116   | 109.473 | ppm   | 90       |
| 65) 1,1'-Biphenyl             | 7.079 | 154  | 787928   | 108.379 | ppm   | 99       |
| 66) 2-Chloronaphthalene       | 7.101 | 162  | 621406   | 109.481 | ppm   | 99       |
| 67) 2-Nitroaniline            | 7.197 | 65   | 172656   | 110.627 | ppm   | 98       |
| 68) 1,4-Naphthoquinone        | 7.272 | 158  | 46522    | 76.823  | ppm   | 95       |
| 69) m-Dinitrobenzene          | 7.411 | 168  | 95895    | 108.431 | ppm   | 70       |
| 70) Acenaphthylene            | 7.507 | 152  | 906078   | 101.484 | ppm   | 99       |
| 71) Dimethyl phthalate        | 7.379 | 163  | 615631   | 100.193 | ppm   | 99       |
| 72) 2,6-Dinitrotoluene        | 7.438 | 165  | 157037   | 103.404 | ppm   | 91       |
| 73) Acenaphthene              | 7.678 | 153  | 615954   | 104.110 | ppm   | 99       |
| 74) 3-Nitroaniline            | 7.609 | 138  | 165836   | 109.682 | ppm   | 97       |
| 75) 2,4-Dinitrophenol         | 7.711 | 184  | 81740    | 102.467 | ppm   | 94       |
| 76) Dibenzofuran              | 7.844 | 168  | 799566   | 101.138 | ppm   | 99       |
| 77) 2,4-Dinitrotoluene        | 7.839 | 165  | 211364   | 100.125 | ppm   | 98       |
| 78) 4-Nitrophenol             | 7.775 | 65   | 137233   | 105.285 | ppm   | 96       |
| 79) Pentachlorobenzene        | 7.801 | 250  | 255132   | 101.217 | ppm   | 98       |
| 80) 1-Naphthylamine           | 7.930 | 143  | 448764   | 97.790  | ppm   | 97       |
| 81) 2-Naphthylamine           | 8.005 | 143  | 479722   | 97.604  | ppm   | 94       |
| 82) 2,3,4,6-Tetrachlorophenol | 7.967 | 232  | 156438   | 110.933 | ppm   | 96       |
| 83) Fluorene                  | 8.187 | 166  | 674532   | 104.601 | ppm   | 99       |
| 84) 4-Chlorophenyl-phenyle... | 8.181 | 204  | 342664   | 101.345 | ppm   | 99       |
| 85) Diethylphthalate          | 8.074 | 149  | 672222   | 102.215 | ppm   | 99       |
| 86) 4-Nitroaniline            | 8.213 | 138  | 187534   | 110.798 | ppm   | 97       |
| 87) 5-Nitro-o-toluidine       | 8.203 | 152  | 202291   | 114.987 | ppm   | 93       |
| 89) Sulfotepp                 | 8.459 | 322  | 114020   | 108.979 | ppm   | 94       |
| 90) Octachlorocyclopentene    | 8.433 | 307  | 120440   | 108.371 | ppm   | 98       |
| 92) Thionazin                 | 8.160 | 107  | 106552   | 103.051 | ppm   | 88       |
| 93) 4,6-Dinitro-2-methylph... | 8.240 | 198  | 123296   | 106.260 | ppm   | 91       |
| 94) Diphenylamine             | 8.304 | 169  | 961866   | 193.492 | ppm   | 99       |
| 95) 1,2 Diphenylhydrazine     | 8.342 | 77   | 651589   | 94.612  | ppm   | 94       |
| 96) N-Nitrosodiphenylamine    | 8.304 | 169  | 962032   | 193.520 | ppm   | 99       |
| 97) 1,3,5-Trinitrobenzene     | 8.577 | 213  | 57229    | 105.129 | ppm   | 78       |
| 98) Diallate                  | 8.582 | 86   | 218831   | 95.380  | ppm   | 92       |



Data Path : I:\ACQUDATA\5973D\Data\102617\  
Data File : BM202.D  
Acq On : 26 Oct 2017 12:44 pm  
Operator : J.Misiurewicz  
Sample : 100 ppm STD  
Misc : Initial Calibration 8270D/625  
ALS Vial : 9 Sample Multiplier: 1

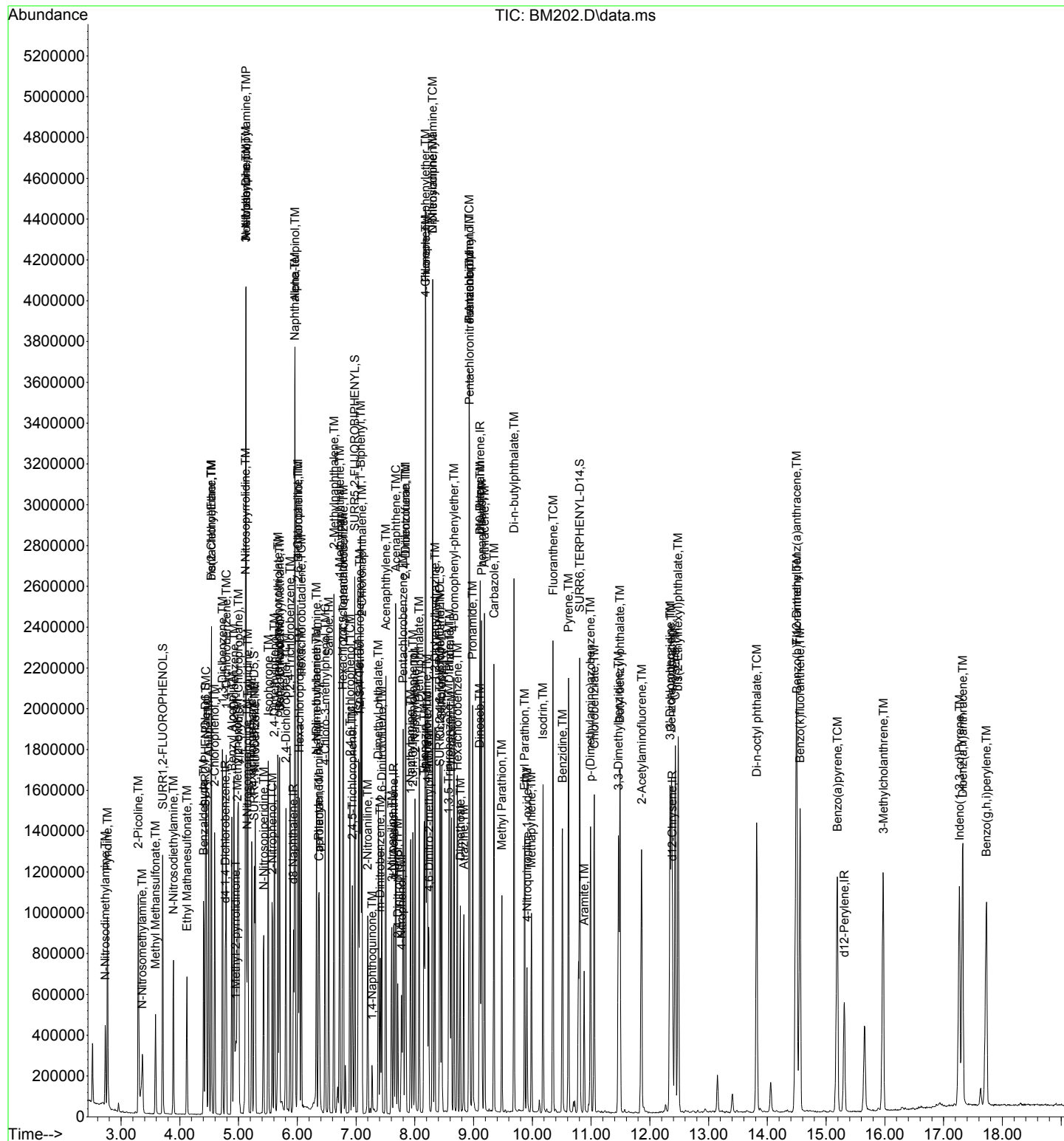
Quant Time: Oct 26 14:09:54 2017  
Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
Quant Title : 8270 BNA ANALYSIS  
QLast Update : Thu Oct 26 14:03:10 2017  
Response via : Initial Calibration

| Compound                       | R.T.   | QIon | Response | Conc    | Units | Dev(Min) |
|--------------------------------|--------|------|----------|---------|-------|----------|
| 99) Phorate                    | 8.593  | 121  | 115511   | 98.786  | ppm   | 97       |
| 100) Phenacetin                | 8.625  | 108  | 337478   | 102.824 | ppm   | 93       |
| 101) 4-Bromophenyl-phenylether | 8.668  | 248  | 204506   | 96.764  | ppm   | 95       |
| 102) Hexachlorobenzene         | 8.727  | 284  | 212725   | 92.566  | ppm   | 91       |
| 103) Dimethoate                | 8.775  | 87   | 185702   | 91.901  | ppm   | 97       |
| 104) Atrazine                  | 8.834  | 215  | 53877    | 89.799  | ppm   | 95       |
| 105) Pentachlorophenol         | 8.925  | 266  | 144825   | 107.040 | ppm   | 94       |
| 106) 4-Aminobiphenyl           | 8.925  | 169  | 615633   | 111.046 | ppm   | 98       |
| 107) Pentachloronitrobenzene   | 8.930  | 237  | 93048    | 113.598 | ppm   | 98       |
| 108) Pronamide                 | 8.984  | 173  | 302649   | 106.572 | ppm   | 99       |
| 109) Dinoseb                   | 9.101  | 211  | 154143   | 108.248 | ppm   | 98       |
| 110) Disulfoton                | 9.112  | 88   | 251002   | 94.552  | ppm   | 96       |
| 111) Phenanthrene              | 9.139  | 178  | 875109   | 96.480  | ppm   | 99       |
| 112) Anthracene                | 9.187  | 178  | 880625   | 98.319  | ppm   | 99       |
| 113) Carbazole                 | 9.347  | 167  | 840507   | 93.686  | ppm   | 98       |
| 114) Di-n-butylphthalate       | 9.690  | 149  | 1250139  | 108.237 | ppm   | 99       |
| 115) 4-Nitroquinonline-1-oxide | 9.909  | 190  | 73928    | 104.515 | ppm   | 99       |
| 116) Fluoranthene              | 10.353 | 202  | 973265   | 98.223  | ppm   | 99       |
| 118) Methyl Parathion          | 9.481  | 109  | 162588   | 106.773 | ppm   | 96       |
| 119) Ethyl Parathion           | 9.871  | 97   | 133619   | 106.438 | ppm   | 98       |
| 120) Methapyrilene             | 9.984  | 58   | 266075   | 102.306 | ppm   | 95       |
| 121) Isodrin                   | 10.182 | 193  | 103305   | 108.408 | ppm   | 91       |
| 122) Benzidine                 | 10.513 | 184  | 603521   | 100.942 | ppm   | 97       |
| 123) Pyrene                    | 10.615 | 202  | 982162   | 100.303 | ppm   | 100      |
| 125) Aramite                   | 10.882 | 185  | 121016m  | 99.250  | ppm   |          |
| 126) p-(Dimethylamino)azobe... | 10.989 | 120  | 275668   | 101.912 | ppm   | 96       |
| 127) Chlorobenzilate           | 11.053 | 139  | 323804   | 101.533 | ppm   | 99       |
| 128) Butyl benzyl phthalate    | 11.492 | 149  | 493545   | 101.810 | ppm   | 98       |
| 129) 3,3-Dimethylbenzidine     | 11.465 | 212  | 596669   | 104.957 | ppm   | 99       |
| 130) 2-Acetylaminofluorene     | 11.861 | 181  | 424251   | 107.483 | ppm   | 99       |
| 131) 3,3'-Dichlorobenzidine    | 12.342 | 252  | 417752   | 103.289 | ppm   | 98       |
| 132) Benzo(a)anthracene        | 12.369 | 228  | 948917   | 100.091 | ppm   | 99       |
| 133) Chrysene                  | 12.433 | 228  | 920630   | 100.964 | ppm   | 99       |
| 134) bis(2-Ethylhexyl)phtha... | 12.482 | 149  | 773456   | 108.851 | ppm   | 97       |
| 136) Di-n-octyl phthalate      | 13.819 | 149  | 1202891  | 102.748 | ppm   | 100      |
| 137) 7,12-Dimethylbenz(a)an... | 14.498 | 256  | 440146   | 99.772  | ppm   | 93       |
| 138) Benzo(b)Fluoranthene      | 14.503 | 252  | 1001368  | 97.943  | ppm   | 98       |
| 139) Benzo(k)fluoranthene      | 14.557 | 252  | 971040   | 98.872  | ppm   | 95       |
| 140) Benzo(a)pyrene            | 15.193 | 252  | 884967   | 98.914  | ppm   | 99       |
| 141) 3-Methylcholanthrene      | 15.974 | 268  | 498272   | 96.870  | ppm   | 99       |
| 142) Indeno(1,2,3-cd)Pyrene    | 17.269 | 276  | 803870   | 90.019  | ppm   | 99       |
| 143) Dibenz(a,h)anthracene     | 17.327 | 278  | 875060   | 92.828  | ppm   | 99       |
| 144) Benzo(g,h,i)perylene      | 17.729 | 276  | 790672   | 90.823  | ppm   | 99       |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

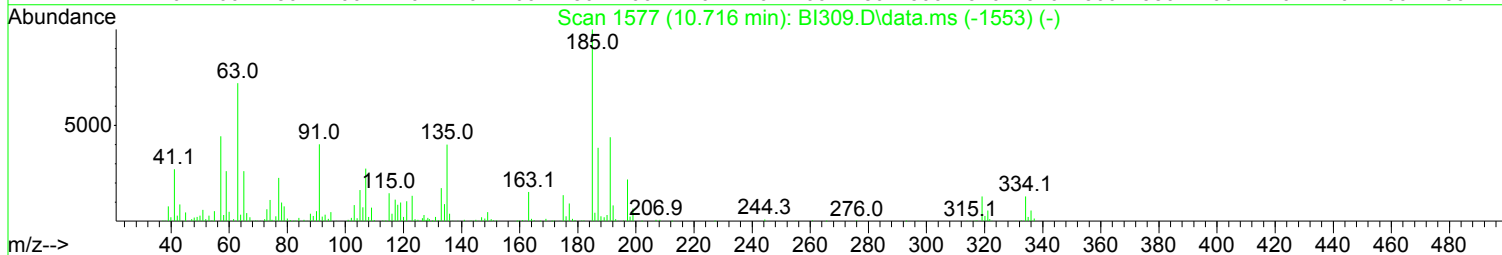
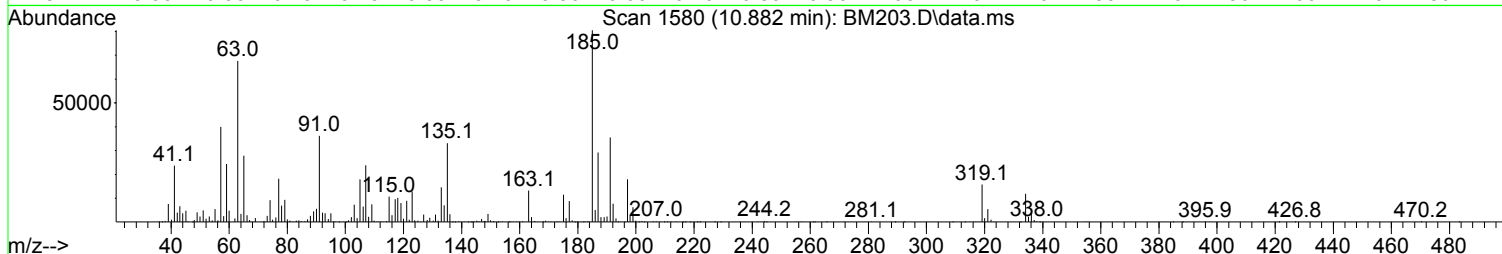
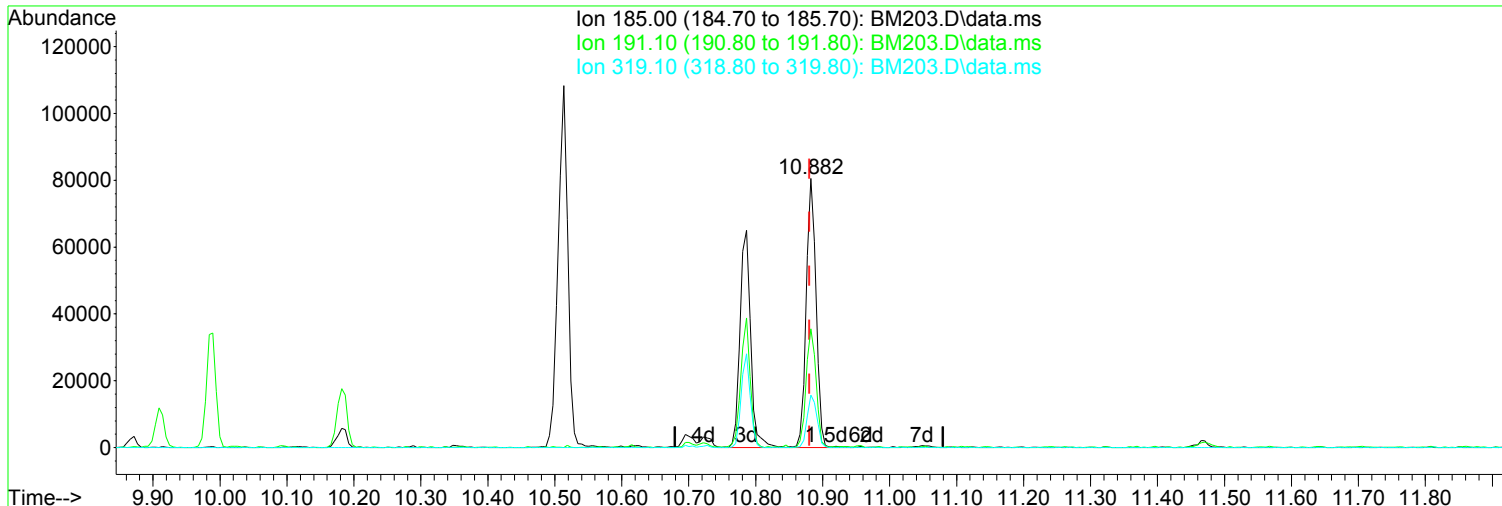
Data Path : I:\ACQUDATA\5973D\Data\102617\  
Data File : BM202.D  
Acq On : 26 Oct 2017 12:44 pm  
Operator : J.Misiurewicz  
Sample : 100 ppm STD  
Misc : Initial Calibration 8270D/625  
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Oct 26 14:09:54 2017  
Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
Quant Title : 8270 BNA ANALYSIS  
QLast Update : Thu Oct 26 14:03:10 2017  
Response via : Initial Calibration



Data Path : I:\ACQUDATA\5973D\Data\102617\  
Data File : BM203.D  
Acq On : 26 Oct 2017 1:13 pm  
Operator : J.Misiurewicz  
Sample : 120 ppm STD  
Misc : Initial Calibration 8270D/625  
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Oct 26 14:10:01 2017  
Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
Quant Title : 8270 BNA ANALYSIS  
QLast Update : Thu Oct 26 14:03:10 2017  
Response via : Initial Calibration



(125) Aramite (TM)

Manual Integration:

10.882min (+ 0.002) 118.44 ppm m

After

response 153890

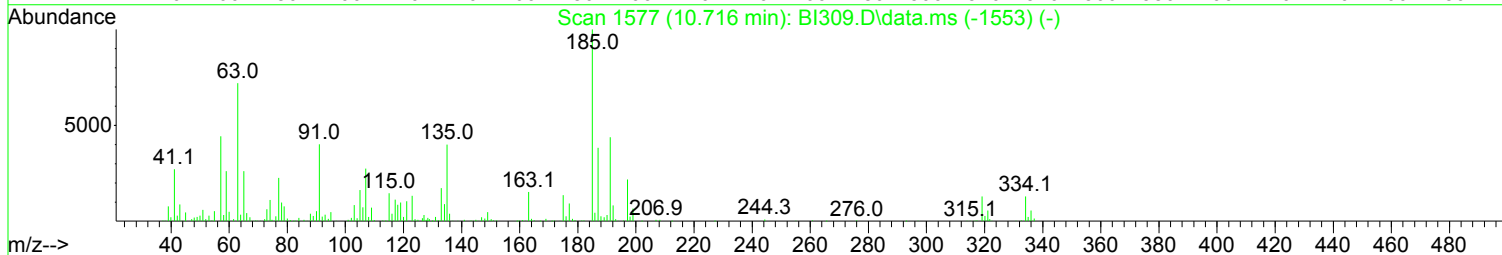
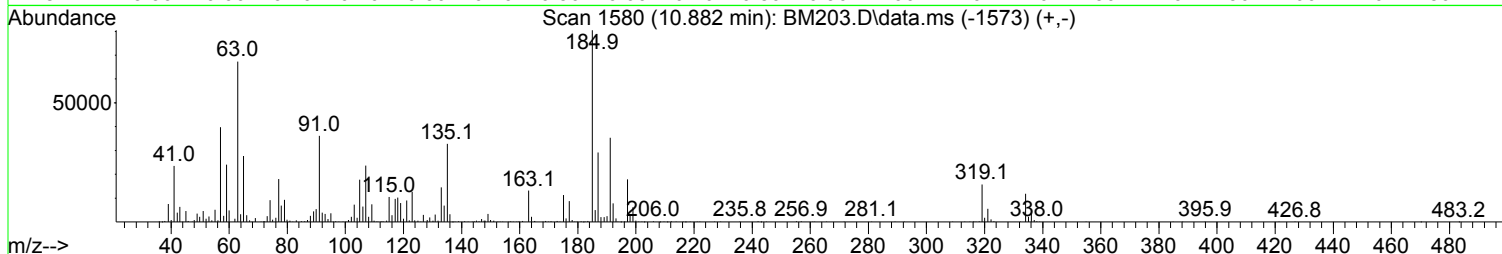
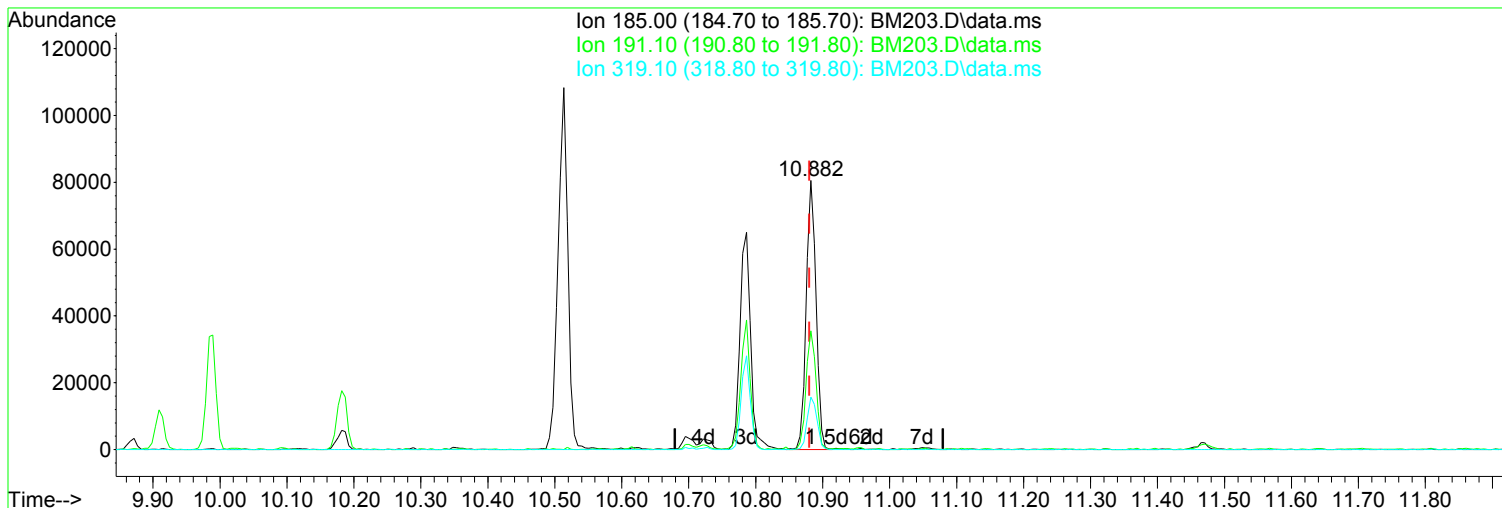
Split Peak.

| Ion    | Exp%   | Act%   |
|--------|--------|--------|
| 185.00 | 100.00 | 100.00 |
| 191.10 | 51.80  | 44.17  |
| 319.10 | 22.50  | 19.55  |
| 0.00   | 0.00   | 0.00   |

10/26/17

Data Path : I:\ACQUDATA\5973D\Data\102617\  
 Data File : BM203.D  
 Acq On : 26 Oct 2017 1:13 pm  
 Operator : J.Misiurewicz  
 Sample : 120 ppm STD  
 Misc : Initial Calibration 8270D/625  
 ALS Vial : 10 Sample Multiplier: 1

Quant Time: Oct 26 14:10:01 2017  
 Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
 Quant Title : 8270 BNA ANALYSIS  
 QLast Update : Thu Oct 26 14:03:10 2017  
 Response via : Initial Calibration

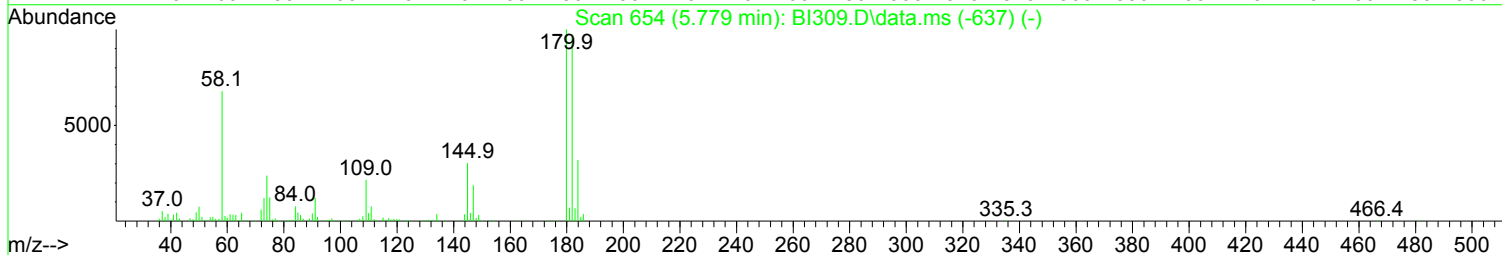
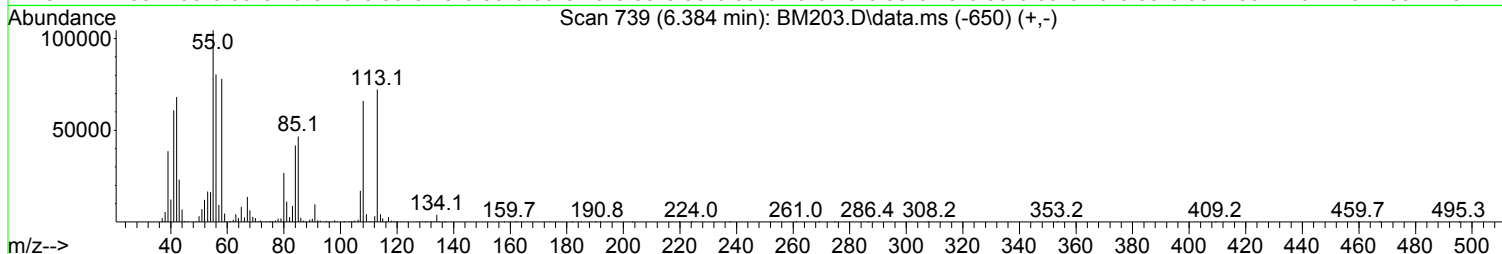
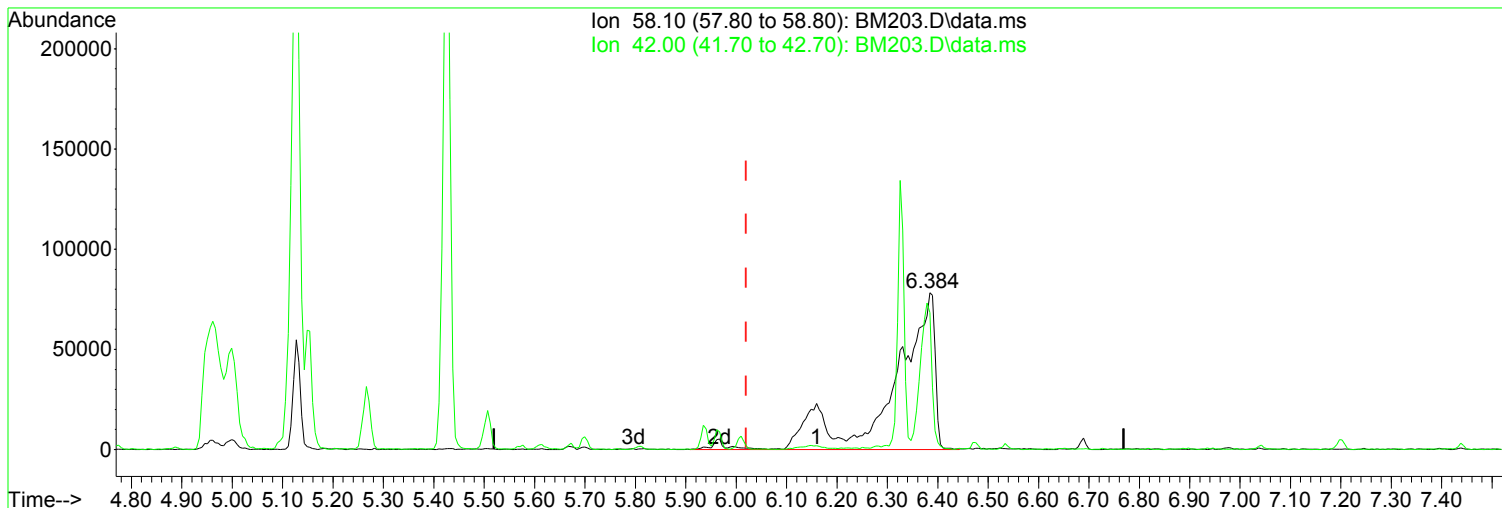


TIC: BM203.D\data.ms

|                     |           |        |                     |
|---------------------|-----------|--------|---------------------|
| (125) Aramite (TM)  |           |        | Manual Integration: |
| 10.882min (+ 0.002) | 63.08 ppm |        | Before              |
| response            | 81962     |        |                     |
| Ion                 | Exp%      | Act%   | 10/26/17            |
| 185.00              | 100.00    | 100.00 |                     |
| 191.10              | 51.80     | 43.55  |                     |
| 319.10              | 22.50     | 19.58  |                     |
| 0.00                | 0.00      | 0.00   |                     |

Data Path : I:\ACQUDATA\5973D\Data\102617\  
Data File : BM203.D  
Acq On : 26 Oct 2017 1:13 pm  
Operator : J.Misiurewicz  
Sample : 120 ppm STD  
Misc : Initial Calibration 8270D/625  
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Oct 26 14:10:01 2017  
Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
Quant Title : 8270 BNA ANALYSIS  
QLast Update : Thu Oct 26 14:03:10 2017  
Response via : Initial Calibration



TIC: BM203.D\data.ms

(43) a,a-Dimethylphenethylamine (TM)

Manual Integration:

6.384min (+ 0.364) 59.67 ppm m

After

response 447103

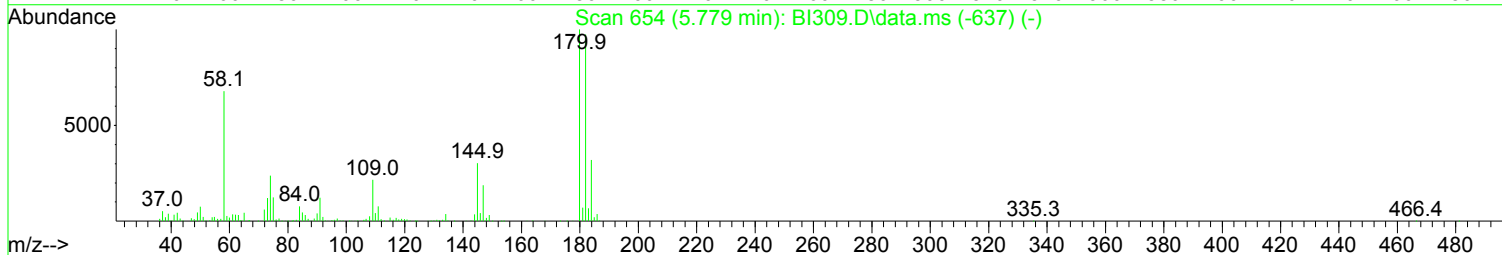
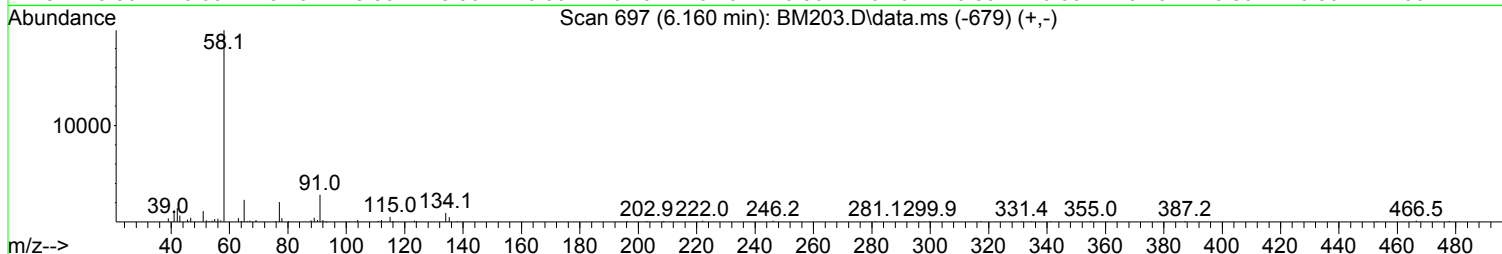
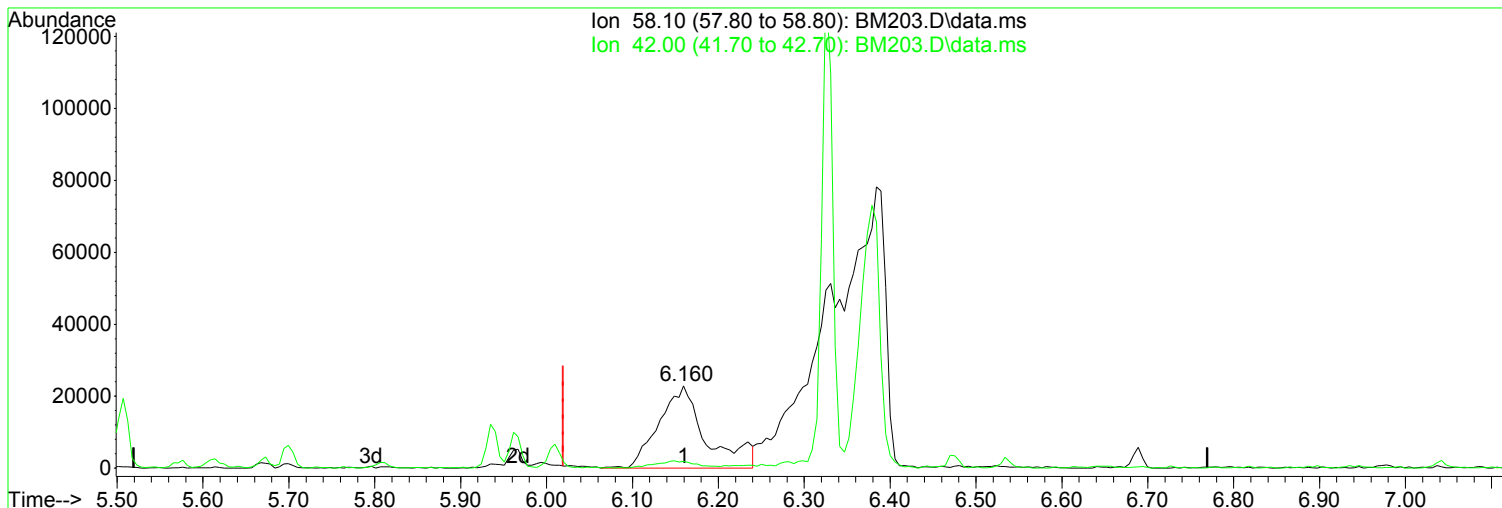
Poor integration.

| Ion   | Exp%   | Act%   |
|-------|--------|--------|
| 58.10 | 100.00 | 100.00 |
| 42.00 | 8.90   | 87.45# |
| 0.00  | 0.00   | 0.00   |
| 0.00  | 0.00   | 0.00   |

10/26/17

Data Path : I:\ACQUDATA\5973D\Data\102617\  
 Data File : BM203.D  
 Acq On : 26 Oct 2017 1:13 pm  
 Operator : J.Misiurewicz  
 Sample : 120 ppm STD  
 Misc : Initial Calibration 8270D/625  
 ALS Vial : 10 Sample Multiplier: 1

Quant Time: Oct 26 14:10:01 2017  
 Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
 Quant Title : 8270 BNA ANALYSIS  
 QLast Update : Thu Oct 26 14:03:10 2017  
 Response via : Initial Calibration



TIC: BM203.D\data.ms

(43) a,a-Dimethylphenethylamine (TM)

Manual Integration:

6.160min (+ 0.140) 11.62 ppm

Before

response 87074

| Ion   | Exp%   | Act%   |          |
|-------|--------|--------|----------|
| 58.10 | 100.00 | 100.00 | 10/26/17 |
| 42.00 | 8.90   | 7.20   |          |
| 0.00  | 0.00   | 0.00   |          |
| 0.00  | 0.00   | 0.00   |          |

Data Path : I:\ACQUDATA\5973D\Data\102617\  
Data File : BM203.D  
Acq On : 26 Oct 2017 1:13 pm  
Operator : J.Misiurewicz  
Sample : 120 ppm STD  
Misc : Initial Calibration 8270D/625  
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Oct 26 14:10:01 2017  
Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
Quant Title : 8270 BNA ANALYSIS  
QLast Update : Thu Oct 26 14:03:10 2017  
Response via : Initial Calibration

| Compound                  | R.T.   | QIon | Response | Conc  | Units | Dev(Min) |
|---------------------------|--------|------|----------|-------|-------|----------|
| Internal Standards        |        |      |          |       |       |          |
| 1) d4-1,4-Dichlorobenzene | 4.774  | 152  | 100582   | 40.00 | ppm   | 0.00     |
| 33) d8-Naphthalene        | 5.935  | 136  | 386246   | 40.00 | ppm   | 0.00     |
| 57) d10-Acenaphthene      | 7.641  | 164  | 183452   | 40.00 | ppm   | 0.00     |
| 91) d10-Phenanthrene      | 9.112  | 188  | 356528   | 40.00 | ppm   | 0.00     |
| 117) d12-Chrysene         | 12.385 | 240  | 344689   | 40.00 | ppm   | 0.00     |
| 135) d12-Perylene         | 15.311 | 264  | 349171   | 40.00 | ppm   | 0.00     |

| System Monitoring Compounds   |         |       |          |          |     |          |
|-------------------------------|---------|-------|----------|----------|-----|----------|
| 7) SURR1,2-FLUOROPHENOL       | 3.710   | 112   | 417305   | 125.78   | ppm | 0.00     |
| Spiked Amount                 | 200.000 | Range | 10 - 105 | Recovery | =   | 62.89%   |
| 12) SURR2,PHENOL-D6           | 4.443   | 99    | 507230   | 128.17   | ppm | 0.00     |
| Spiked Amount                 | 200.000 | Range | 10 - 107 | Recovery | =   | 64.08%   |
| 34) SURR4,NITROBENZENE-D5     | 5.266   | 82    | 435084   | 125.75   | ppm | 0.00     |
| Spiked Amount                 | 100.000 | Range | 37 - 117 | Recovery | =   | 125.75%# |
| 63) SURR5,2-FLUOROBIPHENYL    | 6.978   | 172   | 814061   | 118.31   | ppm | 0.00     |
| Spiked Amount                 | 100.000 | Range | 39 - 119 | Recovery | =   | 118.31%  |
| 88) SURR3,2,4,6-TRIBROMOPH... | 8.422   | 330   | 149885   | 124.29   | ppm | 0.00     |
| Spiked Amount                 | 200.000 | Range | 28 - 157 | Recovery | =   | 62.15%   |
| 124) SURR6,TERPHENYL-D14      | 10.807  | 244   | 930289   | 120.69   | ppm | 0.00     |
| Spiked Amount                 | 100.000 | Range | 40 - 133 | Recovery | =   | 120.69%  |

| Target Compounds              | Qvalue |     |        |         |     |      |
|-------------------------------|--------|-----|--------|---------|-----|------|
| 2) Pyridine                   | 2.768  | 79  | 380191 | 117.253 | ppm | 99   |
| 3) N-Nitrosodimethylamine     | 2.736  | 74  | 213700 | 124.646 | ppm | 92   |
| 4) 2-Picoline                 | 3.293  | 93  | 431641 | 125.938 | ppm | 98   |
| 5) N-Nitrosomethylamine       | 3.362  | 42  | 218992 | 118.649 | ppm | 97   |
| 6) Methyl Methansulfonate     | 3.587  | 80  | 213078 | 123.692 | ppm | 99   |
| 8) N-Nitrosodiethylamine      | 3.892  | 102 | 186701 | 124.399 | ppm | 86   |
| 9) Ethyl Mathanesulfonate     | 4.122  | 79  | 297540 | 124.203 | ppm | 96   |
| 10) Benzaldehyde              | 4.405  | 106 | 218385 | 110.374 | ppm | 91   |
| 11) Aniline                   | 4.491  | 93  | 669109 | 128.263 | ppm | 99   |
| 13) Phenol                    | 4.453  | 94  | 512280 | 124.113 | ppm | 96   |
| 14) bis(2-Clethyl)Ether       | 4.539  | 93  | 404733 | 124.230 | ppm | 99   |
| 15) Pentachloroethane         | 4.539  | 117 | 149058 | 121.055 | ppm | 94   |
| 16) 2-Chlorophenol            | 4.592  | 128 | 419201 | 122.757 | ppm | 99   |
| 17) 1,3-Diclbzene             | 4.726  | 146 | 449497 | 120.971 | ppm | 98   |
| 18) 1,4-Dichlorobenzene       | 4.790  | 146 | 453033 | 120.800 | ppm | 99   |
| 19) 1,2-Diclbzene             | 4.924  | 146 | 439849 | 123.585 | ppm | 98   |
| 20) Benzyl Alcohol            | 4.887  | 79  | 353505 | 125.764 | ppm | 98   |
| 21) 1-Methyl-2-pyrrolidinone  | 4.961  | 99  | 260094 | 125.117 | ppm | 95   |
| 22) 2,2'-oxybis(1-Chloropr... | 4.999  | 45  | 589005 | 124.728 | ppm | 94   |
| 23) 2-Methylphenol            | 4.988  | 108 | 355276 | 122.646 | ppm | 92   |
| 24) 3+4-Methylphenol          | 5.127  | 108 | 392768 | 123.266 | ppm | 88   |
| 25) Acetophenone              | 5.127  | 105 | 549116 | 120.003 | ppm | 80   |
| 26) N-Nitroso-Di-n-propyla... | 5.127  | 70  | 310630 | 124.324 | ppm | 85   |
| 27) N-Nitrosopyrrolidine      | 5.122  | 100 | 210863 | 125.148 | ppm | # 36 |
| 28) N-Nitrosomorpholine       | 5.149  | 56  | 258250 | 122.891 | ppm | 93   |
| 29) o-Toluidine               | 5.159  | 106 | 621075 | 123.653 | ppm | 87   |
| 30) Hexachloroethane          | 5.223  | 117 | 188755 | 120.780 | ppm | 97   |
| 31) o,o,o-Triethylphosphor... | 5.673  | 198 | 184192 | 128.971 | ppm | 98   |
| 32) Alpha-terpinol            | 5.962  | 121 | 160647 | 126.123 | ppm | 97   |
| 35) Nitrobenzene              | 5.288  | 77  | 490897 | 127.290 | ppm | 99   |
| 36) N-Nitrosopiperidine       | 5.427  | 42  | 279760 | 122.556 | ppm | 100  |
| 37) Isophorone                | 5.507  | 82  | 860604 | 123.398 | ppm | 100  |
| 38) 2-Nitrophenol             | 5.577  | 139 | 229263 | 131.323 | ppm | 93   |

Data Path : I:\ACQUDATA\5973D\Data\102617\  
 Data File : BM203.D  
 Acq On : 26 Oct 2017 1:13 pm  
 Operator : J.Misiurewicz  
 Sample : 120 ppm STD  
 Misc : Initial Calibration 8270D/625  
 ALS Vial : 10 Sample Multiplier: 1

Quant Time: Oct 26 14:10:01 2017  
 Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
 Quant Title : 8270 BNA ANALYSIS  
 QLast Update : Thu Oct 26 14:03:10 2017  
 Response via : Initial Calibration

| Compound                      | R.T.  | QIon | Response | Conc    | Units | Dev(Min) |
|-------------------------------|-------|------|----------|---------|-------|----------|
| 39) Benzoic Acid              | 5.710 | 105  | 232734   | 128.084 | ppm   | 96       |
| 40) 2,4-Dimethylphenol        | 5.614 | 107  | 402631   | 121.504 | ppm   | 95       |
| 41) bis(-2-Chloroethoxy)Me... | 5.700 | 93   | 504175   | 120.897 | ppm   | 99       |
| 42) 2,4-Dichlorophenol        | 5.806 | 162  | 340792   | 125.462 | ppm   | 98       |
| 43) a,a-Dimethylphenethyla... | 6.384 | 58   | 447103m  | 59.673  | ppm   |          |
| 44) 1,2,4-Trichlorobenzene    | 5.881 | 180  | 367557   | 119.170 | ppm   | 96       |
| 45) Naphthalene               | 5.956 | 128  | 1167511  | 118.808 | ppm   | 99       |
| 46) 4-Chloroaniline           | 6.010 | 127  | 499767   | 121.309 | ppm   | 98       |
| 47) 2,6-Dichlorophenol        | 6.020 | 162  | 326190   | 119.354 | ppm   | 95       |
| 48) Hexachlorobutadiene       | 6.069 | 225  | 210485   | 119.801 | ppm   | 98       |
| 49) Hexachloropropene         | 6.036 | 213  | 258311   | 123.585 | ppm   | 97       |
| 50) 4-Chloro-3-methylphenol   | 6.475 | 107  | 336561   | 125.906 | ppm   | 96       |
| 51) N-N-di-n-butylamine       | 6.325 | 84   | 263633   | 109.064 | ppm   | 95       |
| 52) Caprolactam               | 6.379 | 113  | 113496   | 123.869 | ppm   | 97       |
| 53) p-Phenylenediamine        | 6.363 | 80   | 163289   | 102.623 | ppm   | 97       |
| 54) Safrole                   | 6.534 | 162  | 306912   | 121.303 | ppm   | 98       |
| 55) 2-Methylnaphthalene       | 6.625 | 142  | 773169   | 118.328 | ppm   | 96       |
| 56) 1-Methylnaphthalene       | 6.721 | 142  | 701571   | 118.349 | ppm   | 97       |
| 58) Hexachlorocyclopentadiene | 6.775 | 237  | 227534   | 124.160 | ppm   | 97       |
| 59) 1,2,4,5-Tetrachloroben... | 6.785 | 216  | 364575   | 122.719 | ppm   | 99       |
| 60) 1,2,3,4-Tetrachloroben... | 7.063 | 216  | 315962   | 118.385 | ppm   | 95       |
| 61) 2,4,6-Trichlorophenol     | 6.898 | 196  | 234034   | 122.938 | ppm   | 97       |
| 62) 2,4,5-Trichlorophenol     | 6.940 | 196  | 225103   | 118.649 | ppm   | 100      |
| 64) Isosafrole                | 7.042 | 104  | 139013   | 117.103 | ppm   | 95       |
| 65) 1,1'-Biphenyl             | 7.079 | 154  | 890429   | 117.917 | ppm   | 98       |
| 66) 2-Chloronaphthalene       | 7.101 | 162  | 689906   | 117.022 | ppm   | 99       |
| 67) 2-Nitroaniline            | 7.202 | 65   | 200712   | 123.814 | ppm   | 93       |
| 68) 1,4-Naphthoquinone        | 7.272 | 158  | 56427    | 89.709  | ppm   | 95       |
| 69) m-Dinitrobenzene          | 7.416 | 168  | 121543   | 132.313 | ppm   | # 72     |
| 70) Acenaphthylene            | 7.507 | 152  | 1090619  | 117.604 | ppm   | 100      |
| 71) Dimethyl phthalate        | 7.384 | 163  | 772596   | 121.056 | ppm   | 98       |
| 72) 2,6-Dinitrotoluene        | 7.443 | 165  | 194669   | 123.409 | ppm   | 97       |
| 73) Acenaphthene              | 7.679 | 153  | 712675   | 115.972 | ppm   | 96       |
| 74) 3-Nitroaniline            | 7.609 | 138  | 209713   | 133.537 | ppm   | 97       |
| 75) 2,4-Dinitrophenol         | 7.711 | 184  | 106526   | 121.915 | ppm   | 98       |
| 76) Dibenzofuran              | 7.844 | 168  | 945148   | 115.101 | ppm   | 99       |
| 77) 2,4-Dinitrotoluene        | 7.839 | 165  | 267124   | 118.572 | ppm   | 96       |
| 78) 4-Nitrophenol             | 7.775 | 65   | 175451   | 129.592 | ppm   | 90       |
| 79) Pentachlorobenzene        | 7.802 | 250  | 301005   | 114.969 | ppm   | 99       |
| 80) 1-Naphthylamine           | 7.930 | 143  | 592692   | 124.343 | ppm   | 95       |
| 81) 2-Naphthylamine           | 8.010 | 143  | 611728   | 119.826 | ppm   | 95       |
| 82) 2,3,4,6-Tetrachlorophenol | 7.967 | 232  | 191777   | 130.928 | ppm   | 96       |
| 83) Fluorene                  | 8.187 | 166  | 775177   | 115.732 | ppm   | 99       |
| 84) 4-Chlorophenyl-phenyle... | 8.181 | 204  | 393537   | 112.056 | ppm   | 97       |
| 85) Diethylphthalate          | 8.074 | 149  | 807829   | 118.260 | ppm   | 98       |
| 86) 4-Nitroaniline            | 8.219 | 138  | 212289   | 120.752 | ppm   | 97       |
| 87) 5-Nitro-o-toluidine       | 8.208 | 152  | 235946   | 129.122 | ppm   | 95       |
| 89) Sulfotepp                 | 8.459 | 322  | 137310   | 126.352 | ppm   | 86       |
| 90) Octachlorocyclopentene    | 8.433 | 307  | 143248   | 124.093 | ppm   | 98       |
| 92) Thionazin                 | 8.160 | 107  | 124116   | 113.466 | ppm   | 92       |
| 93) 4,6-Dinitro-2-methylph... | 8.240 | 198  | 146981   | 118.262 | ppm   | 94       |
| 94) Diphenylamine             | 8.304 | 169  | 1251020  | 237.881 | ppm   | 99       |
| 95) 1,2 Diphenylhydrazine     | 8.342 | 77   | 821671   | 112.776 | ppm   | 96       |
| 96) N-Nitrosodiphenylamine    | 8.304 | 169  | 1251099  | 237.890 | ppm   | 99       |
| 97) 1,3,5-Trinitrobenzene     | 8.582 | 213  | 75008    | 130.246 | ppm   | # 70     |
| 98) Diallate                  | 8.582 | 86   | 256905   | 105.845 | ppm   | 86       |



Data Path : I:\ACQUDATA\5973D\Data\102617\  
 Data File : BM203.D  
 Acq On : 26 Oct 2017 1:13 pm  
 Operator : J.Misiurewicz  
 Sample : 120 ppm STD  
 Misc : Initial Calibration 8270D/625  
 ALS Vial : 10 Sample Multiplier: 1

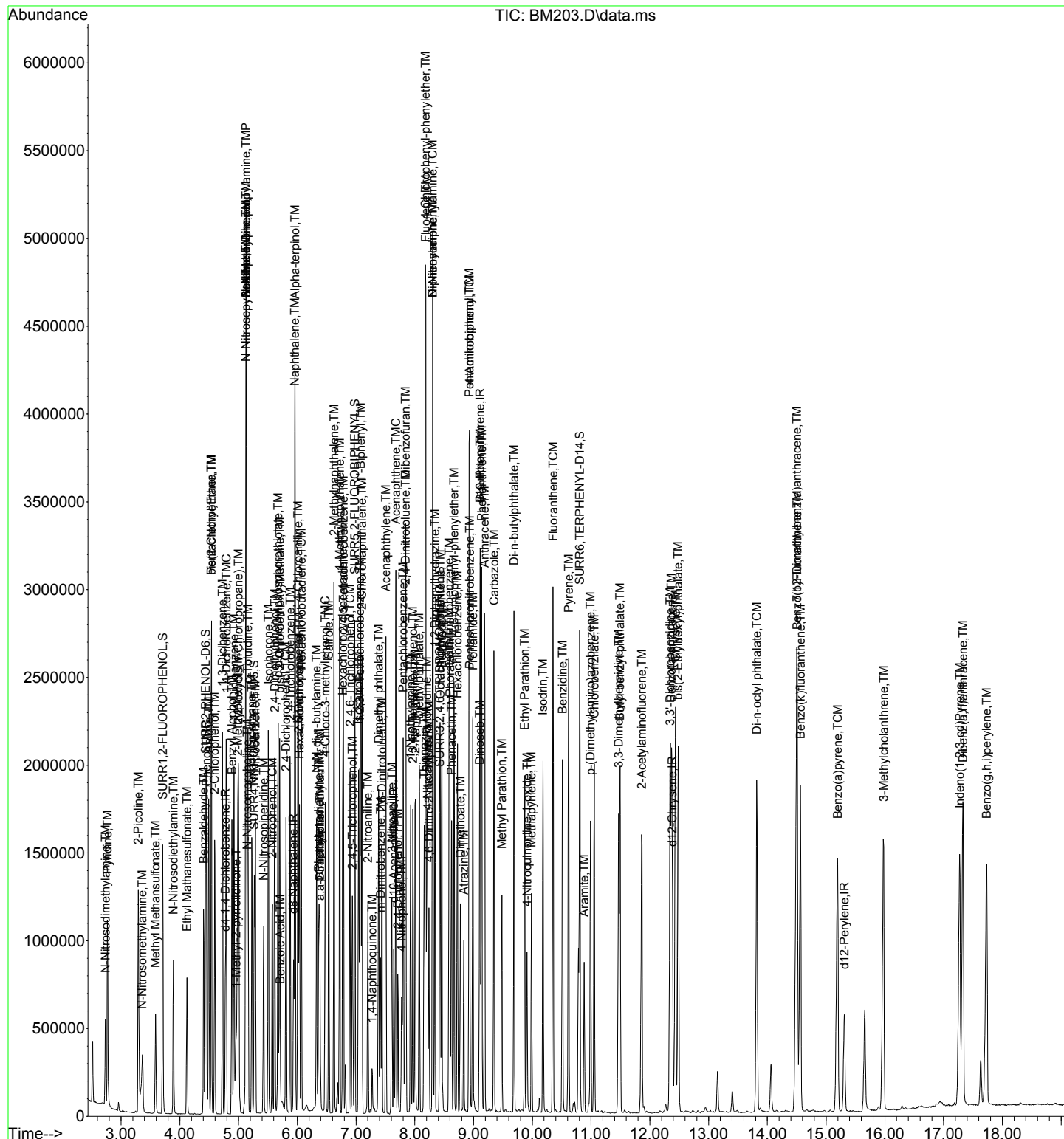
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 Quant Title : 8270 BNA ANALYSIS  
 QLast Update : Thu Oct 26 14:03:10 2017  
 Response via : Initial Calibration

| Compound                       | R.T.   | QIon | Response | Conc    | Units | Dev(Min) |
|--------------------------------|--------|------|----------|---------|-------|----------|
| 99) Phorate                    | 8.598  | 121  | 144560   | 116.861 | ppm   | 97       |
| 100) Phenacetin                | 8.625  | 108  | 399545   | 115.070 | ppm   | 95       |
| 101) 4-Bromophenyl-phenylether | 8.668  | 248  | 241098   | 107.832 | ppm   | 94       |
| 102) Hexachlorobenzene         | 8.727  | 284  | 278578   | 114.586 | ppm   | 96       |
| 103) Dimethoate                | 8.775  | 87   | 230675   | 107.907 | ppm   | 96       |
| 104) Atrazine                  | 8.834  | 215  | 48576    | 76.531  | ppm   | 95       |
| 105) Pentachlorophenol         | 8.925  | 266  | 170066   | 117.028 | ppm   | 99       |
| 106) 4-Aminobiphenyl           | 8.930  | 169  | 659540   | 112.453 | ppm   | 99       |
| 107) Pentachloronitrobenzene   | 8.935  | 237  | 108270   | 124.946 | ppm   | 91       |
| 108) Pronamide                 | 8.989  | 173  | 368278   | 122.582 | ppm   | 99       |
| 109) Dinoseb                   | 9.101  | 211  | 195223   | 129.591 | ppm   | 97       |
| 110) Disulfoton                | 9.112  | 88   | 331046   | 117.877 | ppm   | 97       |
| 111) Phenanthrene              | 9.139  | 178  | 1098858  | 114.516 | ppm   | 98       |
| 112) Anthracene                | 9.187  | 178  | 1081100  | 114.094 | ppm   | 99       |
| 113) Carbazole                 | 9.347  | 167  | 1042365  | 109.824 | ppm   | 98       |
| 114) Di-n-butylphthalate       | 9.690  | 149  | 1387910  | 113.586 | ppm   | 99       |
| 115) 4-Nitroquinonline-1-oxide | 9.909  | 190  | 96975    | 129.592 | ppm   | 93       |
| 116) Fluoranthene              | 10.353 | 202  | 1240502  | 118.338 | ppm   | 99       |
| 118) Methyl Parathion          | 9.481  | 109  | 193022   | 118.955 | ppm   | 96       |
| 119) Ethyl Parathion           | 9.871  | 97   | 176344   | 131.822 | ppm   | 96       |
| 120) Methapyrilene             | 9.984  | 58   | 343644   | 123.995 | ppm   | 94       |
| 121) Isodrin                   | 10.182 | 193  | 128835   | 126.875 | ppm   | 88       |
| 122) Benzidine                 | 10.513 | 184  | 804460   | 126.266 | ppm   | 99       |
| 123) Pyrene                    | 10.620 | 202  | 1255370  | 120.310 | ppm   | 99       |
| 125) Aramite                   | 10.882 | 185  | 153890m  | 118.440 | ppm   |          |
| 126) p-(Dimethylamino)azobe... | 10.989 | 120  | 342382   | 118.782 | ppm   | 92       |
| 127) Chlorobenzilate           | 11.054 | 139  | 400432   | 117.830 | ppm   | 98       |
| 128) Butyl benzyl phthalate    | 11.492 | 149  | 607864   | 117.671 | ppm   | 99       |
| 129) 3,3-Dimethylbenzidine     | 11.471 | 212  | 728669   | 120.285 | ppm   | 98       |
| 130) 2-Acetylaminofluorene     | 11.861 | 181  | 529981   | 126.001 | ppm   | 99       |
| 131) 3,3'-Dichlorobenzidine    | 12.343 | 252  | 541377   | 125.614 | ppm   | 99       |
| 132) Benzo(a)anthracene        | 12.369 | 228  | 1235438  | 122.289 | ppm   | 99       |
| 133) Chrysene                  | 12.439 | 228  | 1165793  | 119.978 | ppm   | 98       |
| 134) bis(2-Ethylhexyl)phtha... | 12.482 | 149  | 910662   | 120.269 | ppm   | 97       |
| 136) Di-n-octyl phthalate      | 13.819 | 149  | 1507975  | 125.441 | ppm   | 100      |
| 137) 7,12-Dimethylbenz(a)an... | 14.503 | 256  | 573561   | 126.616 | ppm   | 97       |
| 138) Benzo(b)Fluoranthene      | 14.509 | 252  | 1299932  | 123.823 | ppm   | 98       |
| 139) Benzo(k)fluoranthene      | 14.562 | 252  | 1219366  | 120.911 | ppm   | 97       |
| 140) Benzo(a)pyrene            | 15.199 | 252  | 1147096  | 124.862 | ppm   | 99       |
| 141) 3-Methylcholanthrene      | 15.980 | 268  | 691458   | 130.914 | ppm   | 100      |
| 142) Indeno(1,2,3-cd)Pyrene    | 17.274 | 276  | 1130435  | 123.280 | ppm   | 99       |
| 143) Dibenz(a,h)anthracene     | 17.333 | 278  | 1232823  | 127.362 | ppm   | 99       |
| 144) Benzo(g,h,i)perylene      | 17.734 | 276  | 1102360  | 123.317 | ppm   | 97       |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

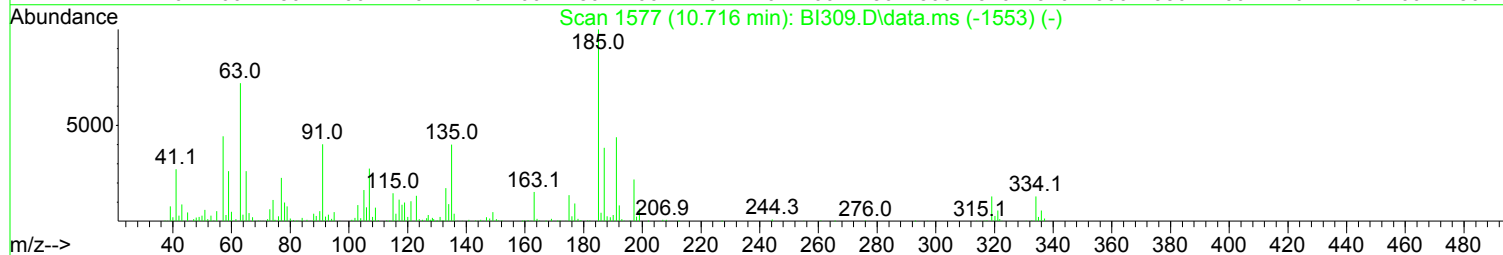
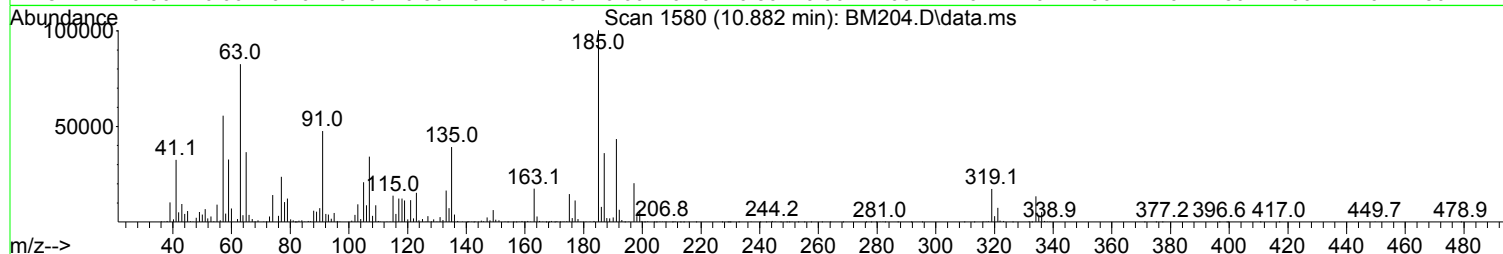
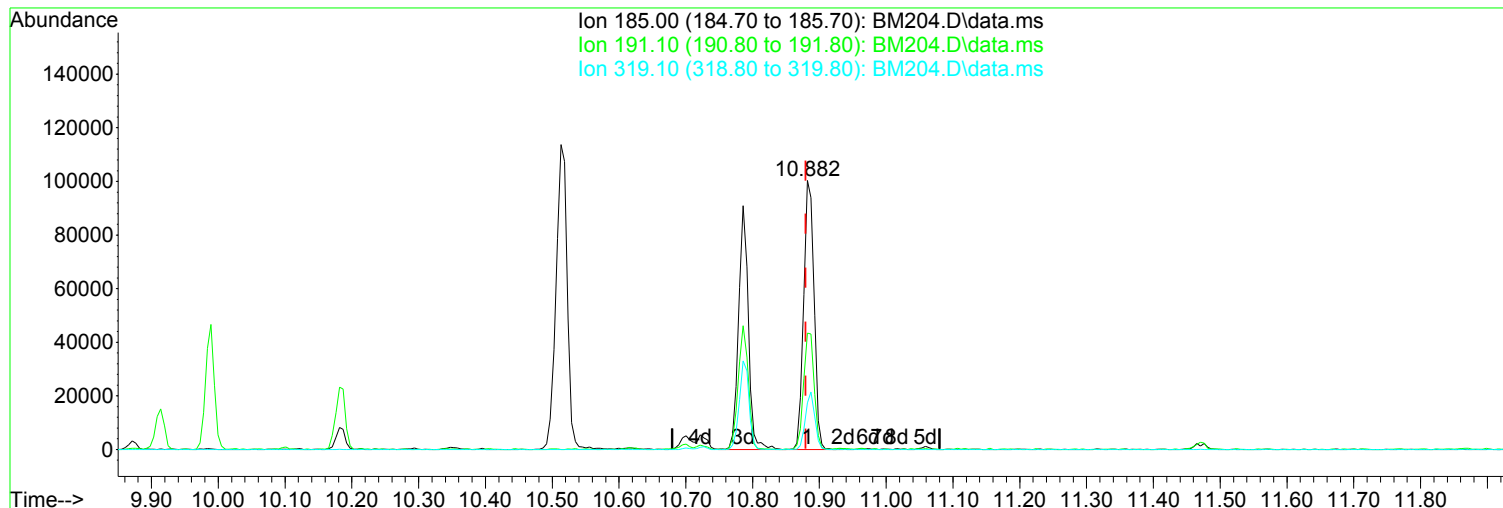
Data Path : I:\ACQUDATA\5973D\Data\102617\  
Data File : BM203.D  
Acq On : 26 Oct 2017 1:13 pm  
Operator : J.Misiurewicz  
Sample : 120 ppm STD  
Misc : Initial Calibration 8270D/625  
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Oct 26 14:10:01 2017  
Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
Quant Title : 8270 BNA ANALYSIS  
QLast Update : Thu Oct 26 14:03:10 2017  
Response via : Initial Calibration



Data Path : I:\ACQUDATA\5973D\Data\102617\  
 Data File : BM204.D  
 Acq On : 26 Oct 2017 1:41 pm  
 Operator : J.Misiurewicz  
 Sample : 160 ppm STD  
 Misc : Initial Calibration 8270D/625  
 ALS Vial : 11 Sample Multiplier: 1

Quant Time: Oct 26 14:10:08 2017  
 Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
 Quant Title : 8270 BNA ANALYSIS  
 QLast Update : Thu Oct 26 14:03:10 2017  
 Response via : Initial Calibration



(125) Aramite (TM)

Manual Integration:

10.882min (+ 0.002) 156.53 ppm m

After

response 200433

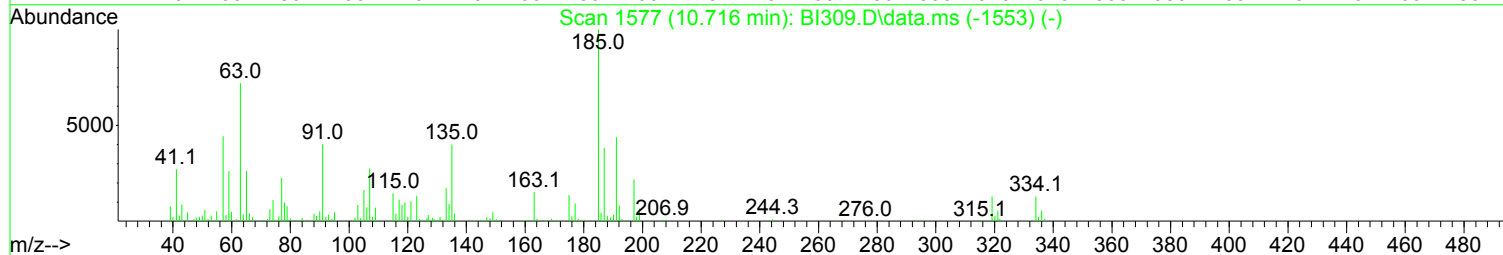
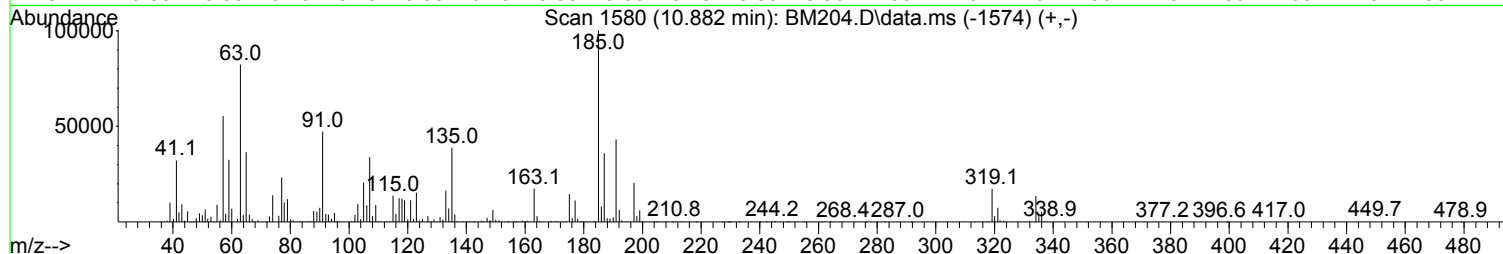
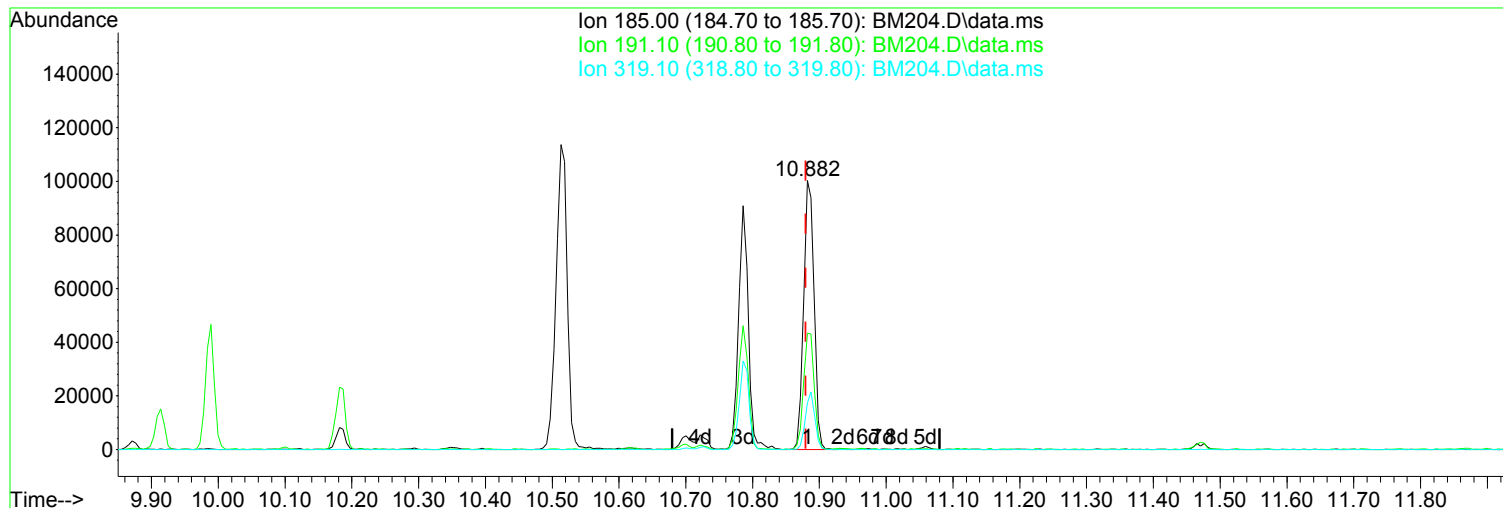
Split Peak.

| Ion    | Exp%   | Act%   |
|--------|--------|--------|
| 185.00 | 100.00 | 100.00 |
| 191.10 | 51.80  | 43.32  |
| 319.10 | 22.50  | 17.32  |
| 0.00   | 0.00   | 0.00   |

10/26/17

Data Path : I:\ACQUDATA\5973D\Data\102617\  
Data File : BM204.D  
Acq On : 26 Oct 2017 1:41 pm  
Operator : J.Misiurewicz  
Sample : 160 ppm STD  
Misc : Initial Calibration 8270D/625  
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Oct 26 14:10:08 2017  
Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
Quant Title : 8270 BNA ANALYSIS  
QLast Update : Thu Oct 26 14:03:10 2017  
Response via : Initial Calibration



TIC: BM204.D\data.ms

(125) Aramite (TM)

Manual Integration:

10.882min (+ 0.002) 84.52 ppm

Before

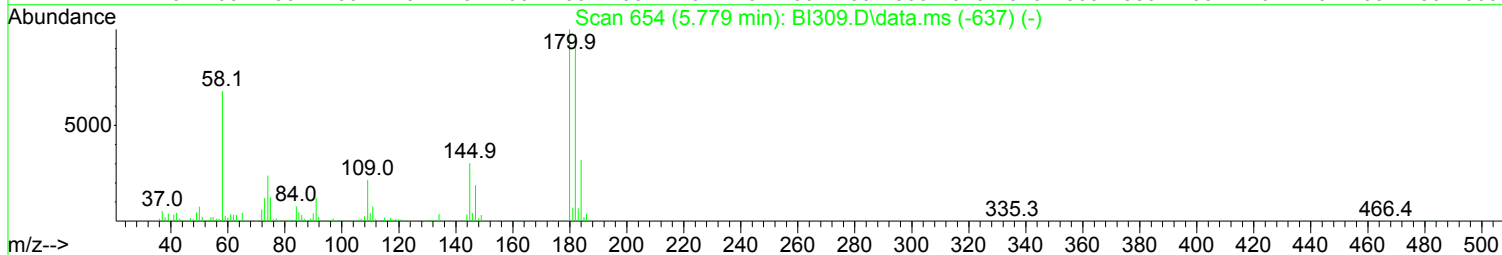
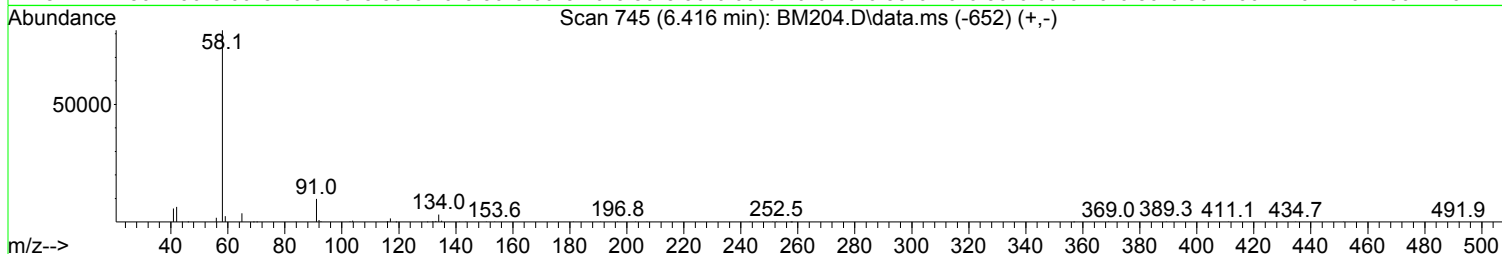
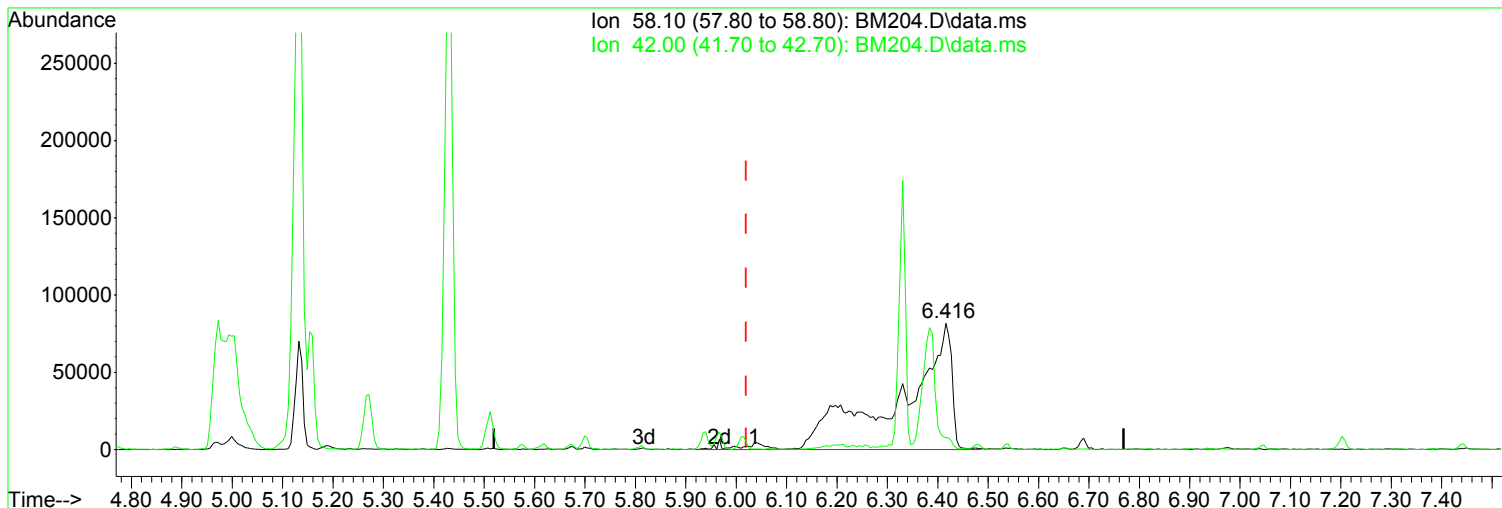
response 108227

| Ion    | Exp%   | Act%   |
|--------|--------|--------|
| 185.00 | 100.00 | 100.00 |
| 191.10 | 51.80  | 43.06  |
| 319.10 | 22.50  | 17.28  |
| 0.00   | 0.00   | 0.00   |

10/26/17

Data Path : I:\ACQUDATA\5973D\Data\102617\  
Data File : BM204.D  
Acq On : 26 Oct 2017 1:41 pm  
Operator : J.Misiurewicz  
Sample : 160 ppm STD  
Misc : Initial Calibration 8270D/625  
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Oct 26 14:10:08 2017  
Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
Quant Title : 8270 BNA ANALYSIS  
QLast Update : Thu Oct 26 14:03:10 2017  
Response via : Initial Calibration



(43) a,a-Dimethylphenethylamine (TM)

Manual Integration:

6.416min (+ 0.396) 76.01 ppm m

After

response 588522

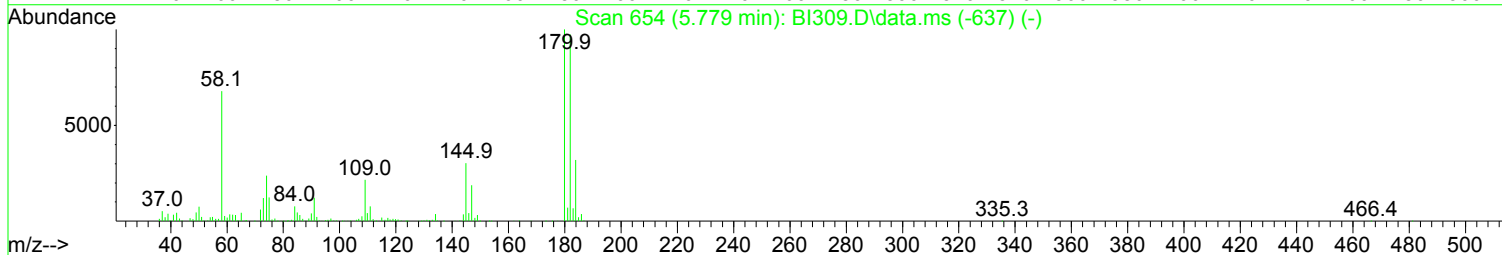
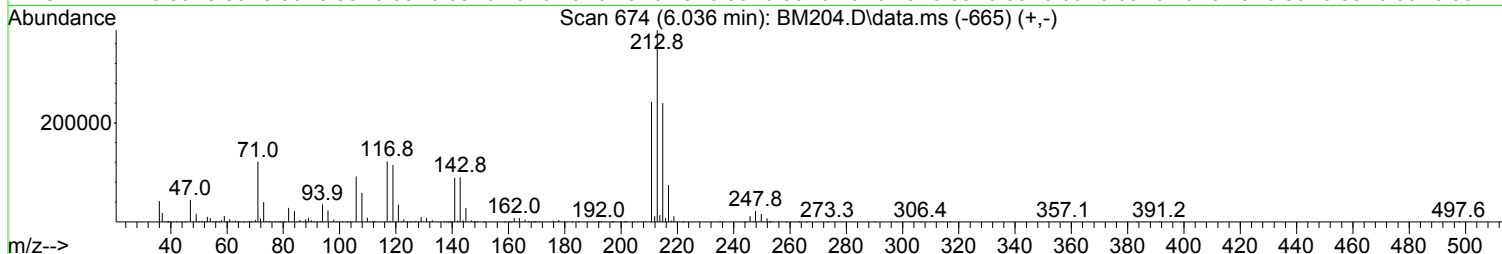
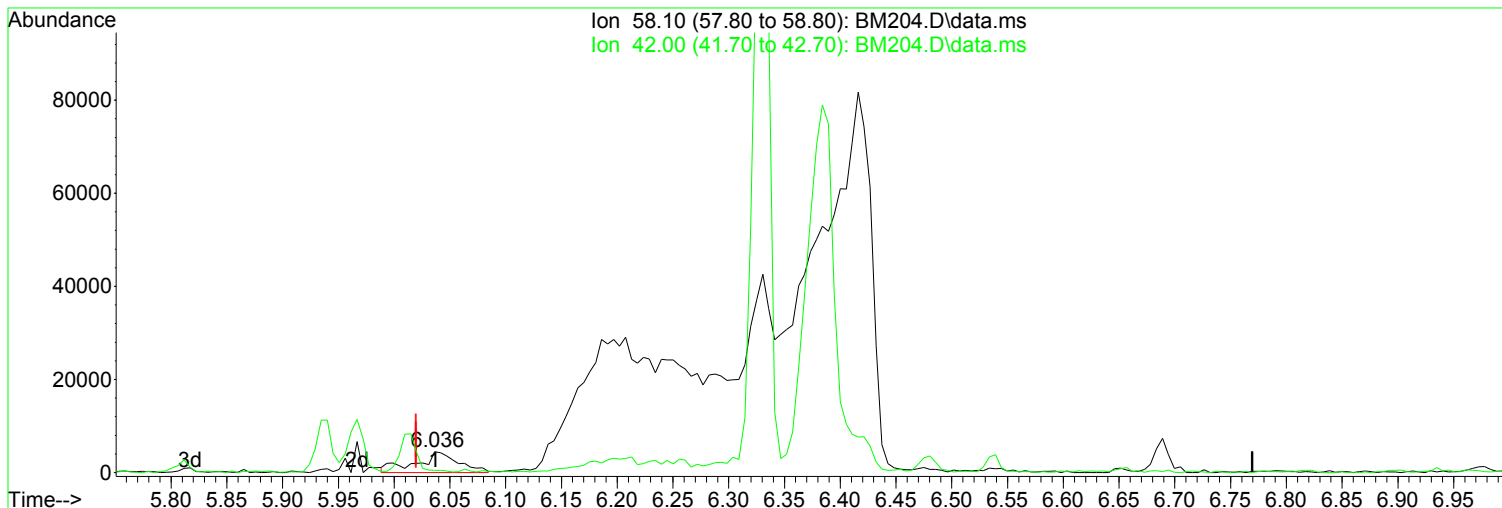
Poor integration.

| Ion   | Exp%   | Act%   |
|-------|--------|--------|
| 58.10 | 100.00 | 100.00 |
| 42.00 | 8.90   | 9.36   |
| 0.00  | 0.00   | 0.00   |
| 0.00  | 0.00   | 0.00   |

10/26/17

Data Path : I:\ACQUDATA\5973D\Data\102617\  
Data File : BM204.D  
Acq On : 26 Oct 2017 1:41 pm  
Operator : J.Misiurewicz  
Sample : 160 ppm STD  
Misc : Initial Calibration 8270D/625  
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Oct 26 14:10:08 2017  
Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
Quant Title : 8270 BNA ANALYSIS  
QLast Update : Thu Oct 26 14:03:10 2017  
Response via : Initial Calibration



(43) a,a-Dimethylphenethylamine (TM)

Manual Integration:

6.036min (+ 0.017) 1.52 ppm

Before

response 11730

| Ion   | Exp%   | Act%   |
|-------|--------|--------|
| 58.10 | 100.00 | 100.00 |
| 42.00 | 8.90   | 5.72   |
| 0.00  | 0.00   | 0.00   |
| 0.00  | 0.00   | 0.00   |

10/26/17

Data Path : I:\ACQUDATA\5973D\Data\102617\  
Data File : BM204.D  
Acq On : 26 Oct 2017 1:41 pm  
Operator : J.Misiurewicz  
Sample : 160 ppm STD  
Misc : Initial Calibration 8270D/625  
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Oct 26 14:10:08 2017  
Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
Quant Title : 8270 BNA ANALYSIS  
QLast Update : Thu Oct 26 14:03:10 2017  
Response via : Initial Calibration

| Compound                           | R.T.    | QIon  | Response | Conc     | Units | Dev(Min) |        |
|------------------------------------|---------|-------|----------|----------|-------|----------|--------|
| <b>Internal Standards</b>          |         |       |          |          |       |          |        |
| 1) d4-1,4-Dichlorobenzene          | 4.774   | 152   | 102371   | 40.00    | ppm   | 0.00     |        |
| 33) d8-Naphthalene                 | 5.940   | 136   | 399116   | 40.00    | ppm   | 0.00     |        |
| 57) d10-Acenaphthene               | 7.641   | 164   | 186302   | 40.00    | ppm   | 0.00     |        |
| 91) d10-Phenanthrene               | 9.117   | 188   | 355029   | 40.00    | ppm   | 0.00     |        |
| 117) d12-Chrysene                  | 12.391  | 240   | 339699   | 40.00    | ppm   | 0.01     |        |
| 135) d12-Perylene                  | 15.311  | 264   | 340257   | 40.00    | ppm   | 0.00     |        |
| <b>System Monitoring Compounds</b> |         |       |          |          |       |          |        |
| 7) SURR1,2-FLUOROPHENOL            | 3.710   | 112   | 534703   | 158.35   | ppm   | 0.00     |        |
| Spiked Amount                      | 200.000 | Range | 10 - 105 | Recovery | =     | 79.17%   |        |
| 12) SURR2,PHENOL-D6                | 4.442   | 99    | 650453   | 161.49   | ppm   | 0.00     |        |
| Spiked Amount                      | 200.000 | Range | 10 - 107 | Recovery | =     | 80.75%   |        |
| 34) SURR4,NITROBENZENE-D5          | 5.271   | 82    | 572957   | 160.26   | ppm   | 0.00     |        |
| Spiked Amount                      | 100.000 | Range | 37 - 117 | Recovery | =     | 160.26%# |        |
| 63) SURR5,2-FLUOROBIPHENYL         | 6.983   | 172   | 1107913  | 158.55   | ppm   | 0.00     |        |
| Spiked Amount                      | 100.000 | Range | 39 - 119 | Recovery | =     | 158.55%# |        |
| 88) SURR3,2,4,6-TRIBROMOPH...      | 8.427   | 330   | 208693   | 170.41   | ppm   | 0.00     |        |
| Spiked Amount                      | 200.000 | Range | 28 - 157 | Recovery | =     | 85.20%   |        |
| 124) SURR6,TERPHENYL-D14           | 10.807  | 244   | 1208448  | 159.08   | ppm   | 0.00     |        |
| Spiked Amount                      | 100.000 | Range | 40 - 133 | Recovery | =     | 159.08%# |        |
| <b>Target Compounds</b>            |         |       |          |          |       |          |        |
|                                    |         |       |          |          |       |          | Qvalue |
| 2) Pyridine                        | 2.768   | 79    | 541322   | 164.029  | ppm   |          | 99     |
| 3) N-Nitrosodimethylamine          | 2.736   | 74    | 309607   | 177.431  | ppm   |          | 91     |
| 4) 2-Picoline                      | 3.292   | 93    | 569102   | 163.143  | ppm   |          | 99     |
| 5) N-Nitrosomethylamine            | 3.362   | 42    | 290267   | 154.517  | ppm   |          | 95     |
| 6) Methyl Methansulfonate          | 3.592   | 80    | 281503   | 160.557  | ppm   |          | 98     |
| 8) N-Nitrosodiethylamine           | 3.892   | 102   | 250172   | 163.777  | ppm   |          | 87     |
| 9) Ethyl Mathanesulfonate          | 4.122   | 79    | 396047   | 162.434  | ppm   |          | 96     |
| 11) Aniline                        | 4.496   | 93    | 848262   | 159.764  | ppm   |          | 99     |
| 13) Phenol                         | 4.453   | 94    | 661702   | 157.512  | ppm   |          | 97     |
| 14) bis(2-Clethyl)Ether            | 4.539   | 93    | 535102   | 161.375  | ppm   |          | 100    |
| 15) Pentachloroethane              | 4.539   | 117   | 198536   | 158.421  | ppm   |          | 98     |
| 16) 2-Chlorophenol                 | 4.598   | 128   | 558852   | 160.792  | ppm   |          | 99     |
| 17) 1,3-Diclbzene                  | 4.726   | 146   | 581151   | 153.669  | ppm   |          | 94     |
| 18) 1,4-Dichlorobenzene            | 4.790   | 146   | 596874   | 156.374  | ppm   |          | 98     |
| 19) 1,2-Diclbzene                  | 4.924   | 146   | 569287   | 157.158  | ppm   |          | 99     |
| 20) Benzyl Alcohol                 | 4.892   | 79    | 464837   | 162.482  | ppm   |          | 98     |
| 21) 1-Methyl-2-pyrrolidinone       | 4.972   | 99    | 314461   | 148.626  | ppm   |          | 95     |
| 22) 2,2'-oxybis(1-Chloropr...      | 5.004   | 45    | 750938   | 156.240  | ppm   |          | 95     |
| 23) 2-Methylphenol                 | 4.988   | 108   | 460331   | 156.135  | ppm   |          | 92     |
| 24) 3+4-Methylphenol               | 5.132   | 108   | 517278   | 159.505  | ppm   | #        | 78     |
| 25) Acetophenone                   | 5.127   | 105   | 723095   | 155.262  | ppm   |          | 87     |
| 26) N-Nitroso-Di-n-propyla...      | 5.132   | 70    | 405030   | 159.273  | ppm   |          | 84     |
| 27) N-Nitrosopyrrolidine           | 5.127   | 100   | 274774   | 160.229  | ppm   | #        | 13     |
| 28) N-Nitrosomorpholine            | 5.154   | 56    | 329499   | 154.056  | ppm   |          | 95     |
| 29) o-Toluidine                    | 5.165   | 106   | 801663   | 156.818  | ppm   |          | 66     |
| 30) Hexachloroethane               | 5.223   | 117   | 249265   | 156.711  | ppm   |          | 99     |
| 31) o,o,o-Triethylphosphor...      | 5.673   | 198   | 235394   | 161.942  | ppm   |          | 95     |
| 32) Alpha-terpinol                 | 5.967   | 121   | 208198   | 160.598  | ppm   |          | 98     |
| 35) Nitrobenzene                   | 5.288   | 77    | 630965   | 158.334  | ppm   |          | 99     |
| 36) N-Nitrosopiperidine            | 5.432   | 42    | 370631   | 157.128  | ppm   |          | 99     |
| 37) Isophorone                     | 5.512   | 82    | 1114773  | 154.687  | ppm   |          | 99     |
| 38) 2-Nitrophenol                  | 5.576   | 139   | 293593   | 162.749  | ppm   |          | 99     |
| 39) Benzoic Acid                   | 5.731   | 105   | 338687   | 180.384  | ppm   |          | 96     |

Data Path : I:\ACQUDATA\5973D\Data\102617\  
 Data File : BM204.D  
 Acq On : 26 Oct 2017 1:41 pm  
 Operator : J.Misiurewicz  
 Sample : 160 ppm STD  
 Misc : Initial Calibration 8270D/625  
 ALS Vial : 11 Sample Multiplier: 1

Quant Time: Oct 26 14:10:08 2017  
 Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
 Quant Title : 8270 BNA ANALYSIS  
 QLast Update : Thu Oct 26 14:03:10 2017  
 Response via : Initial Calibration

| Compound                      | R.T.  | QIon | Response | Conc    | Units | Dev(Min) |
|-------------------------------|-------|------|----------|---------|-------|----------|
| 40) 2,4-Dimethylphenol        | 5.619 | 107  | 538945   | 157.395 | ppm   | 94       |
| 41) bis(-2-Chloroethoxy)Me... | 5.699 | 93   | 659080   | 152.946 | ppm   | 98       |
| 42) 2,4-Dichlorophenol        | 5.812 | 162  | 436950   | 155.675 | ppm   | 98       |
| 43) a,a-Dimethylphenethyla... | 6.416 | 58   | 588522m  | 76.014  | ppm   |          |
| 44) 1,2,4-Trichlorobenzene    | 5.881 | 180  | 482278   | 151.322 | ppm   | 95       |
| 45) Naphthalene               | 5.961 | 128  | 1524493  | 150.133 | ppm   | 100      |
| 46) 4-Chloroaniline           | 6.015 | 127  | 642624   | 150.955 | ppm   | 97       |
| 47) 2,6-Dichlorophenol        | 6.020 | 162  | 427682   | 151.444 | ppm   | 96       |
| 48) Hexachlorobutadiene       | 6.068 | 225  | 279874   | 154.158 | ppm   | 98       |
| 49) Hexachloropropene         | 6.036 | 213  | 352073   | 163.012 | ppm   | 99       |
| 50) 4-Chloro-3-methylphenol   | 6.480 | 107  | 433529   | 156.951 | ppm   | 98       |
| 51) N-N-di-n-butylamine       | 6.331 | 84   | 345090   | 138.159 | ppm   | 96       |
| 52) Caprolactam               | 6.389 | 113  | 150514   | 158.973 | ppm   | 89       |
| 54) Safrole                   | 6.539 | 162  | 400908   | 153.344 | ppm   | 99       |
| 55) 2-Methylnaphthalene       | 6.625 | 142  | 1028413  | 152.316 | ppm   | 95       |
| 56) 1-Methylnaphthalene       | 6.721 | 142  | 927993   | 151.497 | ppm   | 95       |
| 58) Hexachlorocyclopentadiene | 6.774 | 237  | 315166   | 169.348 | ppm   | 95       |
| 59) 1,2,4,5-Tetrachloroben... | 6.785 | 216  | 478164   | 158.492 | ppm   | 99       |
| 60) 1,2,3,4-Tetrachloroben... | 7.063 | 216  | 430988   | 159.012 | ppm   | 94       |
| 61) 2,4,6-Trichlorophenol     | 6.897 | 196  | 309257   | 159.968 | ppm   | 100      |
| 62) 2,4,5-Trichlorophenol     | 6.940 | 196  | 312640   | 162.268 | ppm   | 98       |
| 64) Isosafrole                | 7.042 | 104  | 195111   | 161.845 | ppm   | 95       |
| 65) 1,1'-Biphenyl             | 7.079 | 154  | 1208870  | 157.638 | ppm   | 98       |
| 66) 2-Chloronaphthalene       | 7.101 | 162  | 949664   | 158.618 | ppm   | 98       |
| 67) 2-Nitroaniline            | 7.202 | 65   | 274982   | 167.034 | ppm   | 97       |
| 68) 1,4-Naphthoquinone        | 7.277 | 158  | 115529   | 180.861 | ppm   | 97       |
| 69) m-Dinitrobenzene          | 7.416 | 168  | 168515   | 180.641 | ppm   | # 67     |
| 70) Acenaphthylene            | 7.507 | 152  | 1504211  | 159.721 | ppm   | 99       |
| 71) Dimethyl phthalate        | 7.390 | 163  | 1045201  | 161.265 | ppm   | 98       |
| 72) 2,6-Dinitrotoluene        | 7.443 | 165  | 272996   | 170.417 | ppm   | 87       |
| 73) Acenaphthene              | 7.678 | 153  | 977098   | 156.569 | ppm   | 97       |
| 74) 3-Nitroaniline            | 7.614 | 138  | 287536   | 180.290 | ppm   | 97       |
| 75) 2,4-Dinitrophenol         | 7.716 | 184  | 148517   | 154.521 | ppm   | 89       |
| 76) Dibenzofuran              | 7.850 | 168  | 1266022  | 151.818 | ppm   | 98       |
| 77) 2,4-Dinitrotoluene        | 7.844 | 165  | 375012   | 155.706 | ppm   | 91       |
| 78) 4-Nitrophenol             | 7.780 | 65   | 232735   | 169.274 | ppm   | 94       |
| 79) Pentachlorobenzene        | 7.807 | 250  | 396552   | 149.146 | ppm   | 100      |
| 80) 1-Naphthylamine           | 7.930 | 143  | 757144   | 156.414 | ppm   | 97       |
| 81) 2-Naphthylamine           | 8.010 | 143  | 809983   | 156.234 | ppm   | 97       |
| 82) 2,3,4,6-Tetrachlorophenol | 7.967 | 232  | 265934   | 178.778 | ppm   | 96       |
| 83) Fluorene                  | 8.186 | 166  | 1060564  | 155.917 | ppm   | 100      |
| 84) 4-Chlorophenyl-phenyle... | 8.186 | 204  | 530991   | 148.882 | ppm   | 96       |
| 85) Diethylphthalate          | 8.080 | 149  | 1112613  | 160.387 | ppm   | 99       |
| 86) 4-Nitroaniline            | 8.224 | 138  | 288073   | 161.352 | ppm   | 96       |
| 87) 5-Nitro-o-toluidine       | 8.213 | 152  | 323221   | 174.178 | ppm   | 99       |
| 89) Sulfotepp                 | 8.459 | 322  | 187088   | 169.524 | ppm   | 81       |
| 90) Octachlorocyclopentene    | 8.433 | 307  | 195187   | 166.500 | ppm   | 98       |
| 92) Thionazin                 | 8.165 | 107  | 170382   | 156.420 | ppm   | 89       |
| 93) 4,6-Dinitro-2-methylph... | 8.245 | 198  | 203752   | 158.581 | ppm   | 94       |
| 94) Diphenylamine             | 8.309 | 169  | 1642849  | 313.706 | ppm   | 98       |
| 95) 1,2-Diphenylhydrazine     | 8.342 | 77   | 1096497  | 151.132 | ppm   | 98       |
| 96) N-Nitrosodiphenylamine    | 8.309 | 169  | 1642849  | 313.698 | ppm   | 98       |
| 97) 1,3,5-Trinirobenzene      | 8.593 | 213  | 105500   | 183.966 | ppm   | # 1      |
| 98) Diallate                  | 8.588 | 86   | 383423   | 158.637 | ppm   | 92       |
| 99) Phorate                   | 8.598 | 121  | 197839   | 160.606 | ppm   | 87       |
| 100) Phenacetin               | 8.636 | 108  | 557857   | 161.343 | ppm   | 96       |



Data Path : I:\ACQUDATA\5973D\Data\102617\  
 Data File : BM204.D  
 Acq On : 26 Oct 2017 1:41 pm  
 Operator : J.Misiurewicz  
 Sample : 160 ppm STD  
 Misc : Initial Calibration 8270D/625  
 ALS Vial : 11 Sample Multiplier: 1

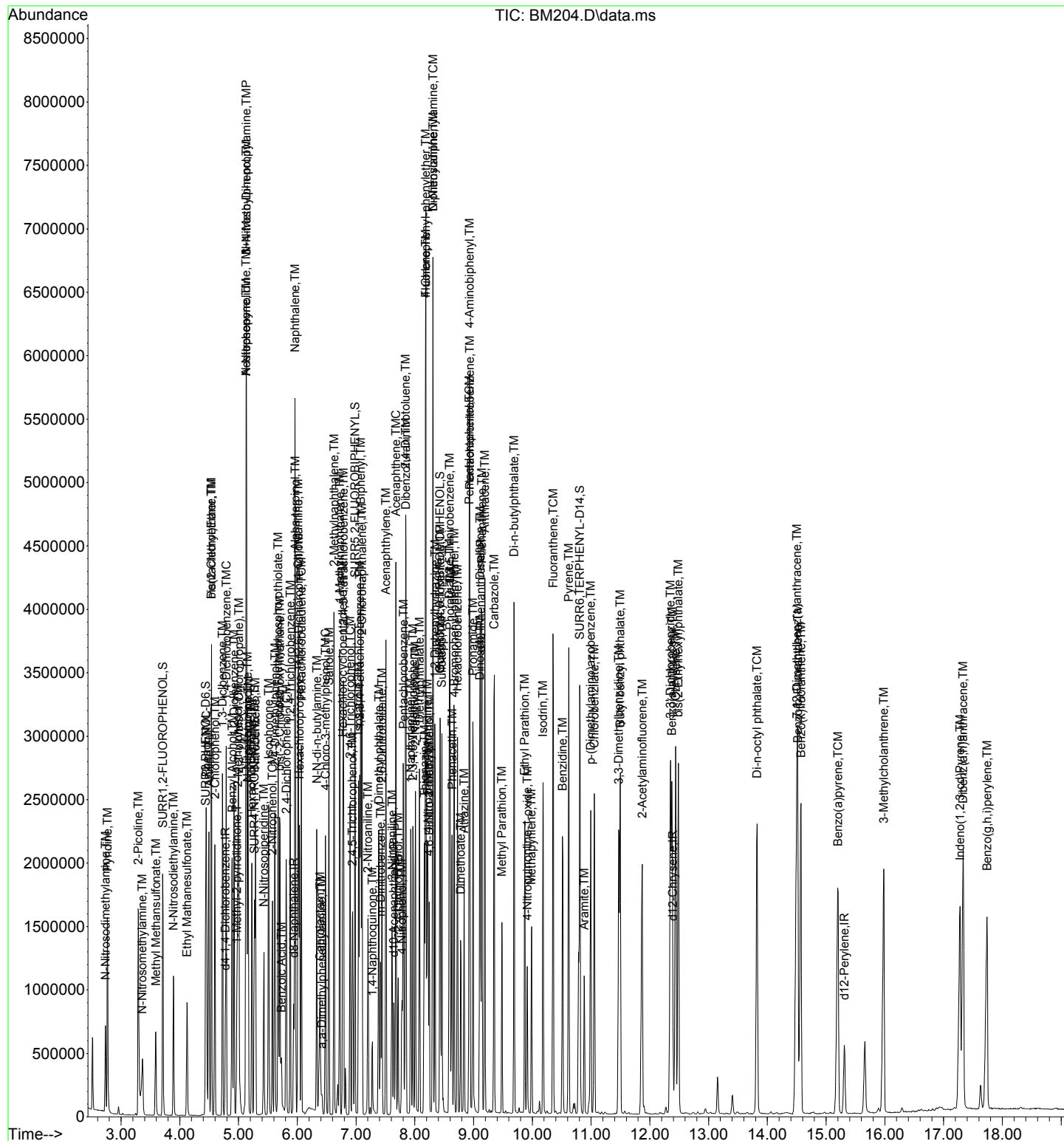
Quant Time: Oct 26 14:10:08 2017  
 Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
 Quant Title : 8270 BNA ANALYSIS  
 QLast Update : Thu Oct 26 14:03:10 2017  
 Response via : Initial Calibration

| Compound                       | R.T.   | QIon | Response | Conc    | Units | Dev(Min) |
|--------------------------------|--------|------|----------|---------|-------|----------|
| 101) 4-Bromophenyl-phenylether | 8.673  | 248  | 336418   | 151.100 | ppm   | 98       |
| 102) Hexachlorobenzene         | 8.727  | 284  | 368356   | 152.153 | ppm   | 99       |
| 103) Dimethoate                | 8.780  | 87   | 272812   | 128.157 | ppm   | 98       |
| 104) Atrazine                  | 8.839  | 215  | 104870   | 165.920 | ppm   | 89       |
| 105) Pentachlorophenol         | 8.925  | 266  | 240958   | 157.357 | ppm   | 97       |
| 106) 4-Aminobiphenyl           | 8.930  | 169  | 948074   | 162.331 | ppm   | 99       |
| 107) Pentachloronitrobenzene   | 8.935  | 237  | 147592   | 171.043 | ppm   | 95       |
| 108) Pronamide                 | 8.989  | 173  | 493089   | 164.819 | ppm   | 98       |
| 109) Dinoseb                   | 9.106  | 211  | 273861   | 182.559 | ppm   | 98       |
| 110) Disulfoton                | 9.112  | 88   | 431652   | 154.349 | ppm   | 95       |
| 111) Phenanthrene              | 9.139  | 178  | 1485951  | 155.510 | ppm   | 98       |
| 112) Anthracene                | 9.192  | 178  | 1494642  | 158.403 | ppm   | 99       |
| 113) Carbazole                 | 9.352  | 167  | 1430372  | 151.342 | ppm   | 99       |
| 114) Di-n-butylphthalate       | 9.689  | 149  | 1924474  | 158.163 | ppm   | 99       |
| 115) 4-Nitroquinoline-1-oxide  | 9.914  | 190  | 128248   | 172.107 | ppm   | 98       |
| 116) Fluoranthene              | 10.353 | 202  | 1652906  | 158.346 | ppm   | 98       |
| 118) Methyl Parathion          | 9.481  | 109  | 246228   | 153.973 | ppm   | 94       |
| 119) Ethyl Parathion           | 9.871  | 97   | 219971   | 166.850 | ppm   | 97       |
| 120) Methapyrilene             | 9.984  | 58   | 418244   | 153.130 | ppm   | 93       |
| 121) Isodrin                   | 10.182 | 193  | 173094   | 172.964 | ppm   | 93       |
| 122) Benzidine                 | 10.513 | 184  | 957246   | 152.454 | ppm   | 98       |
| 123) Pyrene                    | 10.620 | 202  | 1654135  | 160.855 | ppm   | 99       |
| 125) Aramite                   | 10.882 | 185  | 200433m  | 156.528 | ppm   |          |
| 126) p-(Dimethylamino)azobe... | 10.995 | 120  | 469374   | 165.231 | ppm   | 97       |
| 127) Chlorobenzilate           | 11.053 | 139  | 563386   | 168.215 | ppm   | 91       |
| 128) Butyl benzyl phthalate    | 11.497 | 149  | 844381   | 165.858 | ppm   | 98       |
| 129) 3,3-Dimethylbenzidine     | 11.471 | 212  | 953686   | 159.742 | ppm   | 97       |
| 130) 2-Acetylaminofluorene     | 11.872 | 181  | 712736   | 171.940 | ppm   | 97       |
| 131) 3,3'-Dichlorobenzidine    | 12.348 | 252  | 695500   | 163.745 | ppm   | 97       |
| 132) Benzo(a)anthracene        | 12.374 | 228  | 1589923  | 159.689 | ppm   | 99       |
| 133) Chrysene                  | 12.439 | 228  | 1525703  | 159.325 | ppm   | 98       |
| 134) bis(2-Ethylhexyl)phtha... | 12.487 | 149  | 1211356  | 162.331 | ppm   | 98       |
| 136) Di-n-octyl phthalate      | 13.824 | 149  | 1992331  | 170.074 | ppm   | 100      |
| 137) 7,12-Dimethylbenz(a)an... | 14.503 | 256  | 757784   | 171.667 | ppm   | 98       |
| 138) Benzo(b)Fluoranthene      | 14.519 | 252  | 1729249  | 169.032 | ppm   | 96       |
| 139) Benzo(k)fluoranthene      | 14.573 | 252  | 1652112  | 168.114 | ppm   | 96       |
| 140) Benzo(a)pyrene            | 15.204 | 252  | 1506259  | 168.252 | ppm   | 99       |
| 141) 3-Methylcholanthrene      | 15.979 | 268  | 856429   | 166.396 | ppm   | 99       |
| 142) Indeno(1,2,3-cd)Pyrene    | 17.279 | 276  | 1352512  | 151.363 | ppm   | 99       |
| 143) Dibenz(a,h)anthracene     | 17.333 | 278  | 1526193  | 161.800 | ppm   | 98       |
| 144) Benzo(g,h,i)perylene      | 17.739 | 276  | 1270992  | 145.906 | ppm   | 98       |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

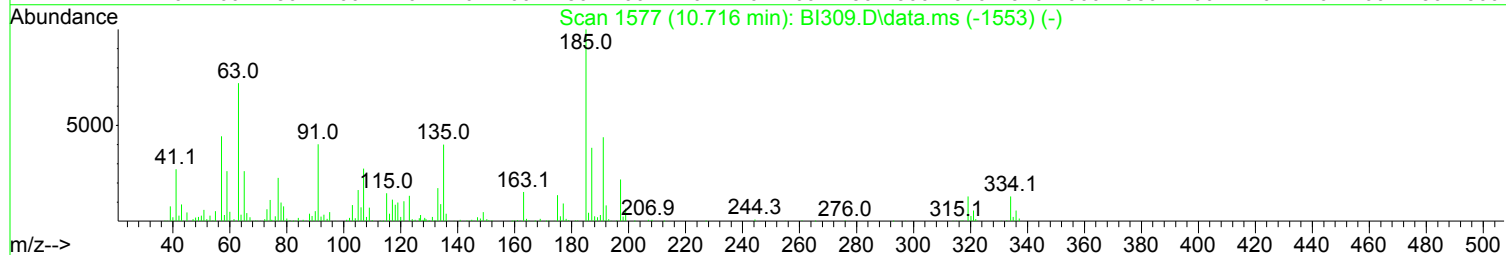
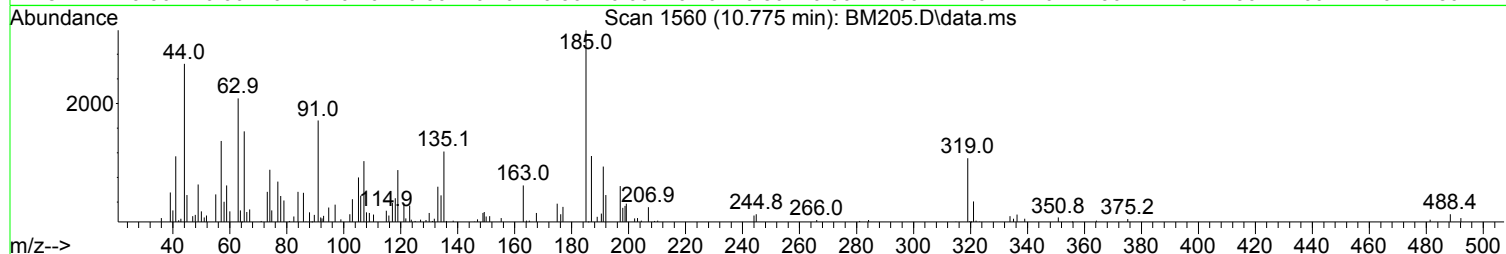
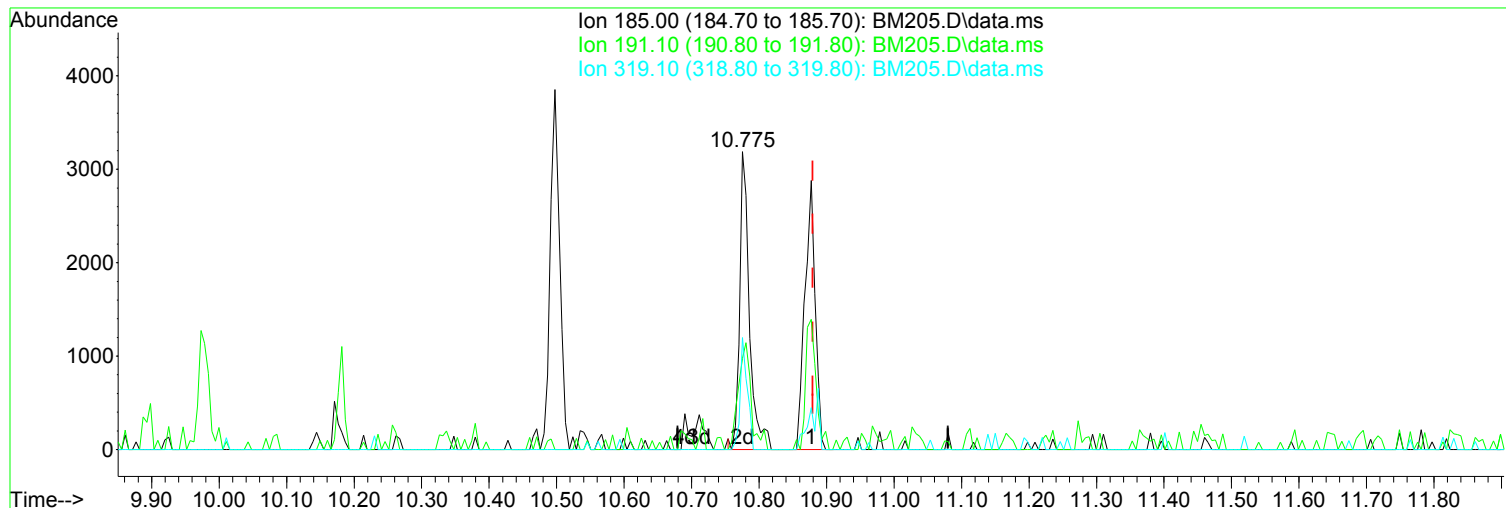
Data Path : I:\ACQUDATA\5973D\Data\102617\  
Data File : BM204.D  
Acq On : 26 Oct 2017 1:41 pm  
Operator : J.Misiurewicz  
Sample : 160 ppm STD  
Misc : Initial Calibration 8270D/625  
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Oct 26 14:10:08 2017  
Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
Quant Title : 8270 BNA ANALYSIS  
QLast Update : Thu Oct 26 14:03:10 2017  
Response via : Initial Calibration



Data Path : I:\ACQUDATA\5973D\Data\102617\  
 Data File : BM205.D  
 Acq On : 26 Oct 2017 2:10 pm  
 Operator : J.Misiurewicz  
 Sample : 5.0 ppm STD  
 Misc : Initial Calibration 8270D/625  
 ALS Vial : 12 Sample Multiplier: 1

Quant Time: Oct 26 14:27:06 2017  
 Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
 Quant Title : 8270 BNA ANALYSIS  
 QLast Update : Thu Oct 26 14:03:10 2017  
 Response via : Initial Calibration



(125) Aramite (TM)

Manual Integration:

10.775min (-0.105) 5.37 ppm m

After

response 6293

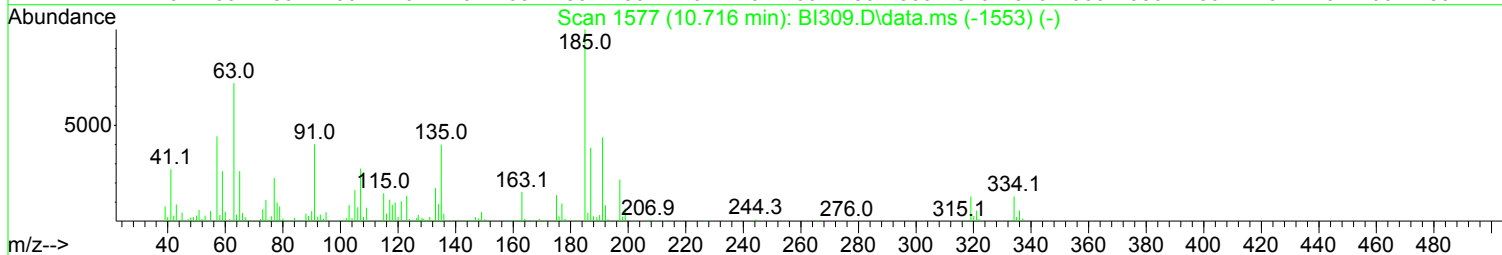
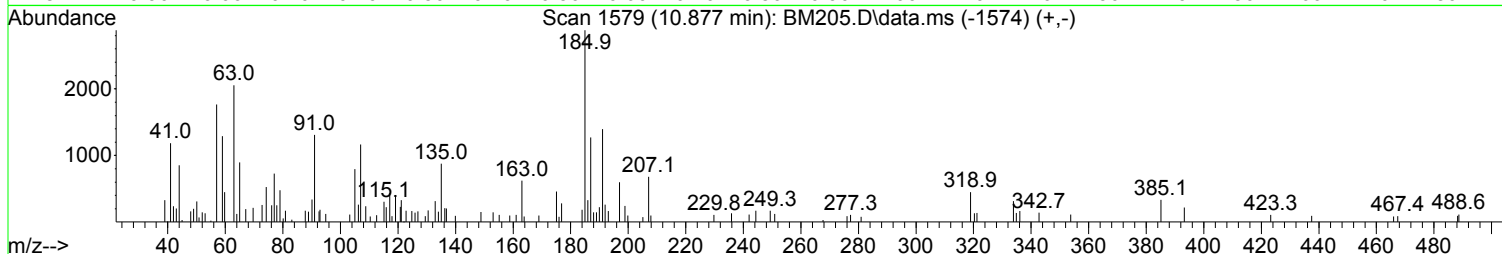
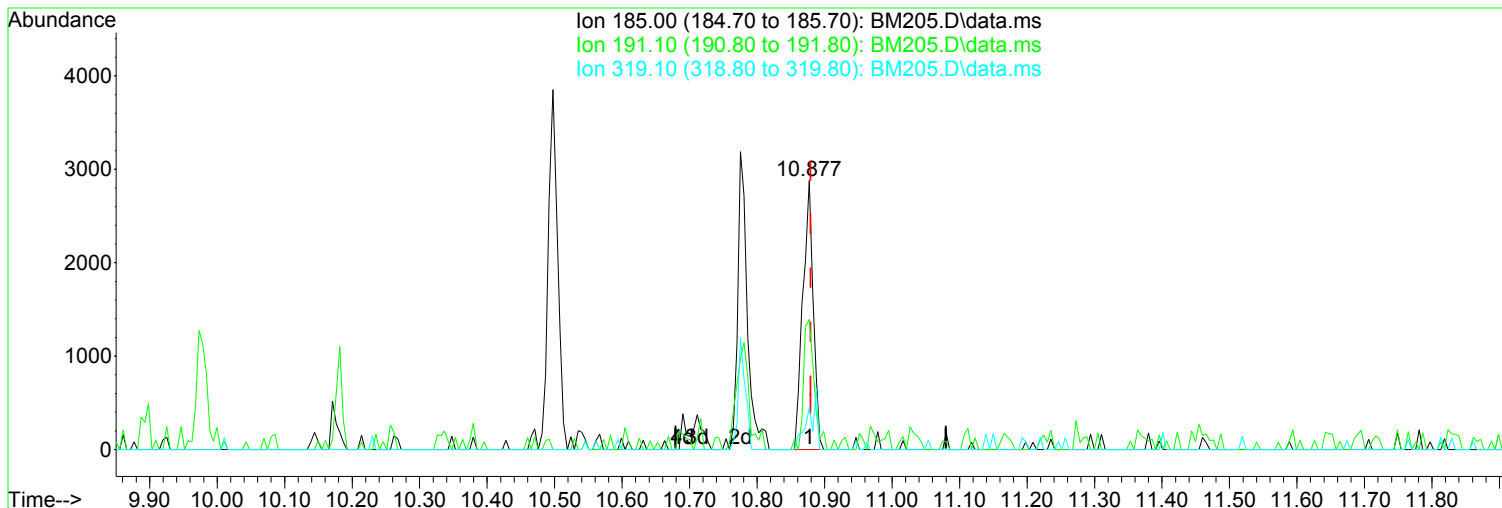
Split Peak.

| Ion    | Exp%   | Act%   |
|--------|--------|--------|
| 185.00 | 100.00 | 100.00 |
| 191.10 | 51.80  | 30.58  |
| 319.10 | 22.50  | 34.85  |
| 0.00   | 0.00   | 0.00   |

10/26/17

Data Path : I:\ACQUDATA\5973D\Data\102617\  
Data File : BM205.D  
Acq On : 26 Oct 2017 2:10 pm  
Operator : J.Misiurewicz  
Sample : 5.0 ppm STD  
Misc : Initial Calibration 8270D/625  
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Oct 26 14:27:06 2017  
Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
Quant Title : 8270 BNA ANALYSIS  
QLast Update : Thu Oct 26 14:03:10 2017  
Response via : Initial Calibration



TIC: BM205.D\data.ms

(125) Aramite (TM)

Manual Integration:

10.877min (-0.003) 2.64 ppm

Before

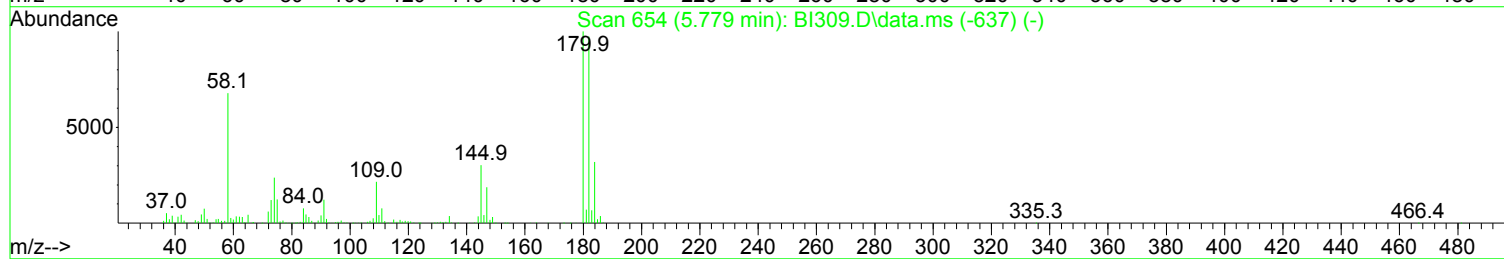
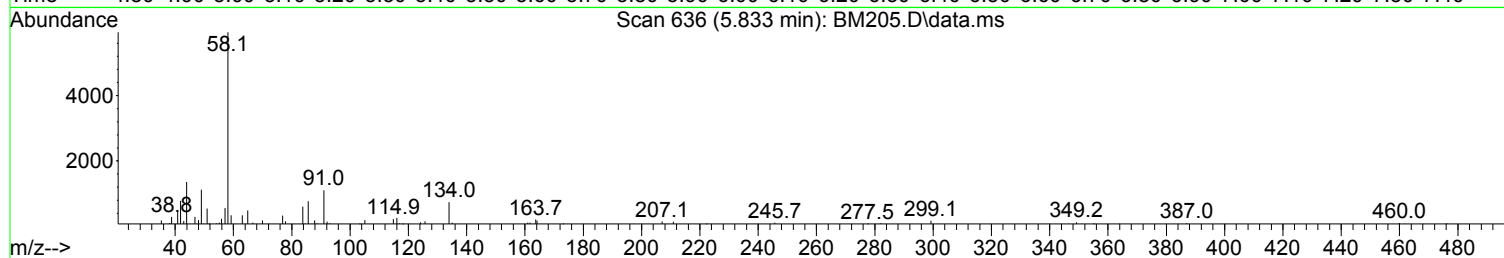
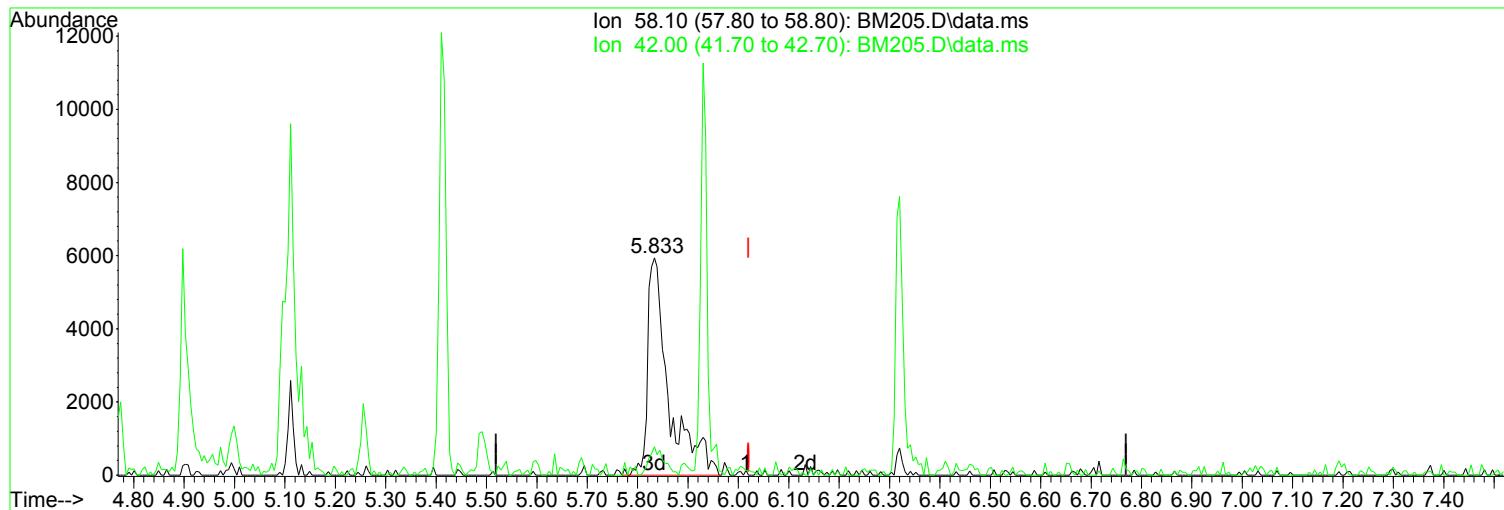
response 3094

| Ion    | Exp%   | Act%   |
|--------|--------|--------|
| 185.00 | 100.00 | 100.00 |
| 191.10 | 51.80  | 48.47  |
| 319.10 | 22.50  | 15.63  |
| 0.00   | 0.00   | 0.00   |

10/26/17

Data Path : I:\ACQUDATA\5973D\Data\102617\  
Data File : BM205.D  
Acq On : 26 Oct 2017 2:10 pm  
Operator : J.Misiurewicz  
Sample : 5.0 ppm STD  
Misc : Initial Calibration 8270D/625  
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Oct 26 14:27:06 2017  
Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
Quant Title : 8270 BNA ANALYSIS  
QLast Update : Thu Oct 26 14:03:10 2017  
Response via : Initial Calibration



(43) a,a-Dimethylphenethylamine (TM)

Manual Integration:

5.833min (-0.186) 2.56 ppm m

After

response 17480

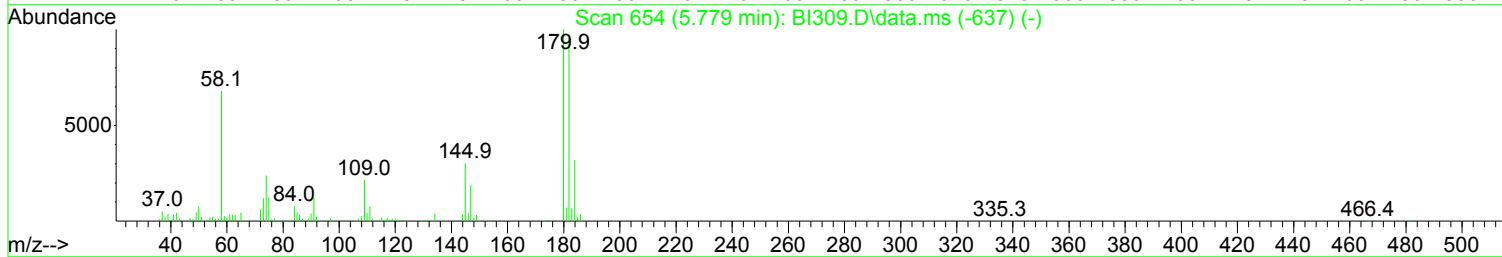
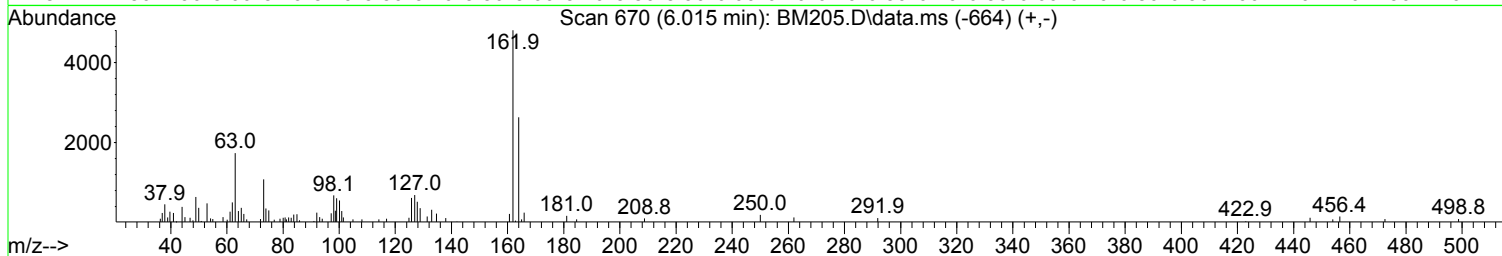
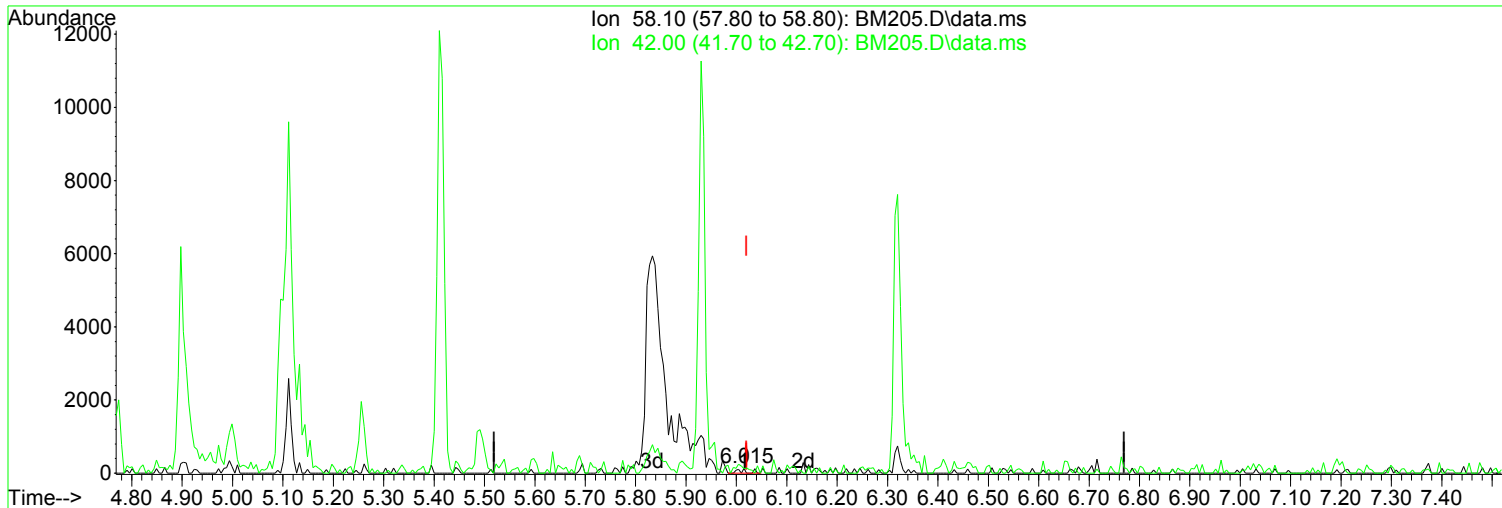
Peak not found.

| Ion   | Exp%   | Act%   |
|-------|--------|--------|
| 58.10 | 100.00 | 100.00 |
| 42.00 | 8.90   | 13.12  |
| 0.00  | 0.00   | 0.00   |
| 0.00  | 0.00   | 0.00   |

10/26/17

Data Path : I:\ACQUDATA\5973D\Data\102617\  
 Data File : BM205.D  
 Acq On : 26 Oct 2017 2:10 pm  
 Operator : J.Misiurewicz  
 Sample : 5.0 ppm STD  
 Misc : Initial Calibration 8270D/625  
 ALS Vial : 12 Sample Multiplier: 1

Quant Time: Oct 26 14:27:06 2017  
 Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
 Quant Title : 8270 BNA ANALYSIS  
 QLast Update : Thu Oct 26 14:03:10 2017  
 Response via : Initial Calibration



TIC: BM205.D\data.ms

(43) a,a-Dimethylphenethylamine (TM)

Manual Integration:

6.015min (-0.005) 0.02 ppm

Before

response 145

| Ion   | Exp%   | Act%   |          |
|-------|--------|--------|----------|
| 58.10 | 100.00 | 100.00 | 10/26/17 |
| 42.00 | 8.90   | 10.37  |          |
| 0.00  | 0.00   | 0.00   |          |
| 0.00  | 0.00   | 0.00   |          |

Data Path : I:\ACQUDATA\5973D\Data\102617\  
 Data File : BM205.D  
 Acq On : 26 Oct 2017 2:10 pm  
 Operator : J.Misiurewicz  
 Sample : 5.0 ppm STD  
 Misc : Initial Calibration 8270D/625  
 ALS Vial : 12 Sample Multiplier: 1

Quant Time: Oct 26 14:27:06 2017  
 Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
 Quant Title : 8270 BNA ANALYSIS  
 QLast Update : Thu Oct 26 14:03:10 2017  
 Response via : Initial Calibration

| Compound                  | R.T.   | QIon | Response | Conc  | Units | Dev(Min) |
|---------------------------|--------|------|----------|-------|-------|----------|
| Internal Standards        |        |      |          |       |       |          |
| 1) d4-1,4-Dichlorobenzene | 4.774  | 152  | 91132    | 40.00 | ppm   | 0.00     |
| 33) d8-Naphthalene        | 5.935  | 136  | 351370   | 40.00 | ppm   | 0.00     |
| 57) d10-Acenaphthene      | 7.641  | 164  | 172395   | 40.00 | ppm   | 0.00     |
| 91) d10-Phenanthrene      | 9.107  | 188  | 299729   | 40.00 | ppm   | 0.00     |
| 117) d12-Chrysene         | 12.375 | 240  | 311067   | 40.00 | ppm   | 0.00     |
| 135) d12-Perylene         | 15.295 | 264  | 351786   | 40.00 | ppm   | -0.01    |

|                               |         |       |          |          |     |        |
|-------------------------------|---------|-------|----------|----------|-----|--------|
| System Monitoring Compounds   |         |       |          |          |     |        |
| 7) SURR1,2-FLUOROPHENOL       | 3.705   | 112   | 16123    | 5.36     | ppm | 0.00   |
| Spiked Amount                 | 200.000 | Range | 10 - 105 | Recovery | =   | 2.68%# |
| 12) SURR2,PHENOL-D6           | 4.432   | 99    | 18311    | 5.11     | ppm | 0.00   |
| Spiked Amount                 | 200.000 | Range | 10 - 107 | Recovery | =   | 2.56%# |
| 34) SURR4,NITROBENZENE-D5     | 5.261   | 82    | 16319    | 5.18     | ppm | 0.00   |
| Spiked Amount                 | 100.000 | Range | 37 - 117 | Recovery | =   | 5.18%# |
| 63) SURR5,2-FLUOROBIPHENYL    | 6.973   | 172   | 32323    | 5.00     | ppm | 0.00   |
| Spiked Amount                 | 100.000 | Range | 39 - 119 | Recovery | =   | 5.00%# |
| 88) SURR3,2,4,6-TRIBROMOPH... | 8.417   | 330   | 5867     | 5.18     | ppm | 0.00   |
| Spiked Amount                 | 200.000 | Range | 28 - 157 | Recovery | =   | 2.59%# |
| 124) SURR6,TERPHENYL-D14      | 10.797  | 244   | 36606    | 5.26     | ppm | 0.00   |
| Spiked Amount                 | 100.000 | Range | 40 - 133 | Recovery | =   | 5.26%# |

| Target Compounds              |       |     |       |       |     | Qvalue |
|-------------------------------|-------|-----|-------|-------|-----|--------|
| 2) Pyridine                   | 2.779 | 79  | 15620 | 5.317 | ppm | 92     |
| 3) N-Nitrosodimethylamine     | 2.731 | 74  | 7669  | 4.937 | ppm | 90     |
| 4) 2-Picoline                 | 3.298 | 93  | 17127 | 5.515 | ppm | 90     |
| 5) N-Nitrosomethylamine       | 3.362 | 42  | 10102 | 6.041 | ppm | 94     |
| 6) Methyl Methansulfonate     | 3.582 | 80  | 9376  | 6.007 | ppm | 94     |
| 8) N-Nitrosodiethylamine      | 3.886 | 102 | 8005  | 5.887 | ppm | 95     |
| 9) Ethyl Mathanesulfonate     | 4.111 | 79  | 11653 | 5.369 | ppm | 93     |
| 10) Benzaldehyde              | 4.405 | 106 | 9794  | 5.463 | ppm | 97     |
| 11) Aniline                   | 4.485 | 93  | 24251 | 5.131 | ppm | 93     |
| 13) Phenol                    | 4.443 | 94  | 18724 | 5.007 | ppm | 95     |
| 14) bis(2-Clethyl)Ether       | 4.534 | 93  | 15276 | 5.175 | ppm | 91     |
| 15) Pentachloroethane         | 4.534 | 117 | 5942  | 5.326 | ppm | 92     |
| 16) 2-Chlorophenol            | 4.587 | 128 | 16047 | 5.186 | ppm | 96     |
| 17) 1,3-Diclbzene             | 4.726 | 146 | 17206 | 5.111 | ppm | 96     |
| 18) 1,4-Dichlorobenzene       | 4.785 | 146 | 17081 | 5.027 | ppm | 98     |
| 19) 1,2-Diclbzene             | 4.919 | 146 | 17493 | 5.425 | ppm | 98     |
| 20) Benzyl Alcohol            | 4.876 | 79  | 12789 | 5.022 | ppm | 96     |
| 21) 1-Methyl-2-pyrrolidinone  | 4.897 | 99  | 9162  | 4.864 | ppm | 85     |
| 22) 2,2'-oxybis(1-Chloropr... | 4.999 | 45  | 22927 | 5.358 | ppm | 96     |
| 23) 2-Methylphenol            | 4.967 | 108 | 13058 | 4.975 | ppm | 83     |
| 24) 3+4-Methylphenol          | 5.106 | 108 | 16369 | 5.670 | ppm | 88     |
| 25) Acetophenone              | 5.117 | 105 | 20393 | 4.919 | ppm | 95     |
| 26) N-Nitroso-Di-n-propyla... | 5.111 | 70  | 12256 | 5.414 | ppm | 91     |
| 27) N-Nitrosopyrrolidine      | 5.101 | 100 | 6974  | 4.568 | ppm | 93     |
| 28) N-Nitrosomorpholine       | 5.133 | 56  | 9429  | 4.952 | ppm | 96     |
| 29) o-Toluidine               | 5.149 | 106 | 23797 | 5.229 | ppm | 94     |
| 30) Hexachloroethane          | 5.224 | 117 | 7276  | 5.139 | ppm | 91     |
| 31) o,o,o-Triethylphosphor... | 5.662 | 198 | 6713  | 5.188 | ppm | 97     |
| 32) Alpha-terpinol            | 5.956 | 121 | 6277  | 5.439 | ppm | 85     |
| 35) Nitrobenzene              | 5.277 | 77  | 18662 | 5.319 | ppm | 91     |
| 36) N-Nitrosopiperidine       | 5.411 | 42  | 11414 | 5.496 | ppm | 87     |
| 37) Isophorone                | 5.491 | 82  | 33378 | 5.261 | ppm | 96     |
| 38) 2-Nitrophenol             | 5.571 | 139 | 7262  | 4.573 | ppm | 98     |

Data Path : I:\ACQUDATA\5973D\Data\102617\  
 Data File : BM205.D  
 Acq On : 26 Oct 2017 2:10 pm  
 Operator : J.Misiurewicz  
 Sample : 5.0 ppm STD  
 Misc : Initial Calibration 8270D/625  
 ALS Vial : 12 Sample Multiplier: 1

Quant Time: Oct 26 14:27:06 2017  
 Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
 Quant Title : 8270 BNA ANALYSIS  
 QLast Update : Thu Oct 26 14:03:10 2017  
 Response via : Initial Calibration

| Compound                      | R.T.  | QIon | Response | Conc   | Units | Dev(Min) |
|-------------------------------|-------|------|----------|--------|-------|----------|
| 39) Benzoic Acid              | 5.646 | 105  | 4720     | 2.855  | ppm   | 87       |
| 40) 2,4-Dimethylphenol        | 5.598 | 107  | 15301    | 5.076  | ppm   | 98       |
| 41) bis(-2-Chloroethoxy)Me... | 5.689 | 93   | 18742    | 4.940  | ppm   | 97       |
| 42) 2,4-Dichlorophenol        | 5.796 | 162  | 12875    | 5.210  | ppm   | 95       |
| 43) a,a-Dimethylphenethyla... | 5.833 | 58   | 17480m   | 2.565  | ppm   |          |
| 44) 1,2,4-Trichlorobenzene    | 5.876 | 180  | 15474    | 5.515  | ppm   | 90       |
| 45) Naphthalene               | 5.951 | 128  | 45727    | 5.115  | ppm   | 95       |
| 46) 4-Chloroaniline           | 5.999 | 127  | 18466    | 4.927  | ppm   | 92       |
| 47) 2,6-Dichlorophenol        | 6.004 | 162  | 12563    | 5.053  | ppm   | 89       |
| 48) Hexachlorobutadiene       | 6.063 | 225  | 7691     | 4.812  | ppm   | 100      |
| 49) Hexachloropropene         | 6.037 | 213  | 9087     | 4.779  | ppm   | 92       |
| 50) 4-Chloro-3-methylphenol   | 6.464 | 107  | 12588    | 5.177  | ppm   | 87       |
| 51) N-N-di-n-butylamine       | 6.320 | 84   | 13823    | 6.286  | ppm   | 91       |
| 52) Caprolactam               | 6.320 | 113  | 4463     | 5.354  | ppm   | # 29     |
| 53) p-Phenylenediamine        | 6.341 | 80   | 15421    | 10.654 | ppm   | 88       |
| 54) Safrole                   | 6.529 | 162  | 10626    | 4.617  | ppm   | 84       |
| 55) 2-Methylnaphthalene       | 6.620 | 142  | 31310    | 5.267  | ppm   | 96       |
| 56) 1-Methylnaphthalene       | 6.716 | 142  | 27527    | 5.104  | ppm   | 99       |
| 58) Hexachlorocyclopentadiene | 6.769 | 237  | 8394     | 4.874  | ppm   | 97       |
| 59) 1,2,4,5-Tetrachloroben... | 6.780 | 216  | 14079    | 5.043  | ppm   | 90       |
| 60) 1,2,3,4-Tetrachloroben... | 7.058 | 216  | 12802    | 5.104  | ppm   | 99       |
| 61) 2,4,6-Trichlorophenol     | 6.887 | 196  | 8996     | 5.029  | ppm   | 88       |
| 62) 2,4,5-Trichlorophenol     | 6.930 | 196  | 8354     | 4.686  | ppm   | 95       |
| 64) Isosafrole                | 7.037 | 104  | 6133     | 5.498  | ppm   | 89       |
| 65) 1,1'-Biphenyl             | 7.074 | 154  | 36515    | 5.146  | ppm   | 86       |
| 66) 2-Chloronaphthalene       | 7.090 | 162  | 29586    | 5.340  | ppm   | 95       |
| 67) 2-Nitroaniline            | 7.192 | 65   | 7649     | 5.021  | ppm   | # 80     |
| 68) 1,4-Naphthoquinone        | 7.267 | 158  | 3158     | 5.343  | ppm   | 86       |
| 69) m-Dinitrobenzene          | 7.400 | 168  | 3955     | 4.582  | ppm   | 82       |
| 70) Acenaphthylene            | 7.502 | 152  | 45039    | 5.168  | ppm   | 90       |
| 71) Dimethyl phthalate        | 7.368 | 163  | 31931    | 5.324  | ppm   | 96       |
| 72) 2,6-Dinitrotoluene        | 7.427 | 165  | 7418     | 5.004  | ppm   | 98       |
| 73) Acenaphthene              | 7.668 | 153  | 29508    | 5.110  | ppm   | 95       |
| 74) 3-Nitroaniline            | 7.593 | 138  | 7022     | 4.758  | ppm   | 96       |
| 75) 2,4-Dinitrophenol         | 7.695 | 184  | 1957     | 8.376  | ppm   | 86       |
| 76) Dibenzofuran              | 7.839 | 168  | 38481    | 4.987  | ppm   | 97       |
| 77) 2,4-Dinitrotoluene        | 7.823 | 165  | 8493     | 5.792  | ppm   | 94       |
| 78) 4-Nitrophenol             | 7.764 | 65   | 5075     | 3.989  | ppm   | # 74     |
| 79) Pentachlorobenzene        | 7.796 | 250  | 12839    | 5.218  | ppm   | 96       |
| 80) 1-Naphthylamine           | 7.919 | 143  | 24351    | 5.436  | ppm   | 93       |
| 81) 2-Naphthylamine           | 7.994 | 143  | 24950    | 5.201  | ppm   | 98       |
| 82) 2,3,4,6-Tetrachlorophenol | 7.957 | 232  | 4950     | 3.596  | ppm   | 91       |
| 83) Fluorene                  | 8.176 | 166  | 31325    | 4.977  | ppm   | 95       |
| 84) 4-Chlorophenyl-phenyle... | 8.176 | 204  | 17717    | 5.368  | ppm   | 97       |
| 85) Diethylphthalate          | 8.064 | 149  | 32168    | 5.011  | ppm   | 94       |
| 86) 4-Nitroaniline            | 8.192 | 138  | 7864     | 4.760  | ppm   | 79       |
| 87) 5-Nitro-o-toluidine       | 8.187 | 152  | 8535     | 4.970  | ppm   | 99       |
| 89) Sulfotepp                 | 8.454 | 322  | 5266     | 5.157  | ppm   | 90       |
| 90) Octachlorocyclopentene    | 8.427 | 307  | 4765     | 4.393  | ppm   | 87       |
| 92) Thionazin                 | 8.144 | 107  | 4710     | 5.122  | ppm   | 98       |
| 93) 4,6-Dinitro-2-methylph... | 8.219 | 198  | 2951     | 6.267  | ppm   | 74       |
| 94) Diphenylamine             | 8.294 | 169  | 47874    | 10.828 | ppm   | 97       |
| 95) 1,2 Diphenylhydrazine     | 8.331 | 77   | 34531    | 5.638  | ppm   | 92       |
| 96) N-Nitrosodiphenylamine    | 8.294 | 169  | 47874    | 10.828 | ppm   | 97       |
| 97) 1,3,5-Trinitrobenzene     | 8.550 | 213  | 1854     | 3.829  | ppm   | 86       |
| 98) Diallate                  | 8.577 | 86   | 11275    | 5.526  | ppm   | 86       |



Data Path : I:\ACQUDATA\5973D\Data\102617\  
 Data File : BM205.D  
 Acq On : 26 Oct 2017 2:10 pm  
 Operator : J.Misiurewicz  
 Sample : 5.0 ppm STD  
 Misc : Initial Calibration 8270D/625  
 ALS Vial : 12 Sample Multiplier: 1

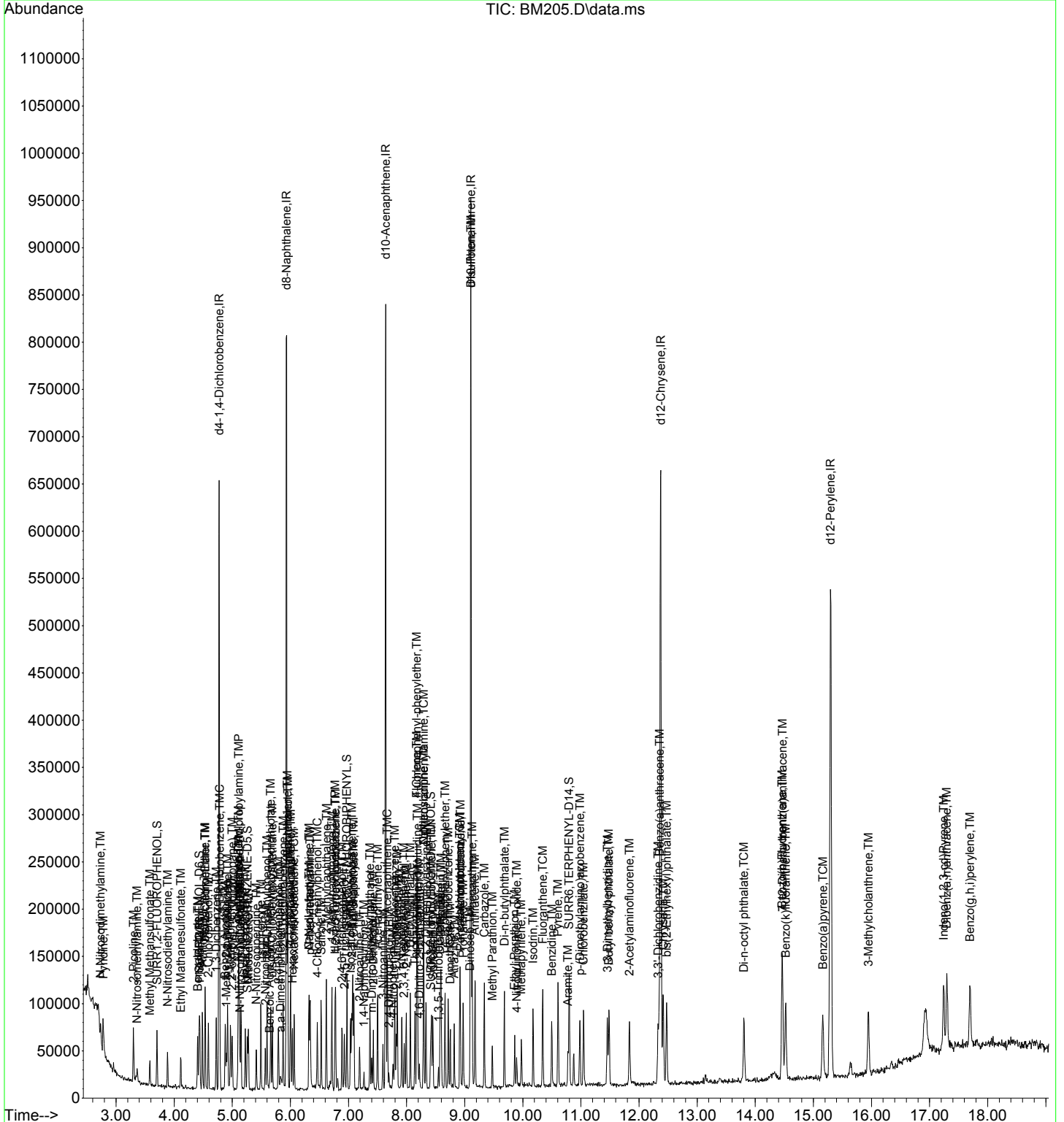
Quant Time: Oct 26 14:27:06 2017  
 Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
 Quant Title : 8270 BNA ANALYSIS  
 QLast Update : Thu Oct 26 14:03:10 2017  
 Response via : Initial Calibration

| Compound                       | R.T.   | QIon | Response | Conc  | Units | Dev(Min) |
|--------------------------------|--------|------|----------|-------|-------|----------|
| 99) Phorate                    | 8.588  | 121  | 4889     | 4.701 | ppm # | 63       |
| 100) Phenacetin                | 8.593  | 108  | 15253    | 5.225 | ppm   | 100      |
| 101) 4-Bromophenyl-phenylether | 8.663  | 248  | 10228    | 5.441 | ppm   | 98       |
| 102) Hexachlorobenzene         | 8.716  | 284  | 11252    | 5.505 | ppm   | 90       |
| 103) Dimethoate                | 8.754  | 87   | 10102    | 5.621 | ppm   | 94       |
| 104) Atrazine                  | 8.818  | 215  | 3755     | 7.037 | ppm # | 62       |
| 105) Pentachlorophenol         | 8.914  | 266  | 3693     | 6.253 | ppm   | 95       |
| 106) 4-Aminobiphenyl           | 8.919  | 169  | 24053    | 4.878 | ppm   | 95       |
| 107) Pentachloronitrobenzene   | 8.925  | 237  | 3337     | 4.581 | ppm   | 82       |
| 108) Pronamide                 | 8.973  | 173  | 12266    | 4.856 | ppm   | 94       |
| 109) Dinoseb                   | 9.091  | 211  | 3742     | 2.955 | ppm   | 62       |
| 110) Disulfoton                | 9.107  | 88   | 13609    | 5.764 | ppm   | 85       |
| 111) Phenanthrene              | 9.128  | 178  | 44794    | 5.553 | ppm   | 92       |
| 112) Anthracene                | 9.176  | 178  | 43876    | 5.508 | ppm   | 98       |
| 113) Carbazole                 | 9.337  | 167  | 40032    | 5.017 | ppm   | 95       |
| 114) Di-n-butylphthalate       | 9.684  | 149  | 48191    | 4.691 | ppm   | 98       |
| 115) 4-Nitroquinonline-1-oxide | 9.893  | 190  | 2533     | 4.026 | ppm   | 81       |
| 116) Fluoranthene              | 10.342 | 202  | 42829    | 4.860 | ppm   | 94       |
| 118) Methyl Parathion          | 9.476  | 109  | 7054     | 4.817 | ppm   | 83       |
| 119) Ethyl Parathion           | 9.861  | 97   | 4890     | 4.051 | ppm   | 84       |
| 120) Methapyrilene             | 9.973  | 58   | 13290    | 5.314 | ppm   | 97       |
| 121) Isodrin                   | 10.176 | 193  | 4653     | 5.077 | ppm   | 93       |
| 122) Benzidine                 | 10.497 | 184  | 29301    | 5.096 | ppm   | 97       |
| 123) Pyrene                    | 10.604 | 202  | 47967    | 5.094 | ppm   | 96       |
| 125) Aramite                   | 10.775 | 185  | 6293m    | 5.367 | ppm   |          |
| 126) p-(Dimethylamino)azobe... | 10.984 | 120  | 13738    | 5.281 | ppm   | 89       |
| 127) Chlorobenzilate           | 11.043 | 139  | 16895    | 5.509 | ppm   | 88       |
| 128) Butyl benzyl phthalate    | 11.481 | 149  | 24295    | 5.211 | ppm   | 95       |
| 129) 3,3-Dimethylbenzidine     | 11.455 | 212  | 27889    | 5.101 | ppm   | 98       |
| 130) 2-Acetylaminofluorene     | 11.834 | 181  | 20381    | 5.369 | ppm   | 97       |
| 131) 3,3'-Dichlorobenzidine    | 12.327 | 252  | 18610    | 4.785 | ppm   | 94       |
| 132) Benzo(a)anthracene        | 12.353 | 228  | 46890    | 5.143 | ppm   | 97       |
| 133) Chrysene                  | 12.417 | 228  | 46844    | 5.342 | ppm   | 96       |
| 134) bis(2-Ethylhexyl)phtha... | 12.476 | 149  | 35622    | 5.213 | ppm   | 96       |
| 136) Di-n-octyl phthalate      | 13.803 | 149  | 54542    | 4.503 | ppm   | 98       |
| 137) 7,12-Dimethylbenz(a)an... | 14.466 | 256  | 21525    | 4.716 | ppm   | 96       |
| 138) Benzo(b)Fluoranthene      | 14.461 | 252  | 51320    | 4.852 | ppm   | 95       |
| 139) Benzo(k)fluoranthene      | 14.525 | 252  | 49699    | 4.891 | ppm   | 95       |
| 140) Benzo(a)pyrene            | 15.161 | 252  | 44442    | 4.802 | ppm   | 98       |
| 141) 3-Methylcholanthrene      | 15.948 | 268  | 25233    | 4.742 | ppm   | 93       |
| 142) Indeno(1,2,3-cd)Pyrene    | 17.242 | 276  | 44974    | 4.868 | ppm   | 96       |
| 143) Dibenz(a,h)anthracene     | 17.295 | 278  | 48136    | 4.936 | ppm   | 93       |
| 144) Benzo(g,h,i)perylene      | 17.697 | 276  | 43562    | 4.837 | ppm   | 91       |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

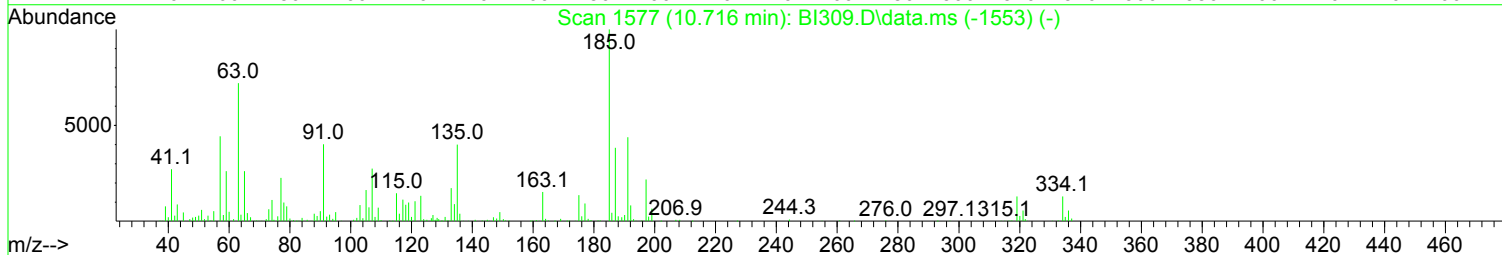
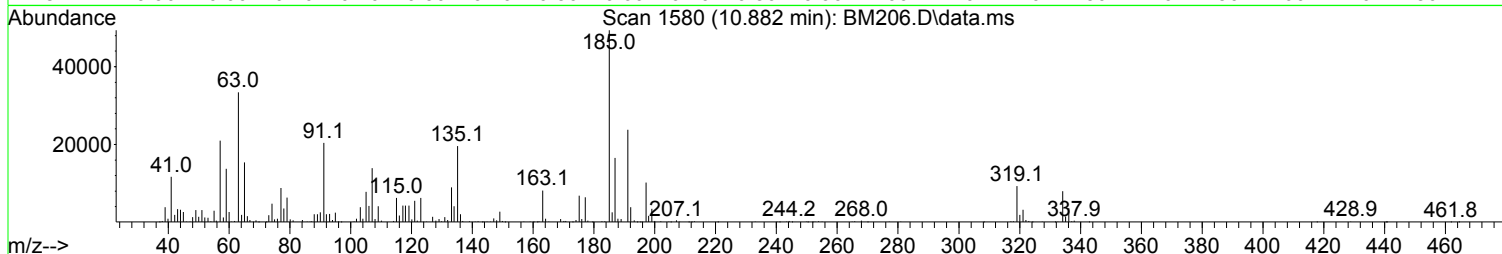
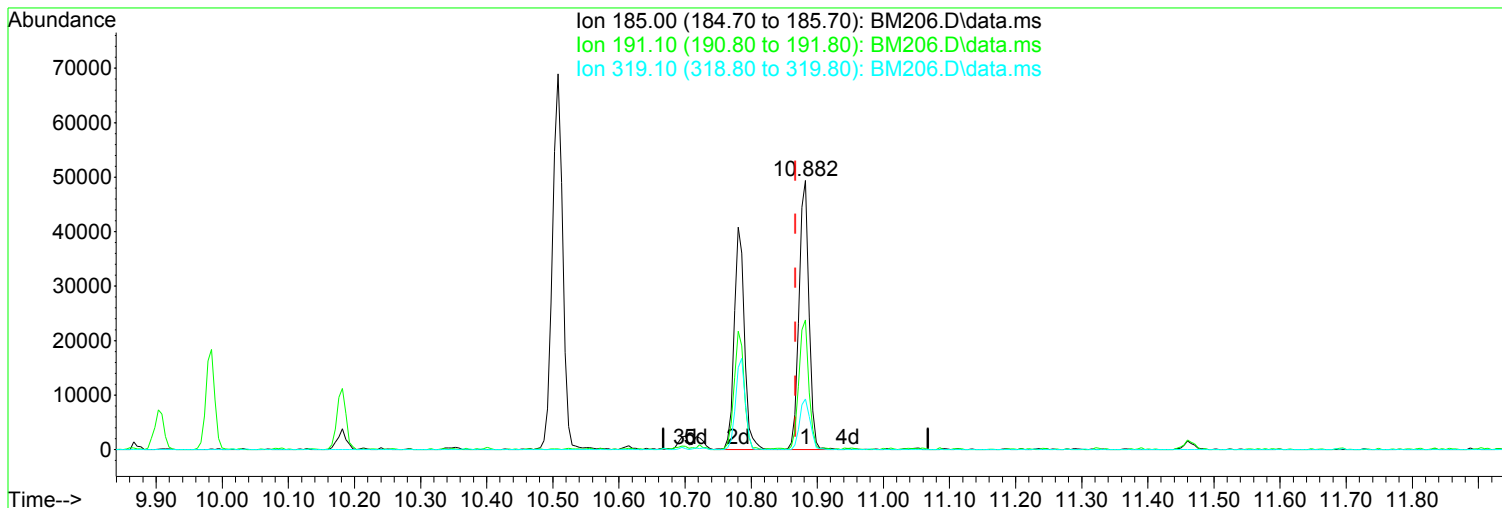
Data Path : I:\ACQUDATA\5973D\Data\102617\  
Data File : BM205.D  
Acq On : 26 Oct 2017 2:10 pm  
Operator : J.Misiurewicz  
Sample : 5.0 ppm STD  
Misc : Initial Calibration 8270D/625  
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Oct 26 14:27:06 2017  
Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
Quant Title : 8270 BNA ANALYSIS  
QLast Update : Thu Oct 26 14:03:10 2017  
Response via : Initial Calibration



Data Path : I:\ACQUDATA\5973D\Data\102617\  
Data File : BM206.D  
Acq On : 26 Oct 2017 2:38 pm  
Operator : J.Misiurewicz  
Sample : ICV  
Misc : Initial Calibration 8270D/625  
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Oct 27 10:33:01 2017  
Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
Quant Title : 8270 BNA ANALYSIS  
QLast Update : Thu Oct 26 14:29:15 2017  
Response via : Initial Calibration



(125) Aramite (TM)

Manual Integration:

10.882min (+ 0.015) 75.09 ppm m

After

response 94269

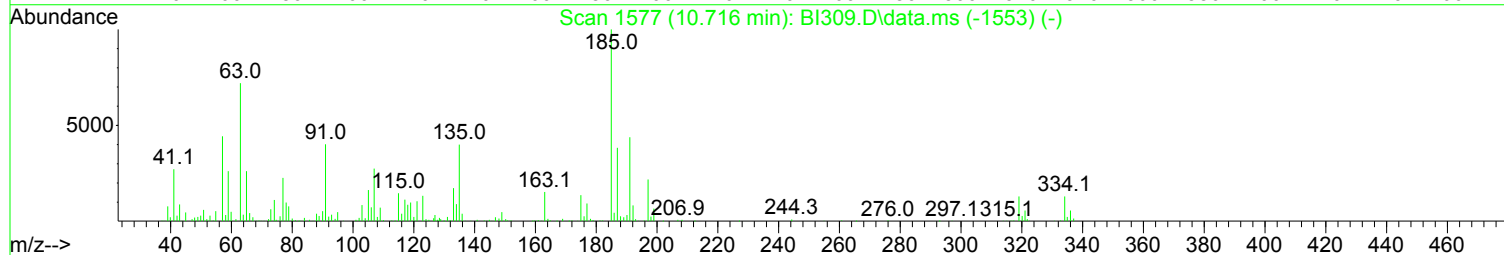
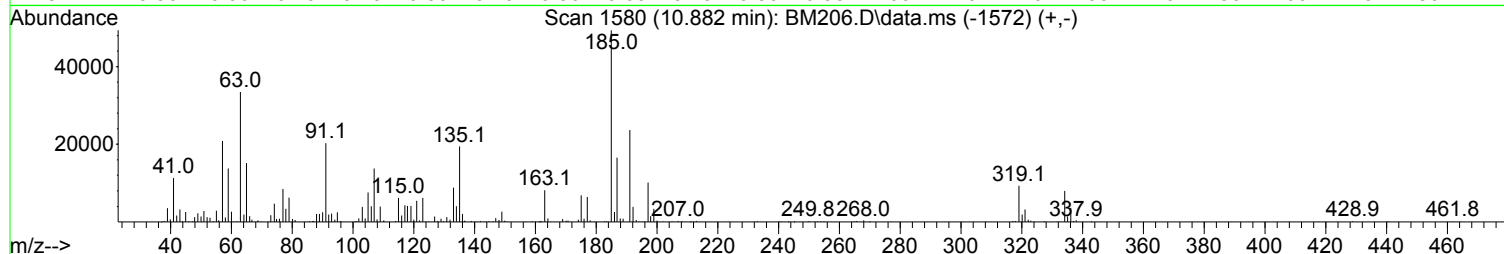
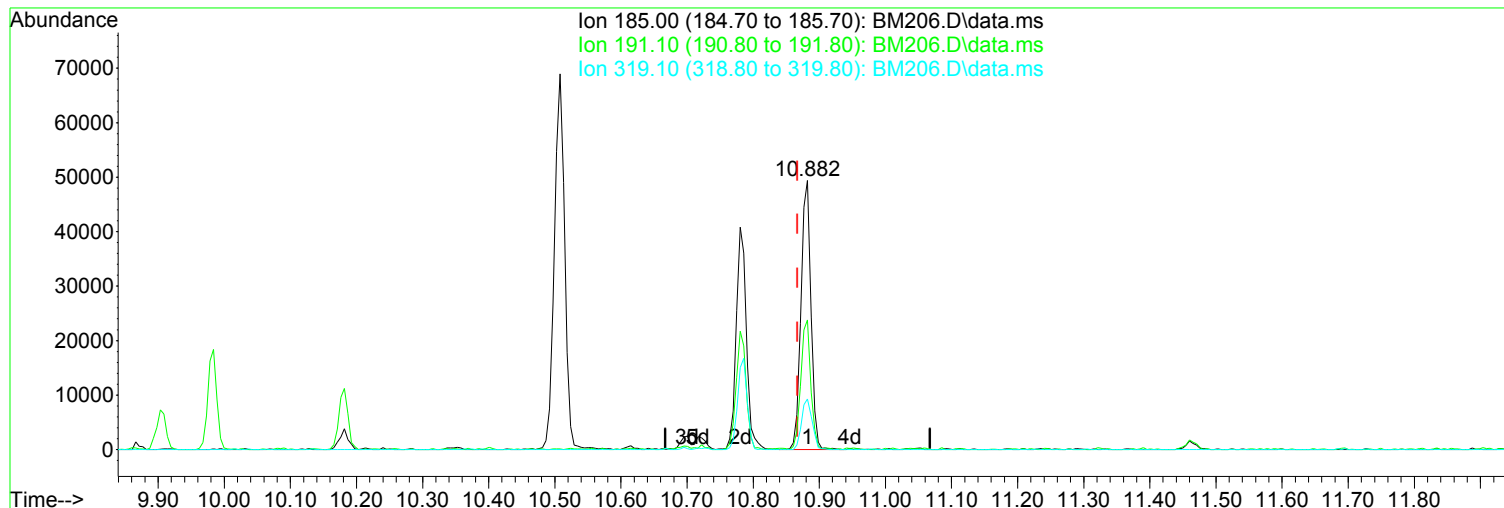
Poor integration.

| Ion    | Exp%   | Act%   |
|--------|--------|--------|
| 185.00 | 100.00 | 100.00 |
| 191.10 | 51.80  | 48.15  |
| 319.10 | 22.50  | 18.81  |
| 0.00   | 0.00   | 0.00   |

10/27/17

Data Path : I:\ACQUDATA\5973D\Data\102617\  
Data File : BM206.D  
Acq On : 26 Oct 2017 2:38 pm  
Operator : J.Misiurewicz  
Sample : ICV  
Misc : Initial Calibration 8270D/625  
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Oct 27 10:33:01 2017  
Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
Quant Title : 8270 BNA ANALYSIS  
QLast Update : Thu Oct 26 14:29:15 2017  
Response via : Initial Calibration



TIC: BM206.D\data.ms

(125) Aramite (TM)

Manual Integration:

10.882min (+ 0.015) 40.54 ppm

Before

response 50892

Ion Exp% Act%

10/27/17

185.00 100.00 100.00

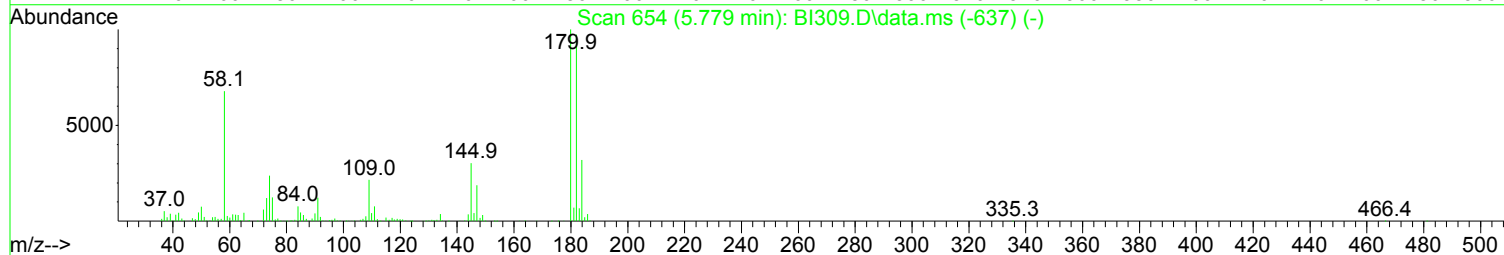
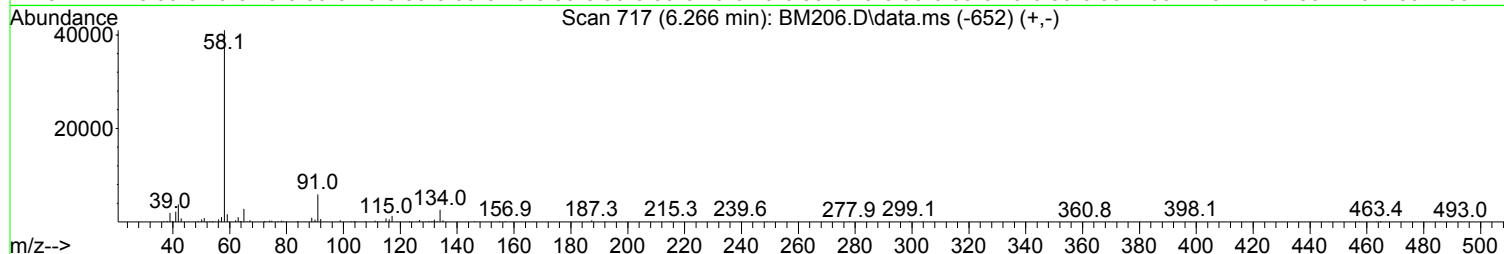
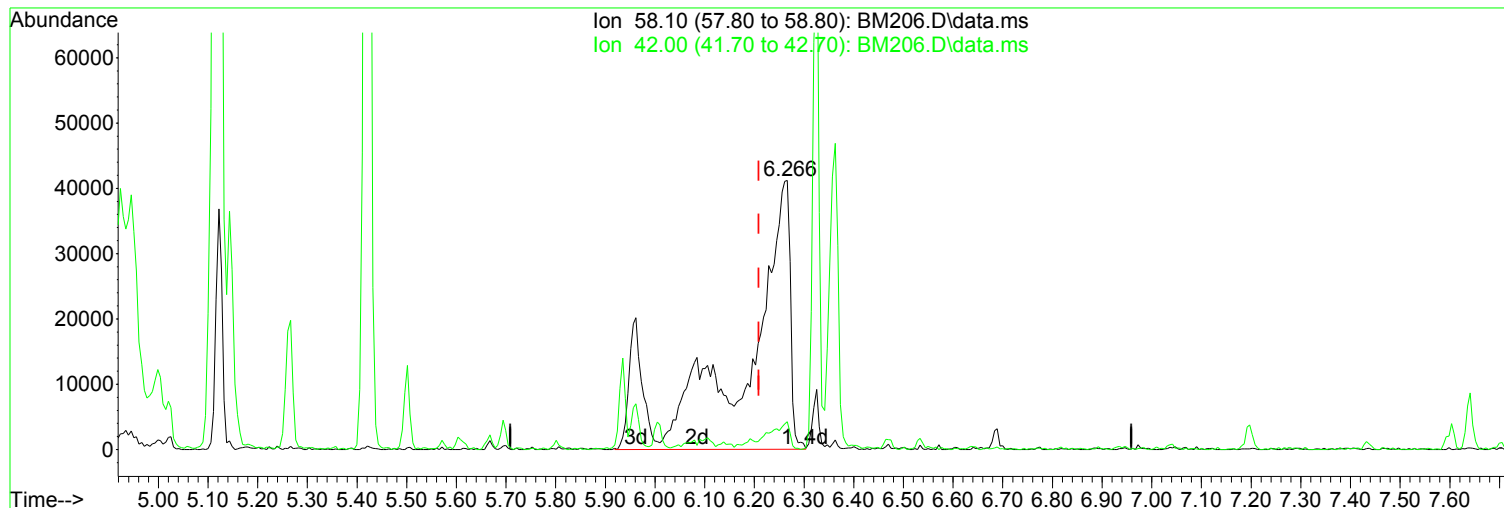
191.10 51.80 47.88

319.10 22.50 18.81

0.00 0.00 0.00

Data Path : I:\ACQUDATA\5973D\Data\102617\  
Data File : BM206.D  
Acq On : 26 Oct 2017 2:38 pm  
Operator : J.Misiurewicz  
Sample : ICV  
Misc : Initial Calibration 8270D/625  
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Oct 27 10:33:01 2017  
Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
Quant Title : 8270 BNA ANALYSIS  
QLast Update : Thu Oct 26 14:29:15 2017  
Response via : Initial Calibration



(43) a,a-Dimethylphenethylamine (TM)

Manual Integration:

6.266min (+ 0.057) 35.86 ppm m

After

response 265130

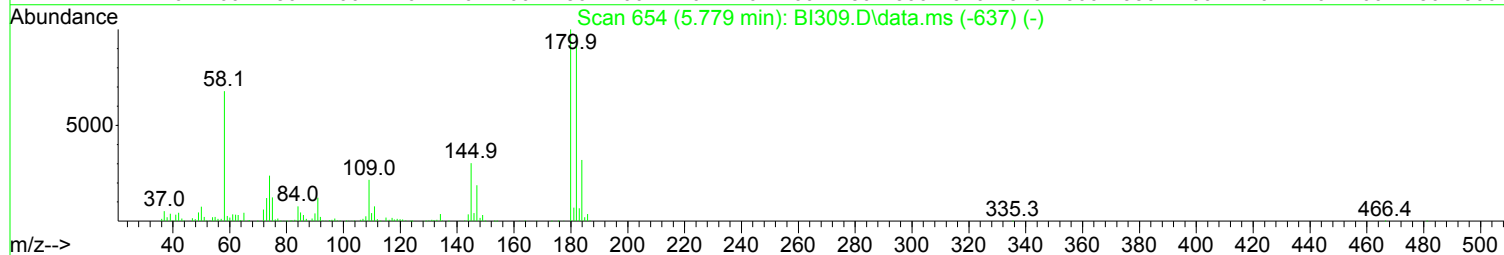
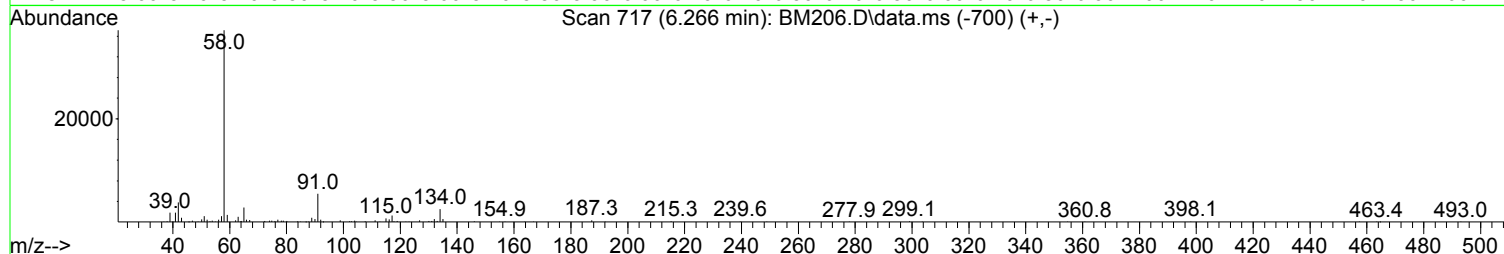
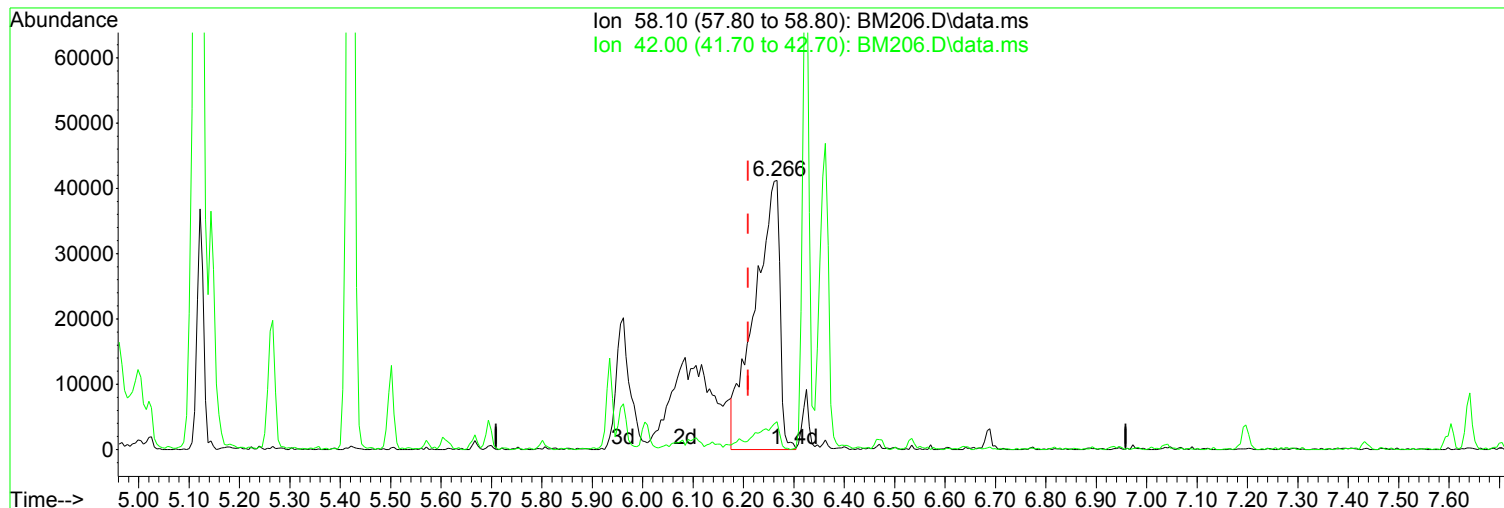
Poor integration.

| Ion   | Exp%   | Act%   |
|-------|--------|--------|
| 58.10 | 100.00 | 100.00 |
| 42.00 | 8.90   | 10.35  |
| 0.00  | 0.00   | 0.00   |
| 0.00  | 0.00   | 0.00   |

10/27/17

Data Path : I:\ACQUDATA\5973D\Data\102617\  
Data File : BM206.D  
Acq On : 26 Oct 2017 2:38 pm  
Operator : J.Misiurewicz  
Sample : ICV  
Misc : Initial Calibration 8270D/625  
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Oct 27 10:33:01 2017  
Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
Quant Title : 8270 BNA ANALYSIS  
QLast Update : Thu Oct 26 14:29:15 2017  
Response via : Initial Calibration



TIC: BM206.D\data.ms

(43) a,a-Dimethylphenethylamine (TM)

Manual Integration:

6.266min (+ 0.057) 19.31 ppm

Before

response 142797

| Ion   | Exp%   | Act%   |
|-------|--------|--------|
| 58.10 | 100.00 | 100.00 |
| 42.00 | 8.90   | 10.20  |
| 0.00  | 0.00   | 0.00   |
| 0.00  | 0.00   | 0.00   |

10/27/17

Data Path : I:\ACQUDATA\5973D\Data\102617\  
 Data File : BM206.D  
 Acq On : 26 Oct 2017 2:38 pm  
 Operator : J.Misiurewicz  
 Sample : ICV  
 Misc : Initial Calibration 8270D/625  
 ALS Vial : 13 Sample Multiplier: 1

Quant Time: Oct 27 10:33:01 2017  
 Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
 Quant Title : 8270 BNA ANALYSIS  
 QLast Update : Thu Oct 26 14:29:15 2017  
 Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 20% Max. Rel. Area : 200%

|    | Compound                       | Amount | Calc.  | %Dev  | Area% | Dev(min) |
|----|--------------------------------|--------|--------|-------|-------|----------|
| 1  | IR d4-1,4-Dichlorobenzene      | 40.000 | 40.000 | 0.0   | 110   | 0.00     |
| 2  | TM Pyridine                    | 80.000 | 75.582 | 5.5   | 99    | 0.00     |
| 3  | TM N-Nitrosodimethylamine      | 80.000 | 77.173 | 3.5   | 102   | 0.00     |
| 4  | TM 2-Picoline                  | 80.000 | 77.012 | 3.7   | 105   | 0.00     |
| 5  | TM N-Nitrosomethylamine        | 80.000 | 71.703 | 10.4  | 100   | 0.00     |
| 6  | TM Methyl Methansulfonate      | 80.000 | 78.980 | 1.3   | 106   | 0.00     |
| 7  | S SURR1,2-FLUOROPHENOL         | 80.000 | 75.086 | 6.1   | 102   | 0.00     |
| 8  | TM N-Nitrosodiethylamine       | 80.000 | 75.453 | 5.7   | 102   | 0.00     |
| 9  | TM Ethyl Mathanesulfonate      | 80.000 | 76.167 | 4.8   | 101   | 0.00     |
| 10 | TM Benzaldehyde                | 80.000 | 82.446 | -3.1  | 127   | 0.00     |
| 11 | TM Aniline                     | 80.000 | 77.822 | 2.7   | 104   | 0.00     |
| 12 | S SURR2, PHENOL-D6             | 80.000 | 77.882 | 2.6   | 105   | 0.00     |
| 13 | TMC Phenol                     | 80.000 | 72.791 | 9.0   | 99    | 0.00     |
| 14 | TM bis(2-Clethyl)Ether         | 80.000 | 66.541 | 16.8  | 91    | 0.00     |
| 15 | TM Pentachloroethane           | 80.000 | 75.813 | 5.2   | 103   | 0.00     |
| 16 | TM 2-Chlorophenol              | 80.000 | 74.406 | 7.0   | 101   | 0.00     |
| 17 | TM 1,3-Diclbzence              | 80.000 | 72.349 | 9.6   | 96    | 0.00     |
| 18 | TMC 1,4-Dichlorobenzene        | 80.000 | 74.299 | 7.1   | 98    | 0.00     |
| 19 | TM 1,2-Diclbzence              | 80.000 | 73.156 | 8.6   | 100   | 0.00     |
| 20 | TM Benzyl Alcohol              | 80.000 | 72.179 | 9.8   | 97    | 0.00     |
| 21 | T 1-Methyl-2-pyrrolidinone     | 80.000 | 79.438 | 0.7   | 102   | 0.00     |
| 22 | TM 2,2'-oxybis(1-Chloropropane | 80.000 | 46.889 | 41.4# | 66    | 0.00     |
| 23 | TM 2-Methylphenol              | 80.000 | 78.166 | 2.3   | 106   | 0.00     |
| 24 | TM 3+4-Methylphenol            | 80.000 | 73.115 | 8.6   | 102   | 0.00     |
| 25 | TM Acetophenone                | 80.000 | 75.294 | 5.9   | 104   | 0.00     |
| 26 | TMP N-Nitroso-Di-n-propylamine | 80.000 | 75.882 | 5.1   | 106   | 0.00     |
| 27 | TM N-Nitrosopyrrolidine        | 80.000 | 77.816 | 2.7   | 109   | 0.00     |
| 28 | TM N-Nitrosomorpholine         | 80.000 | 74.972 | 6.3   | 107   | 0.00     |
| 29 | TM o-Toluidine                 | 80.000 | 74.969 | 6.3   | 103   | 0.00     |
| 30 | TM Hexachloroethane            | 80.000 | 73.267 | 8.4   | 101   | 0.00     |
| 31 | TM o,o,o-Triethylphosphorothio | 80.000 | 77.455 | 3.2   | 101   | 0.00     |
| 32 | TM Alpha-terpinol              | 80.000 | 74.309 | 7.1   | 91    | 0.00     |
| 33 | IR d8-Naphthalene              | 40.000 | 40.000 | 0.0   | 107   | 0.00     |
| 34 | S SURR4,NITROBENZENE-D5        | 80.000 | 77.432 | 3.2   | 106   | 0.00     |
| 35 | TM Nitrobenzene                | 80.000 | 69.725 | 12.8  | 96    | 0.00     |
| 36 | TM N-Nitrosopiperidine         | 80.000 | 76.572 | 4.3   | 104   | 0.00     |
| 37 | TM Isophorone                  | 80.000 | 67.279 | 15.9  | 93    | 0.00     |
| 38 | TCM 2-Nitrophenol              | 80.000 | 78.091 | 2.4   | 103   | 0.00     |
| 39 | TM Benzoic Acid                | 80.000 | 82.910 | -3.6  | 118   | 0.00     |
| 40 | TM 2,4-Dimethylphenol          | 80.000 | 74.794 | 6.5   | 100   | 0.00     |
| 41 | TM bis(-2-Chloroethoxy)Methane | 80.000 | 66.878 | 16.4  | 93    | 0.00     |
| 42 | TCM 2,4-Dichlorophenol         | 80.000 | 71.460 | 10.7  | 90    | 0.00     |
| 43 | TM a,a-Dimethylphenethylamine  | 40.000 | 35.858 | 10.4  | 94    | 0.06     |
| 44 | TM 1,2,4-Trichlorobenzene      | 80.000 | 70.945 | 11.3  | 91    | 0.00     |
| 45 | TM Naphthalene                 | 80.000 | 72.933 | 8.8   | 94    | 0.00     |
| 46 | TM 4-Chloroaniline             | 80.000 | 79.231 | 1.0   | 102   | 0.00     |
| 47 | TM 2,6-Dichlorophenol          | 80.000 | 79.245 | 0.9   | 101   | 0.00     |
| 48 | TCM Hexachlorobutadiene        | 80.000 | 72.166 | 9.8   | 92    | 0.00     |
| 49 | TM Hexachloropropene           | 80.000 | 77.975 | 2.5   | 97    | 0.00     |
| 50 | TMC 4-Chloro-3-methylphenol    | 80.000 | 76.139 | 4.8   | 96    | 0.00     |
| 51 | TM N-N-di-n-butylamine         | 80.000 | 68.990 | 13.8  | 97    | 0.00     |

Data Path : I:\ACQUDATA\5973D\Data\102617\  
 Data File : BM206.D  
 Acq On : 26 Oct 2017 2:38 pm  
 Operator : J.Misiurewicz  
 Sample : ICV  
 Misc : Initial Calibration 8270D/625  
 ALS Vial : 13 Sample Multiplier: 1

Quant Time: Oct 27 10:33:01 2017  
 Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
 Quant Title : 8270 BNA ANALYSIS  
 QLast Update : Thu Oct 26 14:29:15 2017  
 Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 20% Max. Rel. Area : 200%

|     | Compound | Amount                     | Calc.   | %Dev    | Area% | Dev(min) |      |
|-----|----------|----------------------------|---------|---------|-------|----------|------|
| 52  | TM       | Caprolactam                | 80.000  | 75.593  | 5.5   | 98       | 0.00 |
| 53  | TM       | p-Phenylenediamine         | 80.000  | 67.604  | 15.5  | 99       | 0.00 |
| 54  | TM       | Safrole                    | 80.000  | 76.002  | 5.0   | 95       | 0.00 |
| 55  | TM       | 2-Methylnaphthalene        | 80.000  | 71.541  | 10.6  | 92       | 0.00 |
| 56  | TM       | 1-Methylnaphthalene        | 80.000  | 73.732  | 7.8   | 95       | 0.00 |
| 57  | IR       | d10-Acenaphthene           | 40.000  | 40.000  | 0.0   | 116      | 0.00 |
| 58  | TPM      | Hexachlorocyclopentadiene  | 80.000  | 74.125  | 7.3   | 95       | 0.00 |
| 59  | TM       | 1,2,4,5-Tetrachlorobenzene | 80.000  | 74.922  | 6.3   | 100      | 0.00 |
| 60  | TM       | 1,2,3,4-Tetrachlorobenzene | 80.000  | 75.569  | 5.5   | 104      | 0.00 |
| 61  | TCM      | 2,4,6-Trichlorophenol      | 80.000  | 70.893  | 11.4  | 93       | 0.00 |
| 62  | TM       | 2,4,5-Trichlorophenol      | 80.000  | 69.741  | 12.8  | 98       | 0.00 |
| 63  | S        | SURR5,2-FLUOROBIPHENYL     | 80.000  | 74.615  | 6.7   | 103      | 0.00 |
| 64  | TM       | Isosafrole                 | 80.000  | 73.985  | 7.5   | 102      | 0.00 |
| 65  | TM       | 1,1'-Biphenyl              | 80.000  | 74.581  | 6.8   | 102      | 0.00 |
| 66  | TM       | 2-Chloronaphthalene        | 80.000  | 71.907  | 10.1  | 101      | 0.00 |
| 67  | TM       | 2-Nitroaniline             | 80.000  | 76.604  | 4.2   | 106      | 0.00 |
| 68  | TM       | 1,4-Naphthoquinone         | 80.000  | 67.655  | 15.4  | 97       | 0.00 |
| 69  | TM       | m-Dinitrobenzene           | 80.000  | 77.603  | 3.0   | 103      | 0.00 |
| 70  | TM       | Acenaphthylene             | 80.000  | 72.755  | 9.1   | 102      | 0.00 |
| 71  | TM       | Dimethyl phthalate         | 80.000  | 73.391  | 8.3   | 105      | 0.00 |
| 72  | TM       | 2,6-Dinitrotoluene         | 80.000  | 66.406  | 17.0  | 91       | 0.00 |
| 73  | TMC      | Acenaphthene               | 80.000  | 72.599  | 9.3   | 96       | 0.00 |
| 74  | TM       | 3-Nitroaniline             | 80.000  | 79.300  | 0.9   | 104      | 0.00 |
| 75  | TPM      | 2,4-Dinitrophenol          | 80.000  | 63.246  | 20.9# | 80       | 0.00 |
| 76  | TM       | Dibenzofuran               | 80.000  | 71.610  | 10.5  | 98       | 0.00 |
| 77  | TM       | 2,4-Dinitrotoluene         | 80.000  | 68.740  | 14.1  | 87       | 0.00 |
| 78  | TMP      | 4-Nitrophenol              | 80.000  | 73.858  | 7.7   | 102      | 0.00 |
| 79  | TM       | Pentachlorobenzene         | 80.000  | 73.550  | 8.1   | 101      | 0.00 |
| 80  | TM       | 1-Naphthylamine            | 80.000  | 69.535  | 13.1  | 98       | 0.00 |
| 81  | TM       | 2-Naphthylamine            | 80.000  | 72.520  | 9.4   | 95       | 0.00 |
| 82  | TM       | 2,3,4,6-Tetrachlorophenol  | 80.000  | 69.738  | 12.8  | 98       | 0.00 |
| 83  | TM       | Fluorene                   | 80.000  | 68.425  | 14.5  | 97       | 0.00 |
| 84  | TM       | 4-Chlorophenyl-phenylether | 80.000  | 58.525  | 26.8# | 84       | 0.00 |
| 85  | TM       | Diethylphthalate           | 80.000  | 72.231  | 9.7   | 101      | 0.00 |
| 86  | TM       | 4-Nitroaniline             | 80.000  | 77.185  | 3.5   | 99       | 0.00 |
| 87  | TM       | 5-Nitro-o-toluidine        | 80.000  | 72.560  | 9.3   | 95       | 0.00 |
| 88  | S        | SURR3,2,4,6-TRIBROMOPHENOL | 80.000  | 70.702  | 11.6  | 98       | 0.00 |
| 89  | TM       | Sulfotepp                  | 80.000  | 68.544  | 14.3  | 93       | 0.00 |
| 90  | TM       | Octachlorocyclopentene     | 80.000  | 74.763  | 6.5   | 95       | 0.00 |
| 91  | IR       | d10-Phenanthrene           | 40.000  | 40.000  | 0.0   | 101      | 0.00 |
| 92  | TM       | Thionazin                  | 80.000  | 74.128  | 7.3   | 98       | 0.00 |
| 93  | TM       | 4,6-Dinitro-2-methylphenol | 80.000  | 73.119  | 8.6   | 95       | 0.00 |
| 94  | TM       | Diphenylamine              | 160.000 | 146.520 | 8.4   | 95       | 0.00 |
| 95  | TM       | 1,2 Diphenylhydrazine      | 80.000  | 73.130  | 8.6   | 92       | 0.00 |
| 96  | TCM      | N-Nitrosodiphenylamine     | 160.000 | 146.516 | 8.4   | 95       | 0.00 |
| 97  | TM       | 1,3,5-Trinitrobenzene      | 80.000  | 78.898  | 1.4   | 100      | 0.00 |
| 98  | TM       | Diallate                   | 80.000  | 69.076  | 13.7  | 95       | 0.00 |
| 99  | TM       | Phorate                    | 80.000  | 73.436  | 8.2   | 94       | 0.00 |
| 100 | TM       | Phenacetin                 | 80.000  | 75.005  | 6.2   | 98       | 0.00 |
| 101 | TM       | 4-Bromophenyl-phenylether  | 80.000  | 58.539  | 26.8# | 83       | 0.00 |



Data Path : I:\ACQUDATA\5973D\Data\102617\  
 Data File : BM206.D  
 Acq On : 26 Oct 2017 2:38 pm  
 Operator : J.Misiurewicz  
 Sample : ICV  
 Misc : Initial Calibration 8270D/625  
 ALS Vial : 13 Sample Multiplier: 1

Quant Time: Oct 27 10:33:01 2017  
 Quant Method : I:\ACQUDATA\5973D\Methods\8270102617D.M  
 Quant Title : 8270 BNA ANALYSIS  
 QLast Update : Thu Oct 26 14:29:15 2017  
 Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 20% Max. Rel. Area : 200%

|     | Compound                       | Amount | Calc.  | %Dev  | Area% | Dev(min) |
|-----|--------------------------------|--------|--------|-------|-------|----------|
| 102 | TM Hexachlorobenzene           | 80.000 | 69.161 | 13.5  | 95    | 0.00     |
| 103 | TM Dimethoate                  | 80.000 | 77.634 | 3.0   | 94    | 0.00     |
| 104 | TM Atrazine                    | 80.000 | 83.255 | -4.1  | 140   | 0.00     |
| 105 | TCM Pentachlorophenol          | 80.000 | 84.362 | -5.5  | 106   | 0.00     |
| 106 | TM 4-Aminobiphenyl             | 80.000 | 79.471 | 0.7   | 100   | 0.00     |
| 107 | TM Pentachloronitrobenzene     | 80.000 | 81.357 | -1.7  | 103   | 0.00     |
| 108 | TM Pronamide                   | 80.000 | 82.108 | -2.6  | 103   | 0.00     |
| 109 | TM Dinoseb                     | 80.000 | 72.602 | 9.2   | 92    | 0.00     |
| 110 | TM Disulfoton                  | 80.000 | 70.318 | 12.1  | 91    | 0.00     |
| 111 | TM Phenanthrene                | 80.000 | 71.827 | 10.2  | 91    | 0.00     |
| 112 | TM Anthracene                  | 80.000 | 74.569 | 6.8   | 93    | 0.00     |
| 113 | TM Carbazole                   | 80.000 | 73.790 | 7.8   | 92    | 0.00     |
| 114 | TM Di-n-butylphthalate         | 80.000 | 79.022 | 1.2   | 96    | 0.00     |
| 115 | TM 4-Nitroquinoline-1-oxide    | 80.000 | 82.587 | -3.2  | 100   | 0.00     |
| 116 | TCM Fluoranthene               | 80.000 | 75.978 | 5.0   | 98    | 0.00     |
| 117 | IR d12-Chrysene                | 40.000 | 40.000 | 0.0   | 109   | 0.00     |
| 118 | TM Methyl Parathion            | 80.000 | 84.507 | -5.6  | 93    | 0.00     |
| 119 | TM Ethyl Parathion             | 80.000 | 79.418 | 0.7   | 97    | 0.00     |
| 120 | TM Methapyrilene               | 80.000 | 66.001 | 17.5  | 86    | 0.00     |
| 121 | TM Isodrin                     | 80.000 | 75.047 | 6.2   | 95    | 0.00     |
| 122 | TM Benzidine                   | 80.000 | 88.261 | -10.3 | 103   | 0.00     |
| 123 | TM Pyrene                      | 80.000 | 74.275 | 7.2   | 95    | 0.00     |
| 124 | S SURR6, TERPHENYL-D14         | 80.000 | 74.342 | 7.1   | 96    | 0.00     |
| 125 | TM Aramite                     | 80.000 | 75.086 | 6.1   | 99    | 0.01     |
| 126 | TM p-(Dimethylamino)azobenzene | 80.000 | 76.278 | 4.7   | 99    | 0.00     |
| 127 | TM Chlorobenzilate             | 80.000 | 78.814 | 1.5   | 102   | 0.00     |
| 128 | TM Butyl benzyl phthalate      | 80.000 | 81.013 | -1.3  | 104   | 0.00     |
| 129 | TM 3,3-Dimethylbenzidine       | 80.000 | 94.578 | -18.2 | 114   | 0.00     |
| 130 | TM 2-Acetylaminofluorene       | 80.000 | 82.967 | -3.7  | 101   | 0.00     |
| 131 | TM 3,3'-Dichlorobenzidine      | 80.000 | 76.931 | 3.8   | 95    | 0.00     |
| 132 | TM Benzo(a)anthracene          | 80.000 | 72.675 | 9.2   | 96    | 0.00     |
| 133 | TM Chrysene                    | 80.000 | 68.748 | 14.1  | 90    | 0.00     |
| 134 | TM bis(2-Ethylhexyl)phthalate  | 80.000 | 74.717 | 6.6   | 98    | 0.00     |
| 135 | IR d12-Perylene                | 40.000 | 40.000 | 0.0   | 117   | 0.00     |
| 136 | TCM Di-n-octyl phthalate       | 80.000 | 82.652 | -3.3  | 108   | 0.00     |
| 137 | TM 7,12-Dimethylbenz(a)anthrac | 80.000 | 77.903 | 2.6   | 102   | 0.00     |
| 138 | TM Benzo(b)Fluoranthene        | 80.000 | 76.208 | 4.7   | 101   | 0.00     |
| 139 | TM Benzo(k)fluoranthene        | 80.000 | 75.188 | 6.0   | 99    | 0.00     |
| 140 | TCM Benzo(a)pyrene             | 80.000 | 75.230 | 6.0   | 101   | 0.00     |
| 141 | TM 3-Methylcholanthrene        | 80.000 | 73.513 | 8.1   | 103   | 0.00     |
| 142 | TM Indeno(1,2,3-cd)Pyrene      | 80.000 | 73.390 | 8.3   | 107   | 0.00     |
| 143 | TM Dibenz(a,h)anthracene       | 80.000 | 70.551 | 11.8  | 100   | 0.00     |
| 144 | TM Benzo(g,h,i)perylene        | 80.000 | 79.313 | 0.9   | 112   | 0.00     |

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

**ALS Group USA, Corp.**  
dba ALS Environmental

QA/QC Report

**Client:** The LiRo Group  
**Project:** City of Buffalo - Franczyk Park Site

**Service Request:** R1710113  
**Calibration Date:** 10/26/2017

**Initial Calibration Summary**  
**Semivolatile Organic Compounds by GC/MS**

**Calibration ID:** RC1700113  
**Instrument ID:** R-MS-54

**Signal ID:** 1

| #  | Lab Code     | Sample Name | File Location                          | Aquisition Date  |
|----|--------------|-------------|--|------------------|
| 01 | RC1700113-01 | 2.5 ppm STD | I:\ACQUADATA\5973D\Data\102617\BM197.D | 10/26/2017 10:22 |
| 02 | RC1700113-02 | 10 ppm STD  | I:\ACQUADATA\5973D\Data\102617\BM199.D | 10/26/2017 11:19 |
| 03 | RC1700113-03 | 50 ppm STD  | I:\ACQUADATA\5973D\Data\102617\BM200.D | 10/26/2017 11:47 |
| 04 | RC1700113-04 | 80 ppm STD  | I:\ACQUADATA\5973D\Data\102617\BM201.D | 10/26/2017 12:16 |
| 05 | RC1700113-05 | 100 ppm STD | I:\ACQUADATA\5973D\Data\102617\BM202.D | 10/26/2017 12:44 |
| 06 | RC1700113-06 | 120 ppm STD | I:\ACQUADATA\5973D\Data\102617\BM203.D | 10/26/2017 13:13 |
| 07 | RC1700113-07 | 160 ppm STD | I:\ACQUADATA\5973D\Data\102617\BM204.D | 10/26/2017 13:41 |
| 08 | RC1700113-08 | 5.0 ppm STD | I:\ACQUADATA\5973D\Data\102617\BM205.D | 10/26/2017 14:10 |

**Analyte**

**1,2,4-Trichlorobenzene**

| #  | Amount | RF     | #  | Amount  | RF     | #  | Amount  | RF     | #  | Amount  | RF     |
|----|--------|--------|----|---------|--------|----|---------|--------|----|---------|--------|
| 01 | 2.500  | 0.3278 | 08 | 5.000   | 0.3523 | 02 | 10.000  | 0.309  | 03 | 50.000  | 0.3206 |
| 04 | 80.000 | 0.3377 | 05 | 100.000 | 0.3172 | 06 | 120.000 | 0.3172 | 07 | 160.000 | 0.3021 |

**1,2-Dichlorobenzene**

| #  | Amount | RF    | #  | Amount  | RF    | #  | Amount  | RF    | #  | Amount  | RF    |
|----|--------|-------|----|---------|-------|----|---------|-------|----|---------|-------|
| 01 | 2.500  | 1.354 | 08 | 5.000   | 1.536 | 02 | 10.000  | 1.399 | 03 | 50.000  | 1.431 |
| 04 | 80.000 | 1.445 | 05 | 100.000 | 1.463 | 06 | 120.000 | 1.458 | 07 | 160.000 | 1.39  |

**1,3-Dichlorobenzene**

| #  | Amount | RF    | #  | Amount  | RF    | #  | Amount  | RF    | #  | Amount  | RF    |
|----|--------|-------|----|---------|-------|----|---------|-------|----|---------|-------|
| 01 | 2.500  | 1.653 | 08 | 5.000   | 1.51  | 02 | 10.000  | 1.319 | 03 | 50.000  | 1.481 |
| 04 | 80.000 | 1.536 | 05 | 100.000 | 1.508 | 06 | 120.000 | 1.49  | 07 | 160.000 | 1.419 |

**1,4-Dichlorobenzene**

| #  | Amount | RF    | #  | Amount  | RF    | #  | Amount  | RF    | #  | Amount  | RF    |
|----|--------|-------|----|---------|-------|----|---------|-------|----|---------|-------|
| 01 | 2.500  | 1.434 | 08 | 5.000   | 1.499 | 02 | 10.000  | 1.467 | 03 | 50.000  | 1.473 |
| 04 | 80.000 | 1.558 | 05 | 100.000 | 1.508 | 06 | 120.000 | 1.501 | 07 | 160.000 | 1.458 |

**2,4,5-Trichlorophenol**

| #  | Amount | RF     | #  | Amount  | RF     | #  | Amount  | RF     | #  | Amount  | RF     |
|----|--------|--------|----|---------|--------|----|---------|--------|----|---------|--------|
| 01 | 2.500  | 0.4139 | 08 | 5.000   | 0.3877 | 02 | 10.000  | 0.4204 | 03 | 50.000  | 0.3819 |
| 04 | 80.000 | 0.4244 | 05 | 100.000 | 0.4392 | 06 | 120.000 | 0.409  | 07 | 160.000 | 0.4195 |

**2,4,6-Trichlorophenol**

| #  | Amount | RF     | #  | Amount  | RF     | #  | Amount  | RF     | #  | Amount  | RF     |
|----|--------|--------|----|---------|--------|----|---------|--------|----|---------|--------|
| 01 | 2.500  | 0.3789 | 08 | 5.000   | 0.4175 | 02 | 10.000  | 0.3875 | 03 | 50.000  | 0.4113 |
| 04 | 80.000 | 0.4638 | 05 | 100.000 | 0.4525 | 06 | 120.000 | 0.4252 | 07 | 160.000 | 0.415  |

**2,4-Dichlorophenol**

| #  | Amount | RF     | #  | Amount  | RF     | #  | Amount  | RF     | #  | Amount  | RF     |
|----|--------|--------|----|---------|--------|----|---------|--------|----|---------|--------|
| 01 | 2.500  | 0.2636 | 08 | 5.000   | 0.2931 | 02 | 10.000  | 0.2804 | 03 | 50.000  | 0.2797 |
| 04 | 80.000 | 0.3017 | 05 | 100.000 | 0.2821 | 06 | 120.000 | 0.2941 | 07 | 160.000 | 0.2737 |

Client: The LiRo Group  
Project: City of Buffalo - Franczyk Park Site

Service Request: R1710113  
Calibration Date: 10/26/2017

**Initial Calibration Summary**  
**Semivolatile Organic Compounds by GC/MS**

Calibration ID: RC1700113  
Instrument ID: R-MS-54

Signal ID: 1

**Analyte**

**2,4-Dimethylphenol**

| #  | Amount | RF     | #  | Amount  | RF     | #  | Amount  | RF     | #  | Amount  | RF     |
|----|--------|--------|----|---------|--------|----|---------|--------|----|---------|--------|
| 01 | 2.500  | 0.2984 | 08 | 5.000   | 0.3484 | 02 | 10.000  | 0.3475 | 03 | 50.000  | 0.3469 |
| 04 | 80.000 | 0.3405 | 05 | 100.000 | 0.3533 | 06 | 120.000 | 0.3475 | 07 | 160.000 | 0.3376 |

**2,4-Dinitrophenol**

| #  | Amount  | RF      | #  | Amount  | RF     | #  | Amount | RF    | #  | Amount  | RF     |
|----|---------|---------|----|---------|--------|----|--------|-------|----|---------|--------|
| 02 | 10.000  | 0.07125 | 03 | 50.000  | 0.1296 | 04 | 80.000 | 0.187 | 05 | 100.000 | 0.1851 |
| 06 | 120.000 | 0.1936  | 07 | 160.000 | 0.1993 |    |        |       |    |         |        |

**2,4-Dinitrotoluene**

| #  | Amount  | RF     | #  | Amount  | RF     | #  | Amount  | RF     | #  | Amount | RF     |
|----|---------|--------|----|---------|--------|----|---------|--------|----|--------|--------|
| 08 | 5.000   | 0.3941 | 02 | 10.000  | 0.3387 | 03 | 50.000  | 0.4309 | 04 | 80.000 | 0.5157 |
| 05 | 100.000 | 0.4787 | 06 | 120.000 | 0.4854 | 07 | 160.000 | 0.5032 |    |        |        |

**2,6-Dinitrotoluene**

| #  | Amount | RF     | #  | Amount  | RF     | #  | Amount  | RF     | #  | Amount  | RF     |
|----|--------|--------|----|---------|--------|----|---------|--------|----|---------|--------|
| 01 | 2.500  | 0.3165 | 08 | 5.000   | 0.3442 | 02 | 10.000  | 0.3644 | 03 | 50.000  | 0.3391 |
| 04 | 80.000 | 0.3736 | 05 | 100.000 | 0.3556 | 06 | 120.000 | 0.3537 | 07 | 160.000 | 0.3663 |

**2-Chloronaphthalene**

| #  | Amount | RF    | #  | Amount  | RF    | #  | Amount  | RF    | #  | Amount  | RF    |
|----|--------|-------|----|---------|-------|----|---------|-------|----|---------|-------|
| 01 | 2.500  | 1.238 | 08 | 5.000   | 1.373 | 02 | 10.000  | 1.239 | 03 | 50.000  | 1.268 |
| 04 | 80.000 | 1.336 | 05 | 100.000 | 1.407 | 06 | 120.000 | 1.254 | 07 | 160.000 | 1.274 |

**2-Chlorophenol**

| #  | Amount | RF    | #  | Amount  | RF    | #  | Amount  | RF    | #  | Amount  | RF    |
|----|--------|-------|----|---------|-------|----|---------|-------|----|---------|-------|
| 01 | 2.500  | 1.378 | 08 | 5.000   | 1.409 | 02 | 10.000  | 1.24  | 03 | 50.000  | 1.369 |
| 04 | 80.000 | 1.382 | 05 | 100.000 | 1.415 | 06 | 120.000 | 1.389 | 07 | 160.000 | 1.365 |

**2-Methylnaphthalene**

| #  | Amount | RF     | #  | Amount  | RF     | #  | Amount  | RF     | #  | Amount  | RF     |
|----|--------|--------|----|---------|--------|----|---------|--------|----|---------|--------|
| 01 | 2.500  | 0.6612 | 08 | 5.000   | 0.7129 | 02 | 10.000  | 0.6772 | 03 | 50.000  | 0.6831 |
| 04 | 80.000 | 0.712  | 05 | 100.000 | 0.6773 | 06 | 120.000 | 0.6673 | 07 | 160.000 | 0.6442 |

**2-Methylphenol**

| #  | Amount | RF    | #  | Amount  | RF    | #  | Amount  | RF    | #  | Amount  | RF    |
|----|--------|-------|----|---------|-------|----|---------|-------|----|---------|-------|
| 01 | 2.500  | 1.137 | 08 | 5.000   | 1.146 | 02 | 10.000  | 1.117 | 03 | 50.000  | 1.136 |
| 04 | 80.000 | 1.169 | 05 | 100.000 | 1.186 | 06 | 120.000 | 1.177 | 07 | 160.000 | 1.124 |

**2-Nitroaniline**

| #  | Amount | RF     | #  | Amount  | RF    | #  | Amount  | RF     | #  | Amount  | RF     |
|----|--------|--------|----|---------|-------|----|---------|--------|----|---------|--------|
| 01 | 2.500  | 0.2962 | 08 | 5.000   | 0.355 | 02 | 10.000  | 0.3444 | 03 | 50.000  | 0.3488 |
| 04 | 80.000 | 0.3727 | 05 | 100.000 | 0.391 | 06 | 120.000 | 0.3647 | 07 | 160.000 | 0.369  |

**2-Nitrophenol**

| #  | Amount | RF     | #  | Amount  | RF     | #  | Amount  | RF     | #  | Amount  | RF     |
|----|--------|--------|----|---------|--------|----|---------|--------|----|---------|--------|
| 01 | 2.500  | 0.1584 | 08 | 5.000   | 0.1653 | 02 | 10.000  | 0.1753 | 03 | 50.000  | 0.1818 |
| 04 | 80.000 | 0.1837 | 05 | 100.000 | 0.1918 | 06 | 120.000 | 0.1979 | 07 | 160.000 | 0.1839 |

ALS Group USA, Corp.  
dba ALS Environmental

QA/QC Report

Client: The LiRo Group  
Project: City of Buffalo - Franczyk Park Site

Service Request: R1710113  
Calibration Date: 10/26/2017

Initial Calibration Summary  
Semivolatile Organic Compounds by GC/MS

Calibration ID: RC1700113  
Instrument ID: R-MS-54

Signal ID: 1

Analyte

3,3'-Dichlorobenzidine

| #  | Amount | RF     | #  | Amount  | RF     | #  | Amount  | RF     | #  | Amount  | RF     |
|----|--------|--------|----|---------|--------|----|---------|--------|----|---------|--------|
| 01 | 2.500  | 0.4559 | 08 | 5.000   | 0.4786 | 02 | 10.000  | 0.4758 | 03 | 50.000  | 0.4715 |
| 04 | 80.000 | 0.5459 | 05 | 100.000 | 0.5166 | 06 | 120.000 | 0.5235 | 07 | 160.000 | 0.5119 |

3- and 4-Methylphenol Coelution

| #  | Amount | RF    | #  | Amount  | RF    | #  | Amount  | RF    | #  | Amount  | RF    |
|----|--------|-------|----|---------|-------|----|---------|-------|----|---------|-------|
| 01 | 2.500  | 1.261 | 08 | 5.000   | 1.437 | 02 | 10.000  | 1.246 | 03 | 50.000  | 1.277 |
| 04 | 80.000 | 1.277 | 05 | 100.000 | 1.309 | 06 | 120.000 | 1.302 | 07 | 160.000 | 1.263 |

3-Nitroaniline

| #  | Amount | RF     | #  | Amount  | RF     | #  | Amount  | RF     | #  | Amount  | RF     |
|----|--------|--------|----|---------|--------|----|---------|--------|----|---------|--------|
| 01 | 2.500  | 0.2931 | 08 | 5.000   | 0.3259 | 02 | 10.000  | 0.2803 | 03 | 50.000  | 0.336  |
| 04 | 80.000 | 0.3821 | 05 | 100.000 | 0.3756 | 06 | 120.000 | 0.381  | 07 | 160.000 | 0.3858 |

4,6-Dinitro-2-methylphenol

| #  | Amount  | RF      | #  | Amount  | RF     | #  | Amount | RF     | #  | Amount  | RF     |
|----|---------|---------|----|---------|--------|----|--------|--------|----|---------|--------|
| 02 | 10.000  | 0.08876 | 03 | 50.000  | 0.1262 | 04 | 80.000 | 0.1284 | 05 | 100.000 | 0.1463 |
| 06 | 120.000 | 0.1374  | 07 | 160.000 | 0.1435 |    |        |        |    |         |        |

4-Bromophenyl Phenyl Ether

| #  | Amount | RF     | #  | Amount  | RF     | #  | Amount  | RF     | #  | Amount  | RF     |
|----|--------|--------|----|---------|--------|----|---------|--------|----|---------|--------|
| 01 | 2.500  | 0.2911 | 08 | 5.000   | 0.273  | 02 | 10.000  | 0.2961 | 03 | 50.000  | 0.2405 |
| 04 | 80.000 | 0.2276 | 05 | 100.000 | 0.2427 | 06 | 120.000 | 0.2254 | 07 | 160.000 | 0.2369 |

4-Chloro-3-methylphenol

| #  | Amount | RF     | #  | Amount  | RF     | #  | Amount  | RF     | #  | Amount  | RF     |
|----|--------|--------|----|---------|--------|----|---------|--------|----|---------|--------|
| 01 | 2.500  | 0.2365 | 08 | 5.000   | 0.2866 | 02 | 10.000  | 0.2856 | 03 | 50.000  | 0.2829 |
| 04 | 80.000 | 0.2982 | 05 | 100.000 | 0.2842 | 06 | 120.000 | 0.2905 | 07 | 160.000 | 0.2716 |

4-Chloroaniline

| #  | Amount | RF     | #  | Amount  | RF     | #  | Amount  | RF     | #  | Amount  | RF     |
|----|--------|--------|----|---------|--------|----|---------|--------|----|---------|--------|
| 01 | 2.500  | 0.4367 | 08 | 5.000   | 0.4204 | 02 | 10.000  | 0.4123 | 03 | 50.000  | 0.4313 |
| 04 | 80.000 | 0.4457 | 05 | 100.000 | 0.4266 | 06 | 120.000 | 0.4313 | 07 | 160.000 | 0.4025 |

4-Chlorophenyl Phenyl Ether

| #  | Amount | RF     | #  | Amount  | RF     | #  | Amount  | RF     | #  | Amount  | RF     |
|----|--------|--------|----|---------|--------|----|---------|--------|----|---------|--------|
| 01 | 2.500  | 0.8547 | 08 | 5.000   | 0.8222 | 02 | 10.000  | 0.7413 | 03 | 50.000  | 0.7502 |
| 04 | 80.000 | 0.7729 | 05 | 100.000 | 0.776  | 06 | 120.000 | 0.7151 | 07 | 160.000 | 0.7125 |

4-Nitroaniline

| #  | Amount | RF     | #  | Amount  | RF     | #  | Amount  | RF     | #  | Amount  | RF     |
|----|--------|--------|----|---------|--------|----|---------|--------|----|---------|--------|
| 01 | 2.500  | 0.3585 | 08 | 5.000   | 0.3649 | 02 | 10.000  | 0.3441 | 03 | 50.000  | 0.4007 |
| 04 | 80.000 | 0.4385 | 05 | 100.000 | 0.4247 | 06 | 120.000 | 0.3857 | 07 | 160.000 | 0.3866 |

4-Nitrophenol

| #  | Amount  | RF     | #  | Amount  | RF     | #  | Amount | RF     | #  | Amount  | RF     |
|----|---------|--------|----|---------|--------|----|--------|--------|----|---------|--------|
| 02 | 10.000  | 0.2348 | 03 | 50.000  | 0.281  | 04 | 80.000 | 0.3102 | 05 | 100.000 | 0.3108 |
| 06 | 120.000 | 0.3188 | 07 | 160.000 | 0.3123 |    |        |        |    |         |        |

ALS Group USA, Corp.  
dba ALS Environmental

QA/QC Report

Client: The LiRo Group  
Project: City of Buffalo - Franczyk Park Site

Service Request: R1710113  
Calibration Date: 10/26/2017

Initial Calibration Summary  
Semivolatile Organic Compounds by GC/MS

Calibration ID: RC1700113  
Instrument ID: R-MS-54

Signal ID: 1

Analyte

Acenaphthene

| #  | Amount | RF    | #  | Amount  | RF    | #  | Amount  | RF    | #  | Amount  | RF    |
|----|--------|-------|----|---------|-------|----|---------|-------|----|---------|-------|
| 01 | 2.500  | 1.264 | 08 | 5.000   | 1.369 | 02 | 10.000  | 1.383 | 03 | 50.000  | 1.318 |
| 04 | 80.000 | 1.487 | 05 | 100.000 | 1.395 | 06 | 120.000 | 1.295 | 07 | 160.000 | 1.311 |

Acenaphthylene

| #  | Amount | RF    | #  | Amount  | RF    | #  | Amount  | RF    | #  | Amount  | RF    |
|----|--------|-------|----|---------|-------|----|---------|-------|----|---------|-------|
| 01 | 2.500  | 2.053 | 08 | 5.000   | 2.09  | 02 | 10.000  | 1.938 | 03 | 50.000  | 2.04  |
| 04 | 80.000 | 2.091 | 05 | 100.000 | 2.052 | 06 | 120.000 | 1.982 | 07 | 160.000 | 2.019 |

Anthracene

| #  | Amount | RF    | #  | Amount  | RF    | #  | Amount  | RF    | #  | Amount  | RF    |
|----|--------|-------|----|---------|-------|----|---------|-------|----|---------|-------|
| 01 | 2.500  | 1.166 | 08 | 5.000   | 1.171 | 02 | 10.000  | 1.042 | 03 | 50.000  | 1.078 |
| 04 | 80.000 | 1.103 | 05 | 100.000 | 1.045 | 06 | 120.000 | 1.011 | 07 | 160.000 | 1.052 |

Benz(a)anthracene

| #  | Amount | RF    | #  | Amount  | RF    | #  | Amount  | RF    | #  | Amount  | RF    |
|----|--------|-------|----|---------|-------|----|---------|-------|----|---------|-------|
| 01 | 2.500  | 1.277 | 08 | 5.000   | 1.206 | 02 | 10.000  | 1.124 | 03 | 50.000  | 1.105 |
| 04 | 80.000 | 1.216 | 05 | 100.000 | 1.173 | 06 | 120.000 | 1.195 | 07 | 160.000 | 1.17  |

Benzo(a)pyrene

| #  | Amount | RF     | #  | Amount  | RF    | #  | Amount  | RF    | #  | Amount  | RF    |
|----|--------|--------|----|---------|-------|----|---------|-------|----|---------|-------|
| 01 | 2.500  | 0.9952 | 08 | 5.000   | 1.011 | 02 | 10.000  | 1.019 | 03 | 50.000  | 1.081 |
| 04 | 80.000 | 1.159  | 05 | 100.000 | 1.041 | 06 | 120.000 | 1.095 | 07 | 160.000 | 1.107 |

Benzo(b)fluoranthene

| #  | Amount | RF    | #  | Amount  | RF    | #  | Amount  | RF    | #  | Amount  | RF    |
|----|--------|-------|----|---------|-------|----|---------|-------|----|---------|-------|
| 01 | 2.500  | 1.157 | 08 | 5.000   | 1.167 | 02 | 10.000  | 1.113 | 03 | 50.000  | 1.238 |
| 04 | 80.000 | 1.34  | 05 | 100.000 | 1.178 | 06 | 120.000 | 1.241 | 07 | 160.000 | 1.271 |

Benzo(g,h,i)perylene

| #  | Amount | RF    | #  | Amount  | RF     | #  | Amount  | RF    | #  | Amount  | RF     |
|----|--------|-------|----|---------|--------|----|---------|-------|----|---------|--------|
| 01 | 2.500  | 1.046 | 08 | 5.000   | 0.9906 | 02 | 10.000  | 1.068 | 03 | 50.000  | 1.11   |
| 04 | 80.000 | 1.062 | 05 | 100.000 | 0.9301 | 06 | 120.000 | 1.052 | 07 | 160.000 | 0.9338 |

Benzo(k)fluoranthene

| #  | Amount | RF    | #  | Amount  | RF    | #  | Amount  | RF    | #  | Amount  | RF    |
|----|--------|-------|----|---------|-------|----|---------|-------|----|---------|-------|
| 01 | 2.500  | 1.091 | 08 | 5.000   | 1.13  | 02 | 10.000  | 1.107 | 03 | 50.000  | 1.196 |
| 04 | 80.000 | 1.302 | 05 | 100.000 | 1.142 | 06 | 120.000 | 1.164 | 07 | 160.000 | 1.214 |

Benzyl Alcohol

| #  | Amount | RF    | #  | Amount  | RF    | #  | Amount  | RF    | #  | Amount  | RF    |
|----|--------|-------|----|---------|-------|----|---------|-------|----|---------|-------|
| 01 | 2.500  | 1.083 | 08 | 5.000   | 1.123 | 02 | 10.000  | 1.102 | 03 | 50.000  | 1.124 |
| 04 | 80.000 | 1.165 | 05 | 100.000 | 1.162 | 06 | 120.000 | 1.172 | 07 | 160.000 | 1.135 |

2,2'-Oxybis(1-chloropropane)

| #  | Amount | RF    | #  | Amount  | RF    | #  | Amount  | RF    | #  | Amount  | RF    |
|----|--------|-------|----|---------|-------|----|---------|-------|----|---------|-------|
| 01 | 2.500  | 1.748 | 08 | 5.000   | 2.013 | 02 | 10.000  | 1.873 | 03 | 50.000  | 1.943 |
| 04 | 80.000 | 1.854 | 05 | 100.000 | 1.936 | 06 | 120.000 | 1.952 | 07 | 160.000 | 1.834 |

ALS Group USA, Corp.  
dba ALS Environmental

QA/QC Report

Client: The LiRo Group  
Project: City of Buffalo - Franczyk Park Site

Service Request: R1710113  
Calibration Date: 10/26/2017

Initial Calibration Summary  
Semivolatile Organic Compounds by GC/MS

Calibration ID: RC1700113  
Instrument ID: R-MS-54

Signal ID: 1

Analyte

Bis(2-chloroethoxy)methane

| #  | Amount | RF     | #  | Amount  | RF     | #  | Amount  | RF     | #  | Amount  | RF     |
|----|--------|--------|----|---------|--------|----|---------|--------|----|---------|--------|
| 01 | 2.500  | 0.4028 | 08 | 5.000   | 0.4267 | 02 | 10.000  | 0.438  | 03 | 50.000  | 0.4415 |
| 04 | 80.000 | 0.4104 | 05 | 100.000 | 0.427  | 06 | 120.000 | 0.4351 | 07 | 160.000 | 0.4128 |

Bis(2-chloroethyl) Ether

| #  | Amount | RF    | #  | Amount  | RF    | #  | Amount  | RF    | #  | Amount  | RF    |
|----|--------|-------|----|---------|-------|----|---------|-------|----|---------|-------|
| 01 | 2.500  | 1.264 | 08 | 5.000   | 1.341 | 02 | 10.000  | 1.196 | 03 | 50.000  | 1.353 |
| 04 | 80.000 | 1.32  | 05 | 100.000 | 1.376 | 06 | 120.000 | 1.341 | 07 | 160.000 | 1.307 |

Bis(2-ethylhexyl) Phthalate

| #  | Amount | RF     | #  | Amount  | RF     | #  | Amount  | RF     | #  | Amount  | RF     |
|----|--------|--------|----|---------|--------|----|---------|--------|----|---------|--------|
| 01 | 2.500  | 0.8263 | 08 | 5.000   | 0.9161 | 02 | 10.000  | 0.8657 | 03 | 50.000  | 0.84   |
| 04 | 80.000 | 0.9163 | 05 | 100.000 | 0.9565 | 06 | 120.000 | 0.8807 | 07 | 160.000 | 0.8915 |

Butyl Benzyl Phthalate

| #  | Amount | RF     | #  | Amount  | RF     | #  | Amount  | RF     | #  | Amount  | RF     |
|----|--------|--------|----|---------|--------|----|---------|--------|----|---------|--------|
| 01 | 2.500  | 0.6371 | 08 | 5.000   | 0.6248 | 02 | 10.000  | 0.5351 | 03 | 50.000  | 0.6175 |
| 04 | 80.000 | 0.6482 | 05 | 100.000 | 0.6103 | 06 | 120.000 | 0.5878 | 07 | 160.000 | 0.6214 |

Carbazole

| #  | Amount | RF    | #  | Amount  | RF     | #  | Amount  | RF     | #  | Amount  | RF    |
|----|--------|-------|----|---------|--------|----|---------|--------|----|---------|-------|
| 01 | 2.500  | 1.1   | 08 | 5.000   | 1.068  | 02 | 10.000  | 1.214  | 03 | 50.000  | 1.084 |
| 04 | 80.000 | 1.091 | 05 | 100.000 | 0.9976 | 06 | 120.000 | 0.9746 | 07 | 160.000 | 1.007 |

Chrysene

| #  | Amount | RF    | #  | Amount  | RF    | #  | Amount  | RF    | #  | Amount  | RF    |
|----|--------|-------|----|---------|-------|----|---------|-------|----|---------|-------|
| 01 | 2.500  | 1.144 | 08 | 5.000   | 1.205 | 02 | 10.000  | 1.12  | 03 | 50.000  | 1.067 |
| 04 | 80.000 | 1.186 | 05 | 100.000 | 1.138 | 06 | 120.000 | 1.127 | 07 | 160.000 | 1.123 |

Di-n-butyl Phthalate

| #  | Amount | RF    | #  | Amount  | RF    | #  | Amount  | RF    | #  | Amount  | RF    |
|----|--------|-------|----|---------|-------|----|---------|-------|----|---------|-------|
| 01 | 2.500  | 1.308 | 08 | 5.000   | 1.286 | 02 | 10.000  | 1.511 | 03 | 50.000  | 1.393 |
| 04 | 80.000 | 1.45  | 05 | 100.000 | 1.484 | 06 | 120.000 | 1.298 | 07 | 160.000 | 1.355 |

Di-n-octyl Phthalate

| #  | Amount | RF    | #  | Amount  | RF    | #  | Amount  | RF    | #  | Amount  | RF    |
|----|--------|-------|----|---------|-------|----|---------|-------|----|---------|-------|
| 01 | 2.500  | 1.201 | 08 | 5.000   | 1.24  | 02 | 10.000  | 1.339 | 03 | 50.000  | 1.379 |
| 04 | 80.000 | 1.537 | 05 | 100.000 | 1.415 | 06 | 120.000 | 1.44  | 07 | 160.000 | 1.464 |

Dibenz(a,h)anthracene

| #  | Amount | RF    | #  | Amount  | RF    | #  | Amount  | RF    | #  | Amount  | RF    |
|----|--------|-------|----|---------|-------|----|---------|-------|----|---------|-------|
| 01 | 2.500  | 1.072 | 08 | 5.000   | 1.095 | 02 | 10.000  | 1.11  | 03 | 50.000  | 1.162 |
| 04 | 80.000 | 1.151 | 05 | 100.000 | 1.029 | 06 | 120.000 | 1.177 | 07 | 160.000 | 1.121 |

Dibenzofuran

| #  | Amount | RF    | #  | Amount  | RF    | #  | Amount  | RF    | #  | Amount  | RF    |
|----|--------|-------|----|---------|-------|----|---------|-------|----|---------|-------|
| 01 | 2.500  | 1.92  | 08 | 5.000   | 1.786 | 02 | 10.000  | 1.752 | 03 | 50.000  | 1.791 |
| 04 | 80.000 | 1.896 | 05 | 100.000 | 1.811 | 06 | 120.000 | 1.717 | 07 | 160.000 | 1.699 |

ALS Group USA, Corp.  
dba ALS Environmental

QA/QC Report

Client: The LiRo Group  
Project: City of Buffalo - Franczyk Park Site

Service Request: R1710113  
Calibration Date: 10/26/2017

Initial Calibration Summary  
Semivolatile Organic Compounds by GC/MS

Calibration ID: RC1700113  
Instrument ID: R-MS-54

Signal ID: 1

Analyte

Diethyl Phthalate

| #  | Amount | RF    | #  | Amount  | RF    | #  | Amount  | RF    | #  | Amount  | RF    |
|----|--------|-------|----|---------|-------|----|---------|-------|----|---------|-------|
| 01 | 2.500  | 1.582 | 08 | 5.000   | 1.493 | 02 | 10.000  | 1.387 | 03 | 50.000  | 1.401 |
| 04 | 80.000 | 1.547 | 05 | 100.000 | 1.522 | 06 | 120.000 | 1.468 | 07 | 160.000 | 1.493 |

Dimethyl Phthalate

| #  | Amount | RF    | #  | Amount  | RF    | #  | Amount  | RF    | #  | Amount  | RF    |
|----|--------|-------|----|---------|-------|----|---------|-------|----|---------|-------|
| 01 | 2.500  | 1.368 | 08 | 5.000   | 1.482 | 02 | 10.000  | 1.451 | 03 | 50.000  | 1.351 |
| 04 | 80.000 | 1.429 | 05 | 100.000 | 1.394 | 06 | 120.000 | 1.404 | 07 | 160.000 | 1.403 |

Fluoranthene

| #  | Amount | RF    | #  | Amount  | RF    | #  | Amount  | RF    | #  | Amount  | RF    |
|----|--------|-------|----|---------|-------|----|---------|-------|----|---------|-------|
| 01 | 2.500  | 1.276 | 08 | 5.000   | 1.143 | 02 | 10.000  | 1.222 | 03 | 50.000  | 1.178 |
| 04 | 80.000 | 1.164 | 05 | 100.000 | 1.155 | 06 | 120.000 | 1.16  | 07 | 160.000 | 1.164 |

Fluorene

| #  | Amount | RF    | #  | Amount  | RF    | #  | Amount  | RF    | #  | Amount  | RF    |
|----|--------|-------|----|---------|-------|----|---------|-------|----|---------|-------|
| 01 | 2.500  | 1.532 | 08 | 5.000   | 1.454 | 02 | 10.000  | 1.435 | 03 | 50.000  | 1.466 |
| 04 | 80.000 | 1.5   | 05 | 100.000 | 1.528 | 06 | 120.000 | 1.409 | 07 | 160.000 | 1.423 |

Hexachlorobenzene

| #  | Amount | RF     | #  | Amount  | RF     | #  | Amount  | RF     | #  | Amount  | RF     |
|----|--------|--------|----|---------|--------|----|---------|--------|----|---------|--------|
| 01 | 2.500  | 0.2913 | 08 | 5.000   | 0.3003 | 02 | 10.000  | 0.3226 | 03 | 50.000  | 0.2618 |
| 04 | 80.000 | 0.2554 | 05 | 100.000 | 0.2525 | 06 | 120.000 | 0.2605 | 07 | 160.000 | 0.2594 |

Hexachlorobutadiene

| #  | Amount | RF     | #  | Amount  | RF     | #  | Amount  | RF     | #  | Amount  | RF     |
|----|--------|--------|----|---------|--------|----|---------|--------|----|---------|--------|
| 01 | 2.500  | 0.1782 | 08 | 5.000   | 0.1751 | 02 | 10.000  | 0.1865 | 03 | 50.000  | 0.1884 |
| 04 | 80.000 | 0.1915 | 05 | 100.000 | 0.1839 | 06 | 120.000 | 0.1817 | 07 | 160.000 | 0.1753 |

Hexachlorocyclopentadiene

| #  | Amount | RF     | #  | Amount  | RF     | #  | Amount  | RF     | #  | Amount  | RF     |
|----|--------|--------|----|---------|--------|----|---------|--------|----|---------|--------|
| 01 | 2.500  | 0.3292 | 08 | 5.000   | 0.3895 | 02 | 10.000  | 0.3788 | 03 | 50.000  | 0.3837 |
| 04 | 80.000 | 0.4523 | 05 | 100.000 | 0.4417 | 06 | 120.000 | 0.4134 | 07 | 160.000 | 0.4229 |

Hexachloroethane

| #  | Amount | RF     | #  | Amount  | RF     | #  | Amount  | RF     | #  | Amount  | RF     |
|----|--------|--------|----|---------|--------|----|---------|--------|----|---------|--------|
| 01 | 2.500  | 0.5981 | 08 | 5.000   | 0.6387 | 02 | 10.000  | 0.6058 | 03 | 50.000  | 0.6389 |
| 04 | 80.000 | 0.6159 | 05 | 100.000 | 0.6218 | 06 | 120.000 | 0.6255 | 07 | 160.000 | 0.6087 |

Indeno(1,2,3-cd)pyrene

| #  | Amount | RF    | #  | Amount  | RF     | #  | Amount  | RF    | #  | Amount  | RF     |
|----|--------|-------|----|---------|--------|----|---------|-------|----|---------|--------|
| 01 | 2.500  | 1.104 | 08 | 5.000   | 1.023  | 02 | 10.000  | 1.085 | 03 | 50.000  | 1.103  |
| 04 | 80.000 | 1.056 | 05 | 100.000 | 0.9456 | 06 | 120.000 | 1.079 | 07 | 160.000 | 0.9937 |

Isophorone

| #  | Amount | RF     | #  | Amount  | RF     | #  | Amount  | RF     | #  | Amount  | RF     |
|----|--------|--------|----|---------|--------|----|---------|--------|----|---------|--------|
| 01 | 2.500  | 0.6937 | 08 | 5.000   | 0.76   | 02 | 10.000  | 0.7299 | 03 | 50.000  | 0.7325 |
| 04 | 80.000 | 0.7073 | 05 | 100.000 | 0.7336 | 06 | 120.000 | 0.7427 | 07 | 160.000 | 0.6983 |

ALS Group USA, Corp.  
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QA/QC Report

Client: The LiRo Group  
Project: City of Buffalo - Franczyk Park Site

Service Request: R1710113  
Calibration Date: 10/26/2017

Initial Calibration Summary  
Semivolatile Organic Compounds by GC/MS

Calibration ID: RC1700113  
Instrument ID: R-MS-54

Signal ID: 1

Analyte

N-Nitrosodi-n-propylamine

| #  | Amount | RF     | #  | Amount  | RF    | #  | Amount  | RF     | #  | Amount  | RF     |
|----|--------|--------|----|---------|-------|----|---------|--------|----|---------|--------|
| 01 | 2.500  | 0.9243 | 08 | 5.000   | 1.076 | 02 | 10.000  | 0.9609 | 03 | 50.000  | 1.022  |
| 04 | 80.000 | 0.9798 | 05 | 100.000 | 1.001 | 06 | 120.000 | 1.029  | 07 | 160.000 | 0.9891 |

N-Nitrosodimethylamine

| #  | Amount | RF     | #  | Amount  | RF     | #  | Amount  | RF     | #  | Amount  | RF     |
|----|--------|--------|----|---------|--------|----|---------|--------|----|---------|--------|
| 01 | 2.500  | 0.6677 | 08 | 5.000   | 0.6732 | 02 | 10.000  | 0.6544 | 03 | 50.000  | 0.6958 |
| 04 | 80.000 | 0.7275 | 05 | 100.000 | 0.7001 | 06 | 120.000 | 0.7082 | 07 | 160.000 | 0.7561 |

N-Nitrosodiphenylamine

| #  | Amount  | RF     | #  | Amount  | RF     | #  | Amount  | RF     | #  | Amount  | RF     |
|----|---------|--------|----|---------|--------|----|---------|--------|----|---------|--------|
| 08 | 10.000  | 0.6389 | 02 | 20.000  | 0.6806 | 03 | 100.000 | 0.5805 | 04 | 160.000 | 0.5857 |
| 05 | 200.000 | 0.5709 | 06 | 240.000 | 0.5849 | 07 | 320.000 | 0.5784 |    |         |        |

Naphthalene

| #  | Amount | RF    | #  | Amount  | RF    | #  | Amount  | RF    | #  | Amount  | RF     |
|----|--------|-------|----|---------|-------|----|---------|-------|----|---------|--------|
| 01 | 2.500  | 1.025 | 08 | 5.000   | 1.041 | 02 | 10.000  | 1.004 | 03 | 50.000  | 1.03   |
| 04 | 80.000 | 1.06  | 05 | 100.000 | 1.012 | 06 | 120.000 | 1.008 | 07 | 160.000 | 0.9549 |

Nitrobenzene

| #  | Amount | RF     | #  | Amount  | RF     | #  | Amount  | RF     | #  | Amount  | RF     |
|----|--------|--------|----|---------|--------|----|---------|--------|----|---------|--------|
| 01 | 2.500  | 0.3605 | 08 | 5.000   | 0.4249 | 02 | 10.000  | 0.3886 | 03 | 50.000  | 0.4113 |
| 04 | 80.000 | 0.3909 | 05 | 100.000 | 0.411  | 06 | 120.000 | 0.4236 | 07 | 160.000 | 0.3952 |

Pentachlorophenol (PCP)

| #  | Amount  | RF     | #  | Amount  | RF     | #  | Amount | RF     | #  | Amount  | RF     |
|----|---------|--------|----|---------|--------|----|--------|--------|----|---------|--------|
| 02 | 10.000  | 0.1042 | 03 | 50.000  | 0.1359 | 04 | 80.000 | 0.1564 | 05 | 100.000 | 0.1719 |
| 06 | 120.000 | 0.159  | 07 | 160.000 | 0.1697 |    |        |        |    |         |        |

Phenanthrene

| #  | Amount | RF    | #  | Amount  | RF    | #  | Amount  | RF    | #  | Amount  | RF    |
|----|--------|-------|----|---------|-------|----|---------|-------|----|---------|-------|
| 01 | 2.500  | 1.177 | 08 | 5.000   | 1.196 | 02 | 10.000  | 1.09  | 03 | 50.000  | 1.075 |
| 04 | 80.000 | 1.09  | 05 | 100.000 | 1.039 | 06 | 120.000 | 1.027 | 07 | 160.000 | 1.046 |

Phenol

| #  | Amount | RF    | #  | Amount  | RF    | #  | Amount  | RF    | #  | Amount  | RF    |
|----|--------|-------|----|---------|-------|----|---------|-------|----|---------|-------|
| 01 | 2.500  | 1.732 | 08 | 5.000   | 1.644 | 02 | 10.000  | 1.513 | 03 | 50.000  | 1.653 |
| 04 | 80.000 | 1.672 | 05 | 100.000 | 1.686 | 06 | 120.000 | 1.698 | 07 | 160.000 | 1.616 |

Pyrene

| #  | Amount | RF    | #  | Amount  | RF    | #  | Amount  | RF    | #  | Amount  | RF    |
|----|--------|-------|----|---------|-------|----|---------|-------|----|---------|-------|
| 01 | 2.500  | 1.367 | 08 | 5.000   | 1.234 | 02 | 10.000  | 1.077 | 03 | 50.000  | 1.202 |
| 04 | 80.000 | 1.308 | 05 | 100.000 | 1.215 | 06 | 120.000 | 1.214 | 07 | 160.000 | 1.217 |

2,4,6-Tribromophenol

| #  | Amount | RF     | #  | Amount  | RF     | #  | Amount  | RF     | #  | Amount  | RF     |
|----|--------|--------|----|---------|--------|----|---------|--------|----|---------|--------|
| 01 | 2.500  | 0.282  | 08 | 5.000   | 0.2723 | 02 | 10.000  | 0.2298 | 03 | 50.000  | 0.2468 |
| 04 | 80.000 | 0.2794 | 05 | 100.000 | 0.277  | 06 | 120.000 | 0.2723 | 07 | 160.000 | 0.28   |



**Client:** The LiRo Group  
**Project:** City of Buffalo - Franczyk Park Site

**Service Request:** R1710113  
**Calibration Date:** 10/26/2017

**Initial Calibration Summary**  
**Semivolatile Organic Compounds by GC/MS**

**Calibration ID:** RC1700113  
**Instrument ID:** R-MS-54

**Signal ID:** 1

**Analyte**

**2-Fluorobiphenyl**

| #  | Amount | RF    | #  | Amount  | RF    | #  | Amount  | RF    | #  | Amount  | RF    |
|----|--------|-------|----|---------|-------|----|---------|-------|----|---------|-------|
| 01 | 2.500  | 1.448 | 08 | 5.000   | 1.5   | 02 | 10.000  | 1.469 | 03 | 50.000  | 1.49  |
| 04 | 80.000 | 1.594 | 05 | 100.000 | 1.634 | 06 | 120.000 | 1.479 | 07 | 160.000 | 1.487 |

**2-Fluorophenol**

| #  | Amount | RF    | #  | Amount  | RF    | #  | Amount  | RF    | #  | Amount  | RF    |
|----|--------|-------|----|---------|-------|----|---------|-------|----|---------|-------|
| 01 | 2.500  | 1.258 | 08 | 5.000   | 1.415 | 02 | 10.000  | 1.346 | 03 | 50.000  | 1.299 |
| 04 | 80.000 | 1.361 | 05 | 100.000 | 1.347 | 06 | 120.000 | 1.383 | 07 | 160.000 | 1.306 |

**Nitrobenzene-d5**

| #  | Amount | RF     | #  | Amount  | RF     | #  | Amount  | RF     | #  | Amount  | RF     |
|----|--------|--------|----|---------|--------|----|---------|--------|----|---------|--------|
| 01 | 2.500  | 0.3251 | 08 | 5.000   | 0.3716 | 02 | 10.000  | 0.3648 | 03 | 50.000  | 0.358  |
| 04 | 80.000 | 0.3543 | 05 | 100.000 | 0.3725 | 06 | 120.000 | 0.3755 | 07 | 160.000 | 0.3589 |

**Phenol-d6**

| #  | Amount | RF    | #  | Amount  | RF    | #  | Amount  | RF    | #  | Amount  | RF    |
|----|--------|-------|----|---------|-------|----|---------|-------|----|---------|-------|
| 01 | 2.500  | 1.467 | 08 | 5.000   | 1.607 | 02 | 10.000  | 1.448 | 03 | 50.000  | 1.608 |
| 04 | 80.000 | 1.61  | 05 | 100.000 | 1.646 | 06 | 120.000 | 1.681 | 07 | 160.000 | 1.588 |

**p-Terphenyl-d14**

| #  | Amount | RF     | #  | Amount  | RF     | #  | Amount  | RF     | #  | Amount  | RF     |
|----|--------|--------|----|---------|--------|----|---------|--------|----|---------|--------|
| 01 | 2.500  | 0.9855 | 08 | 5.000   | 0.9414 | 02 | 10.000  | 0.803  | 03 | 50.000  | 0.8899 |
| 04 | 80.000 | 0.9639 | 05 | 100.000 | 0.9018 | 06 | 120.000 | 0.8996 | 07 | 160.000 | 0.8894 |

Client: The LiRo Group  
Project: City of Buffalo - Franczyk Park Site

Service Request: R1710113  
Calibration Date: 10/26/2017

**Initial Calibration Summary**  
**Semivolatile Organic Compounds by GC/MS**

Calibration ID: RC1700113  
Instrument ID: R-MS-54

Signal ID: 1

| Analyte Name                    | Compound Type | Calibration Evaluation |       |             |                  | Calibration Evaluation |             |
|---------------------------------|---------------|------------------------|-------|-------------|------------------|------------------------|-------------|
|                                 |               | Fit Type               | Eval  | Eval Result | Control Criteria | Average RRF            | Minimum RRF |
| 1,2,4-Trichlorobenzene          | TRG           | Average RF             | % RSD | 5.0         | 20               | 0.323                  |             |
| 1,2-Dichlorobenzene             | TRG           | Average RF             | % RSD | 3.9         | 20               | 1.434                  |             |
| 1,3-Dichlorobenzene             | TRG           | Average RF             | % RSD | 6.4         | 20               | 1.49                   |             |
| 1,4-Dichlorobenzene             | TRG           | Average RF             | % RSD | 2.6         | 20               | 1.487                  |             |
| 2,4,5-Trichlorophenol           | TRG           | Average RF             | % RSD | 4.6         | 20               | 0.412                  | 0.200       |
| 2,4,6-Trichlorophenol           | TRG           | Average RF             | % RSD | 6.9         | 20               | 0.419                  | 0.200       |
| 2,4-Dichlorophenol              | TRG           | Average RF             | % RSD | 4.3         | 20               | 0.2836                 | 0.200       |
| 2,4-Dimethylphenol              | TRG           | Average RF             | % RSD | 5.1         | 20               | 0.34                   | 0.200       |
| 2,4-Dinitrophenol               | TRG           | Quadratic              | COD   | 0.9923      | 0.99             | 0.161                  | 0.010       |
| 2,4-Dinitrotoluene              | TRG           | Average RF             | % RSD | 14.4        | 20               | 0.4495                 | 0.200       |
| 2,6-Dinitrotoluene              | TRG           | Average RF             | % RSD | 5.2         | 20               | 0.3517                 | 0.200       |
| 2-Chloronaphthalene             | TRG           | Average RF             | % RSD | 5.0         | 20               | 1.299                  | 0.800       |
| 2-Chlorophenol                  | TRG           | Average RF             | % RSD | 4.0         | 20               | 1.368                  | 0.800       |
| 2-Methylnaphthalene             | TRG           | Average RF             | % RSD | 3.5         | 20               | 0.6794                 | 0.400       |
| 2-Methylphenol                  | TRG           | Average RF             | % RSD | 2.2         | 20               | 1.149                  | 0.700       |
| 2-Nitroaniline                  | TRG           | Average RF             | % RSD | 7.9         | 20               | 0.3552                 | 0.010       |
| 2-Nitrophenol                   | TRG           | Average RF             | % RSD | 7.3         | 20               | 0.1798                 | 0.100       |
| 3,3'-Dichlorobenzidine          | TRG           | Average RF             | % RSD | 6.3         | 20               | 0.4975                 | 0.010       |
| 3- and 4-Methylphenol Coelution | TRG           | Average RF             | % RSD | 4.7         | 20               | 1.297                  | 0.600       |
| 3-Nitroaniline                  | TRG           | Average RF             | % RSD | 12.3        | 20               | 0.345                  | 0.010       |
| 4,6-Dinitro-2-methylphenol      | TRG           | Quadratic              | COD   | 0.9951      | 0.99             | 0.1284                 | 0.010       |
| 4-Bromophenyl Phenyl Ether      | TRG           | Average RF             | % RSD | 11.2        | 20               | 0.2542                 | 0.100       |
| 4-Chloro-3-methylphenol         | TRG           | Average RF             | % RSD | 6.8         | 20               | 0.2795                 | 0.200       |
| 4-Chloroaniline                 | TRG           | Average RF             | % RSD | 3.2         | 20               | 0.4259                 | 0.010       |
| 4-Chlorophenyl Phenyl Ether     | TRG           | Average RF             | % RSD | 6.5         | 20               | 0.7681                 | 0.400       |
| 4-Nitroaniline                  | TRG           | Average RF             | % RSD | 8.4         | 20               | 0.388                  | 0.010       |
| 4-Nitrophenol                   | TRG           | Average RF             | % RSD | 10.9        | 20               | 0.2947                 | 0.010       |
| Acenaphthene                    | TRG           | Average RF             | % RSD | 5.2         | 20               | 1.353                  | 0.900       |
| Acenaphthylene                  | TRG           | Average RF             | % RSD | 2.6         | 20               | 2.033                  | 0.900       |
| Anthracene                      | TRG           | Average RF             | % RSD | 5.4         | 20               | 1.084                  | 0.700       |
| Benz(a)anthracene               | TRG           | Average RF             | % RSD | 4.6         | 20               | 1.183                  | 0.800       |
| Benzo(a)pyrene                  | TRG           | Average RF             | % RSD | 5.3         | 20               | 1.063                  | 0.700       |
| Benzo(b)fluoranthene            | TRG           | Average RF             | % RSD | 6.0         | 20               | 1.213                  | 0.700       |
| Benzo(g,h,i)perylene            | TRG           | Average RF             | % RSD | 6.4         | 20               | 1.024                  | 0.500       |

Client: The LiRo Group  
Project: City of Buffalo - Franczyk Park Site

Service Request: R1710113  
Calibration Date: 10/26/2017

**Initial Calibration Summary**  
**Semivolatile Organic Compounds by GC/MS**

Calibration ID: RC1700113  
Instrument ID: R-MS-54

Signal ID: 1

| Analyte Name                 | Compound Type | Calibration Evaluation |       |             |                  | Calibration Evaluation |             |
|------------------------------|---------------|------------------------|-------|-------------|------------------|------------------------|-------------|
|                              |               | Fit Type               | Eval  | Eval Result | Control Criteria | Average RRF            | Minimum RRF |
| Benzo(k)fluoranthene         | TRG           | Average RF             | % RSD | 5.8         | 20               | 1.168                  | 0.700       |
| Benzyl Alcohol               | TRG           | Average RF             | % RSD | 2.8         | 20               | 1.133                  |             |
| 2,2'-Oxybis(1-chloropropane) | TRG           | Average RF             | % RSD | 4.4         | 20               | 1.894                  | 0.010       |
| Bis(2-chloroethoxy)methane   | TRG           | Average RF             | % RSD | 3.3         | 20               | 0.4243                 | 0.300       |
| Bis(2-chloroethyl) Ether     | TRG           | Average RF             | % RSD | 4.4         | 20               | 1.312                  | 0.700       |
| Bis(2-ethylhexyl) Phthalate  | TRG           | Average RF             | % RSD | 4.8         | 20               | 0.8866                 | 0.010       |
| Butyl Benzyl Phthalate       | TRG           | Average RF             | % RSD | 5.8         | 20               | 0.6103                 | 0.010       |
| Carbazole                    | TRG           | Average RF             | % RSD | 7.1         | 20               | 1.067                  | 0.010       |
| Chrysene                     | TRG           | Average RF             | % RSD | 3.7         | 20               | 1.139                  | 0.700       |
| Di-n-butyl Phthalate         | TRG           | Average RF             | % RSD | 6.4         | 20               | 1.386                  | 0.010       |
| Di-n-octyl Phthalate         | TRG           | Average RF             | % RSD | 8.2         | 20               | 1.377                  | 0.010       |
| Dibenz(a,h)anthracene        | TRG           | Average RF             | % RSD | 4.4         | 20               | 1.115                  | 0.400       |
| Dibenzofuran                 | TRG           | Average RF             | % RSD | 4.4         | 20               | 1.796                  | 0.800       |
| Diethyl Phthalate            | TRG           | Average RF             | % RSD | 4.5         | 20               | 1.487                  | 0.010       |
| Dimethyl Phthalate           | TRG           | Average RF             | % RSD | 3.0         | 20               | 1.41                   | 0.010       |
| Fluoranthene                 | TRG           | Average RF             | % RSD | 3.8         | 20               | 1.183                  | 0.600       |
| Fluorene                     | TRG           | Average RF             | % RSD | 3.2         | 20               | 1.468                  | 0.900       |
| Hexachlorobenzene            | TRG           | Average RF             | % RSD | 9.4         | 20               | 0.2755                 | 0.100       |
| Hexachlorobutadiene          | TRG           | Average RF             | % RSD | 3.3         | 20               | 0.1826                 | 0.010       |
| Hexachlorocyclopentadiene    | TRG           | Average RF             | % RSD | 9.9         | 20               | 0.4014                 | 0.050       |
| Hexachloroethane             | TRG           | Average RF             | % RSD | 2.4         | 20               | 0.6192                 | 0.300       |
| Indeno(1,2,3-cd)pyrene       | TRG           | Average RF             | % RSD | 5.4         | 20               | 1.049                  | 0.500       |
| Isophorone                   | TRG           | Average RF             | % RSD | 3.2         | 20               | 0.7247                 | 0.400       |
| N-Nitrosodi-n-propylamine    | TRG           | Average RF             | % RSD | 4.6         | 20               | 0.9978                 | 0.500       |
| N-Nitrosodimethylamine       | TRG           | Average RF             | % RSD | 4.8         | 20               | 0.6979                 |             |
| N-Nitrosodiphenylamine       | TRG           | Average RF             | % RSD | 6.8         | 20               | 0.6028                 | 0.010       |
| Naphthalene                  | TRG           | Average RF             | % RSD | 3.1         | 20               | 1.017                  | 0.700       |
| Nitrobenzene                 | TRG           | Average RF             | % RSD | 5.3         | 20               | 0.4008                 | 0.200       |
| Pentachlorophenol (PCP)      | TRG           | Quadratic              | COD   | 0.9926      | 0.99             | 0.1495                 | 0.050       |
| Phenanthrene                 | TRG           | Average RF             | % RSD | 5.7         | 20               | 1.093                  | 0.700       |
| Phenol                       | TRG           | Average RF             | % RSD | 4.0         | 20               | 1.652                  | 0.800       |
| Pyrene                       | TRG           | Average RF             | % RSD | 6.8         | 20               | 1.229                  | 0.600       |
| 2,4,6-Tribromophenol         | SURR          | Average RF             | % RSD | 7.1         | 20               | 0.2675                 |             |
| 2-Fluorobiphenyl             | SURR          | Average RF             | % RSD | 4.3         | 20               | 1.513                  |             |
| 2-Fluorophenol               | SURR          | Average RF             | % RSD | 3.8         | 20               | 1.339                  |             |

**Client:** The LiRo Group  
**Project:** City of Buffalo - Franczyk Park Site

**Service Request:** R1710113  
**Calibration Date:** 10/26/2017

**Initial Calibration Summary  
Semivolatile Organic Compounds by GC/MS**

**Calibration ID:** RC1700113  
**Instrument ID:** R-MS-54

**Signal ID:** 1

| Analyte Name    | Compound Type | Calibration Evaluation |       |             |                  | Calibration Evaluation |             |
|-----------------|---------------|------------------------|-------|-------------|------------------|------------------------|-------------|
|                 |               | Fit Type               | Eval  | Eval Result | Control Criteria | Average RRF            | Minimum RRF |
| Nitrobenzene-d5 | SURR          | Average RF             | % RSD | 4.5         | 20               | 0.3601                 |             |
| Phenol-d6       | SURR          | Average RF             | % RSD | 5.2         | 20               | 1.582                  |             |
| p-Terphenyl-d14 | SURR          | Average RF             | % RSD | 6.2         | 20               | 0.9093                 |             |

**ALS Group USA, Corp.**  
dba ALS Environmental

QA/QC Report

**Client:** The LiRo Group  
**Project:** City of Buffalo - Franczyk Park Site

**Service Request:** R1710113  
**Calibration Date:** 10/26/2017

**Initial Calibration Verification Summary**  
**Semivolatile Organic Compounds by GC/MS**

**Calibration ID:** RC1700113  
**Instrument ID:** R-MS-54

**Signal ID:** 1

| #  | Lab Code     | Sample Name | File Location                          | Aquisition Date  |
|----|--------------|-------------|--|------------------|
| 10 | RC1700113-10 | ICV         | I:\ACQUADATA\5973D\Data\102617\BM206.D | 10/26/2017 14:38 |
| 09 | RC1700113-09 | ICV         | I:\ACQUADATA\5973D\Data\102617\BM206.D | 10/26/2017 14:38 |

| Analyte Name                    | Expected | Result | Average RF | SSV RF   | % D     | Criteria | Curve Fit  |
|---------------------------------|----------|--------|------------|----------|---------|----------|------------|
| 1,2,4-Trichlorobenzene          | 80.0     | 70.9   | 3.23E-1    | 2.864E-1 | -11.319 | ±30      | Average RF |
| 1,2-Dichlorobenzene             | 80.0     | 73.2   | 1.434E0    | 1.312E0  | -8.554  | ±30      | Average RF |
| 1,3-Dichlorobenzene             | 80.0     | 72.3   | 1.49E0     | 1.347E0  | -9.564  | ±30      | Average RF |
| 1,4-Dichlorobenzene             | 80.0     | 74.3   | 1.487E0    | 1.381E0  | -7.127  | ±30      | Average RF |
| 2,4,5-Trichlorophenol           | 80.0     | 69.7   | 4.12E-1    | 3.592E-1 | -12.824 | ±30      | Average RF |
| 2,4,6-Trichlorophenol           | 80.0     | 70.9   | 4.19E-1    | 3.713E-1 | -11.384 | ±30      | Average RF |
| 2,4-Dichlorophenol              | 80.0     | 71.5   | 2.836E-1   | 2.533E-1 | -10.675 | ±30      | Average RF |
| 2,4-Dimethylphenol              | 80.0     | 74.8   | 3.4E-1     | 3.179E-1 | -6.507  | ±30      | Average RF |
| 2,4-Dinitrophenol               | 80.0     | 63.2   | 1.61E-1    | 1.299E-1 | -20.943 | ±30      | Quadratic  |
| 2,4-Dinitrotoluene              | 80.0     | 68.7   | 4.495E-1   | 3.863E-1 | -14.075 | ±30      | Average RF |
| 2,6-Dinitrotoluene              | 80.0     | 66.4   | 3.517E-1   | 2.919E-1 | -16.992 | ±30      | Average RF |
| 2-Chloronaphthalene             | 80.0     | 71.9   | 1.299E0    | 1.167E0  | -10.117 | ±30      | Average RF |
| 2-Chlorophenol                  | 80.0     | 74.4   | 1.368E0    | 1.273E0  | -6.992  | ±30      | Average RF |
| 2-Methylnaphthalene             | 80.0     | 71.5   | 6.794E-1   | 6.076E-1 | -10.574 | ±30      | Average RF |
| 2-Methylphenol                  | 80.0     | 78.2   | 1.149E0    | 1.123E0  | -2.293  | ±30      | Average RF |
| 2-Nitroaniline                  | 80.0     | 76.6   | 3.552E-1   | 3.401E-1 | -4.245  | ±30      | Average RF |
| 2-Nitrophenol                   | 80.0     | 78.1   | 1.798E-1   | 1.755E-1 | -2.386  | ±30      | Average RF |
| 3,3'-Dichlorobenzidine          | 80.0     | 76.9   | 4.975E-1   | 4.784E-1 | -3.836  | ±30      | Average RF |
| 3- and 4-Methylphenol Coelution | 80.0     | 73.1   | 1.297E0    | 1.185E0  | -8.606  | ±30      | Average RF |
| 3-Nitroaniline                  | 80.0     | 79.3   | 3.45E-1    | 3.42E-1  | -0.874  | ±30      | Average RF |
| 4,6-Dinitro-2-methylphenol      | 80.0     | 73.1   | 1.284E-1   | 1.209E-1 | -8.601  | ±30      | Quadratic  |
| 4-Bromophenyl Phenyl Ether      | 80.0     | 58.5   | 2.542E-1   | 1.86E-1  | -26.827 | ±30      | Average RF |
| 4-Chloro-3-methylphenol         | 80.0     | 76.1   | 2.795E-1   | 2.66E-1  | -4.826  | ±30      | Average RF |
| 4-Chloroaniline                 | 80.0     | 79.2   | 4.259E-1   | 4.218E-1 | -0.962  | ±30      | Average RF |
| 4-Chlorophenyl Phenyl Ether     | 80.0     | 58.5   | 7.681E-1   | 5.619E-1 | -26.843 | ±30      | Average RF |
| 4-Nitroaniline                  | 80.0     | 77.2   | 3.88E-1    | 3.743E-1 | -3.518  | ±30      | Average RF |
| 4-Nitrophenol                   | 80.0     | 73.9   | 2.947E-1   | 2.72E-1  | -7.677  | ±30      | Average RF |
| Acenaphthene                    | 80.0     | 72.6   | 1.353E0    | 1.228E0  | -9.251  | ±30      | Average RF |
| Acenaphthylene                  | 80.0     | 72.8   | 2.033E0    | 1.849E0  | -9.056  | ±30      | Average RF |
| Anthracene                      | 80.0     | 74.6   | 1.084E0    | 1.01E0   | -6.788  | ±30      | Average RF |
| Benz(a)anthracene               | 80.0     | 72.7   | 1.183E0    | 1.075E0  | -9.156  | ±30      | Average RF |
| Benzo(a)pyrene                  | 80.0     | 75.2   | 1.063E0    | 1.0E0    | -5.962  | ±30      | Average RF |
| Benzo(b)fluoranthene            | 80.0     | 76.2   | 1.213E0    | 1.156E0  | -4.740  | ±30      | Average RF |
| Benzo(g,h,i)perylene            | 80.0     | 79.3   | 1.024E0    | 1.015E0  | -0.858  | ±30      | Average RF |

**ALS Group USA, Corp.**  
dba ALS Environmental

QA/QC Report

**Client:** The LiRo Group  
**Project:** City of Buffalo - Franczyk Park Site

**Service Request:** R1710113  
**Calibration Date:** 10/26/2017

**Initial Calibration Verification Summary**  
**Semivolatile Organic Compounds by GC/MS**

**Calibration ID:** RC1700113  
**Instrument ID:** R-MS-54

**Signal ID:** 1

| #  | Lab Code     | Sample Name | File Location                          | Aquisition Date  |
|----|--------------|-------------|--|------------------|
| 10 | RC1700113-10 | ICV         | I:\ACQUADATA\5973D\Data\102617\BM206.D | 10/26/2017 14:38 |
| 09 | RC1700113-09 | ICV         | I:\ACQUADATA\5973D\Data\102617\BM206.D | 10/26/2017 14:38 |

| Analyte Name                 | Expected | Result | Average RF | SSV RF   | % D     | Criteria | Curve Fit  |
|------------------------------|----------|--------|------------|----------|---------|----------|------------|
| Benzo(k)fluoranthene         | 80.0     | 75.2   | 1.168E0    | 1.098E0  | -6.015  | ±30      | Average RF |
| Benzyl Alcohol               | 80.0     | 72.2   | 1.133E0    | 1.022E0  | -9.776  | ±30      | Average RF |
| 2,2'-Oxybis(1-chloropropane) | 80.0     | 46.9   | 1.894E0    | 1.11E0   | -41.389 | ±30      | Average RF |
| Bis(2-chloroethoxy)methane   | 80.0     | 66.9   | 4.243E-1   | 3.547E-1 | -16.402 | ±30      | Average RF |
| Bis(2-chloroethyl) Ether     | 80.0     | 66.5   | 1.312E0    | 1.092E0  | -16.823 | ±30      | Average RF |
| Bis(2-ethylhexyl) Phthalate  | 80.0     | 74.7   | 8.866E-1   | 8.281E-1 | -6.604  | ±30      | Average RF |
| Butyl Benzyl Phthalate       | 80.0     | 81.0   | 6.103E-1   | 6.18E-1  | 1.27    | ±30      | Average RF |
| Carbazole                    | 80.0     | 73.8   | 1.067E0    | 9.843E-1 | -7.762  | ±30      | Average RF |
| Chrysene                     | 80.0     | 68.7   | 1.139E0    | 9.786E-1 | -14.065 | ±30      | Average RF |
| Di-n-butyl Phthalate         | 80.0     | 79.0   | 1.386E0    | 1.369E0  | -1.223  | ±30      | Average RF |
| Di-n-octyl Phthalate         | 80.0     | 82.7   | 1.377E0    | 1.423E0  | 3.31    | ±30      | Average RF |
| Dibenz(a,h)anthracene        | 80.0     | 70.6   | 1.115E0    | 9.83E-1  | -11.812 | ±30      | Average RF |
| Dibenzofuran                 | 80.0     | 71.6   | 1.796E0    | 1.608E0  | -10.487 | ±30      | Average RF |
| Diethyl Phthalate            | 80.0     | 72.2   | 1.487E0    | 1.342E0  | -9.711  | ±30      | Average RF |
| Dimethyl Phthalate           | 80.0     | 73.4   | 1.41E0     | 1.294E0  | -8.261  | ±30      | Average RF |
| Fluoranthene                 | 80.0     | 76.0   | 1.183E0    | 1.123E0  | -5.027  | ±30      | Average RF |
| Fluorene                     | 80.0     | 68.4   | 1.468E0    | 1.256E0  | -14.469 | ±30      | Average RF |
| Hexachlorobenzene            | 80.0     | 69.2   | 2.755E-1   | 2.381E-1 | -13.548 | ±30      | Average RF |
| Hexachlorobutadiene          | 80.0     | 72.2   | 1.826E-1   | 1.647E-1 | -9.792  | ±30      | Average RF |
| Hexachlorocyclopentadiene    | 80.0     | 74.1   | 4.014E-1   | 3.72E-1  | -7.344  | ±30      | Average RF |
| Hexachloroethane             | 80.0     | 73.3   | 6.192E-1   | 5.671E-1 | -8.416  | ±30      | Average RF |
| Indeno(1,2,3-cd)pyrene       | 80.0     | 73.4   | 1.049E0    | 9.62E-1  | -8.263  | ±30      | Average RF |
| Isophorone                   | 80.0     | 67.3   | 7.247E-1   | 6.095E-1 | -15.902 | ±30      | Average RF |
| N-Nitrosodi-n-propylamine    | 80.0     | 75.9   | 9.978E-1   | 9.465E-1 | -5.147  | ±30      | Average RF |
| N-Nitrosodimethylamine       | 80.0     | 77.2   | 6.979E-1   | 6.732E-1 | -3.534  | ±30      | Average RF |
| N-Nitrosodiphenylamine       | 160      | 145    | 6.028E-1   | 5.47E-1  | -9.260  | ±30      | Average RF |
| Naphthalene                  | 80.0     | 72.9   | 1.017E0    | 9.27E-1  | -8.834  | ±30      | Average RF |
| Nitrobenzene                 | 80.0     | 69.7   | 4.008E-1   | 3.493E-1 | -12.844 | ±30      | Average RF |
| Pentachlorophenol (PCP)      | 80.0     | 84.4   | 1.495E-1   | 1.632E-1 | 5.45    | ±30      | Quadratic  |
| Phenanthrene                 | 80.0     | 71.8   | 1.093E0    | 9.81E-1  | -10.216 | ±30      | Average RF |
| Phenol                       | 80.0     | 72.8   | 1.652E0    | 1.503E0  | -9.012  | ±30      | Average RF |
| Pyrene                       | 80.0     | 74.3   | 1.229E0    | 1.141E0  | -7.157  | ±30      | Average RF |
| 2,4,6-Tribromophenol         | 80.0     | 70.7   | 2.675E-1   | 2.364E-1 | -11.623 | ±30      | Average RF |
| 2-Fluorobiphenyl             | 80.0     | 74.6   | 1.513E0    | 1.411E0  | -6.731  | ±30      | Average RF |

ALS Group USA, Corp.  
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QA/QC Report

**Client:** The LiRo Group  
**Project:** City of Buffalo - Franczyk Park Site

**Service Request:** R1710113  
**Calibration Date:** 10/26/2017

**Initial Calibration Verification Summary  
Semivolatile Organic Compounds by GC/MS**

**Calibration ID:** RC1700113  
**Instrument ID:** R-MS-54

**Signal ID:** 1

| #  | Lab Code     | Sample Name | File Location                          | Aquisition Date  |
|----|--------------|-------------|--|------------------|
| 10 | RC1700113-10 | ICV         | I:\ACQUADATA\5973D\Data\102617\BM206.D | 10/26/2017 14:38 |
| 09 | RC1700113-09 | ICV         | I:\ACQUADATA\5973D\Data\102617\BM206.D | 10/26/2017 14:38 |

| Analyte Name    | Expected | Result | Average RF | SSV<br>RF | % D    | Criteria | Curve Fit  |
|-----------------|----------|--------|------------|-----------|--------|----------|------------|
| 2-Fluorophenol  | 80.0     | 75.1   | 1.339E0    | 1.257E0   | -6.142 | ±30      | Average RF |
| Nitrobenzene-d5 | 80.0     | 77.4   | 3.601E-1   | 3.485E-1  | -3.210 | ±30      | Average RF |
| Phenol-d6       | 80.0     | 77.9   | 1.582E0    | 1.54E0    | -2.648 | ±30      | Average RF |
| p-Terphenyl-d14 | 80.0     | 74.3   | 9.093E-1   | 8.45E-1   | -7.073 | ±30      | Average RF |

Client: The LiRo Group  
Project: City of Buffalo - Franczyk Park Site/17-039-1144

Service Request: R1710113  
Date Analyzed: 10/30/17 10:01

**Continuing Calibration Verification (CCV) Summary  
Semivolatile Organic Compounds by GC/MS**

Analysis Method: 8270D  
File ID: I:\ACQUADATA\5973D\Data\103017\BM239.D\

Calibration Date: 10/26/2017  
Calibration ID: RC1700113  
Analysis Lot: 567960  
Units: ppm

| Analyte Name                 | Expected | Result | Average RF | CCV RF | % D  | % Drift | Criteria | Curve Fit  |
|------------------------------|----------|--------|------------|--------|------|---------|----------|------------|
| 1,2,4-Trichlorobenzene       | 80.0     | 80.4   | 0.323      | 0.3245 | 0.5  | NA      | ±20      | Average RF |
| 1,2-Dichlorobenzene          | 80.0     | 81.1   | 1.4344     | 1.4533 | 1.3  | NA      | ±20      | Average RF |
| 1,3-Dichlorobenzene          | 80.0     | 78.5   | 1.4895     | 1.4609 | -1.9 | NA      | ±20      | Average RF |
| 1,4-Dichlorobenzene          | 80.0     | 79.2   | 1.4874     | 1.473  | -1.0 | NA      | ±20      | Average RF |
| 2,4,5-Trichlorophenol        | 80.0     | 76.1   | 0.412      | 0.3918 | -4.9 | NA      | ±20      | Average RF |
| 2,4,6-Trichlorophenol        | 80.0     | 78.7   | 0.419      | 0.4123 | -1.6 | NA      | ±20      | Average RF |
| 2,4-Dichlorophenol           | 80.0     | 84.0   | 0.2836     | 0.2977 | 5.0  | NA      | ±20      | Average RF |
| 2,4-Dimethylphenol           | 80.0     | 82.0   | 0.34       | 0.3484 | 2.5  | NA      | ±20      | Average RF |
| 2,4-Dinitrophenol            | 80.0     | 65.5   | 0.161      | 0.1356 | NA   | -18.1   | ±20      | Quadratic  |
| 2,4-Dinitrotoluene           | 80.0     | 82.4   | 0.4495     | 0.463  | 3.0  | NA      | ±20      | Average RF |
| 2,6-Dinitrotoluene           | 80.0     | 78.8   | 0.3517     | 0.3464 | -1.5 | NA      | ±20      | Average RF |
| 2-Chloronaphthalene          | 80.0     | 78.3   | 1.2987     | 1.2715 | -2.1 | NA      | ±20      | Average RF |
| 2-Chlorophenol               | 80.0     | 81.1   | 1.3684     | 1.3868 | 1.3  | NA      | ±20      | Average RF |
| 2-Methylnaphthalene          | 80.0     | 82.1   | 0.6794     | 0.6975 | 2.7  | NA      | ±20      | Average RF |
| 2-Methylphenol               | 80.0     | 80.4   | 1.149      | 1.1543 | 0.5  | NA      | ±20      | Average RF |
| 2-Nitroaniline               | 80.0     | 81.1   | 0.3552     | 0.3599 | 1.3  | NA      | ±20      | Average RF |
| 2-Nitrophenol                | 80.0     | 88.7   | 0.1798     | 0.1993 | 10.9 | NA      | ±20      | Average RF |
| 3,3'-Dichlorobenzidine       | 80.0     | 79.8   | 0.4975     | 0.4963 | -0.2 | NA      | ±20      | Average RF |
| 3-Nitroaniline               | 80.0     | 83.2   | 0.345      | 0.3586 | 3.9  | NA      | ±20      | Average RF |
| 4,6-Dinitro-2-methylphenol   | 80.0     | 76.9   | 0.1284     | 0.1278 | NA   | -3.9    | ±20      | Quadratic  |
| 4-Bromophenyl Phenyl Ether   | 80.0     | 73.9   | 0.2542     | 0.2347 | -7.7 | NA      | ±20      | Average RF |
| 4-Chloro-3-methylphenol      | 80.0     | 85.9   | 0.2795     | 0.3    | 7.4  | NA      | ±20      | Average RF |
| 4-Chloroaniline              | 80.0     | 82.8   | 0.4259     | 0.4406 | 3.4  | NA      | ±20      | Average RF |
| 4-Chlorophenyl Phenyl Ether  | 80.0     | 77.1   | 0.7681     | 0.7399 | -3.7 | NA      | ±20      | Average RF |
| 4-Nitroaniline               | 80.0     | 79.0   | 0.388      | 0.3831 | -1.3 | NA      | ±20      | Average RF |
| 4-Nitrophenol                | 80.0     | 79.1   | 0.2947     | 0.2915 | -1.1 | NA      | ±20      | Average RF |
| Acenaphthene                 | 80.0     | 77.3   | 1.3528     | 1.3066 | -3.4 | NA      | ±20      | Average RF |
| Acenaphthylene               | 80.0     | 78.9   | 2.0328     | 2.0059 | -1.3 | NA      | ±20      | Average RF |
| Anthracene                   | 80.0     | 79.7   | 1.0835     | 1.0788 | -0.4 | NA      | ±20      | Average RF |
| Benz(a)anthracene            | 80.0     | 78.9   | 1.1832     | 1.1663 | -1.4 | NA      | ±20      | Average RF |
| Benzo(a)pyrene               | 80.0     | 84.8   | 1.0634     | 1.1266 | 5.9  | NA      | ±20      | Average RF |
| Benzo(b)fluoranthene         | 80.0     | 83.8   | 1.2132     | 1.2704 | 4.7  | NA      | ±20      | Average RF |
| Benzo(g,h,i)perylene         | 80.0     | 82.6   | 1.024      | 1.0579 | 3.3  | NA      | ±20      | Average RF |
| Benzo(k)fluoranthene         | 80.0     | 84.7   | 1.1683     | 1.2375 | 5.9  | NA      | ±20      | Average RF |
| Benzyl Alcohol               | 80.0     | 79.1   | 1.1331     | 1.1204 | -1.1 | NA      | ±20      | Average RF |
| 2,2'-Oxybis(1-chloropropane) | 80.0     | 80.0   | 1.894      | 1.8948 | 0.0  | NA      | ±20      | Average RF |
| Bis(2-chloroethoxy)methane   | 80.0     | 84.5   | 0.4243     | 0.448  | 5.6  | NA      | ±20      | Average RF |
| Bis(2-chloroethyl) Ether     | 80.0     | 82.9   | 1.3123     | 1.3604 | 3.7  | NA      | ±20      | Average RF |
| Bis(2-ethylhexyl) Phthalate  | 80.0     | 81.1   | 0.8866     | 0.8993 | 1.4  | NA      | ±20      | Average RF |
| Butyl Benzyl Phthalate       | 80.0     | 81.3   | 0.6103     | 0.6205 | 1.7  | NA      | ±20      | Average RF |
| Carbazole                    | 80.0     | 79.7   | 1.0671     | 1.0637 | -0.3 | NA      | ±20      | Average RF |
| Chrysene                     | 80.0     | 78.4   | 1.1388     | 1.1165 | -2.0 | NA      | ±20      | Average RF |



**Client:** The LiRo Group  
**Project:** City of Buffalo - Franczyk Park Site/17-039-1144

**Service Request:** R1710113  
**Date Analyzed:** 10/30/17 10:01

**Continuing Calibration Verification (CCV) Summary  
Semivolatile Organic Compounds by GC/MS**

**Analysis Method:** 8270D  
**File ID:** I:\ACQUADATA\5973D\Data\103017\BM239.D\

**Calibration Date:** 10/26/2017  
**Calibration ID:** RC1700113  
**Analysis Lot:** 567960  
**Units:** ppm

| Analyte Name              | Expected | Result | Average RF | CCV RF | % D  | % Drift | Criteria | Curve Fit  |
|---------------------------|----------|--------|------------|--------|------|---------|----------|------------|
| Di-n-butyl Phthalate      | 80.0     | 81.8   | 1.3856     | 1.4168 | 2.3  | NA      | ±20      | Average RF |
| Di-n-octyl Phthalate      | 80.0     | 84.0   | 1.3769     | 1.4464 | 5.0  | NA      | ±20      | Average RF |
| Dibenz(a,h)anthracene     | 80.0     | 82.2   | 1.1147     | 1.1458 | 2.8  | NA      | ±20      | Average RF |
| Dibenzofuran              | 80.0     | 78.3   | 1.7964     | 1.7581 | -2.1 | NA      | ±20      | Average RF |
| Diethyl Phthalate         | 80.0     | 77.2   | 1.4865     | 1.4349 | -3.5 | NA      | ±20      | Average RF |
| Dimethyl Phthalate        | 80.0     | 76.0   | 1.4103     | 1.3402 | -5.0 | NA      | ±20      | Average RF |
| Fluoranthene              | 80.0     | 83.5   | 1.1828     | 1.2347 | 4.4  | NA      | ±20      | Average RF |
| Fluorene                  | 80.0     | 78.8   | 1.4682     | 1.4464 | -1.5 | NA      | ±20      | Average RF |
| Hexachlorobenzene         | 80.0     | 73.7   | 0.2755     | 0.2537 | -7.9 | NA      | ±20      | Average RF |
| Hexachlorobutadiene       | 80.0     | 79.8   | 0.1826     | 0.182  | -0.3 | NA      | ±20      | Average RF |
| Hexachlorocyclopentadiene | 80.0     | 76.7   | 0.4014     | 0.3848 | -4.1 | NA      | ±20      | Average RF |
| Hexachloroethane          | 80.0     | 79.6   | 0.6192     | 0.6164 | -0.4 | NA      | ±20      | Average RF |
| Indeno(1,2,3-cd)pyrene    | 80.0     | 82.8   | 1.0486     | 1.0859 | 3.6  | NA      | ±20      | Average RF |
| Isophorone                | 80.0     | 82.8   | 0.7247     | 0.7497 | 3.4  | NA      | ±20      | Average RF |
| N-Nitrosodi-n-propylamine | 80.0     | 79.7   | 0.9978     | 0.9942 | -0.4 | NA      | ±20      | Average RF |
| N-Nitrosodimethylamine    | 80.0     | 84.8   | 0.6979     | 0.7399 | 6.0  | NA      | ±20      | Average RF |
| N-Nitrosodiphenylamine    | 160      | 157    | 0.6028     | 0.5872 | -2.6 | NA      | ±20      | Average RF |
| Naphthalene               | 80.0     | 81.7   | 1.0169     | 1.0387 | 2.1  | NA      | ±20      | Average RF |
| Nitrobenzene              | 80.0     | 85.1   | 0.4008     | 0.4264 | 6.4  | NA      | ±20      | Average RF |
| Pentachlorophenol (PCP)   | 80.0     | 58.8   | 0.1495     | 0.1082 | NA   | -26.5*  | ±20      | Quadratic  |
| Phenanthrene              | 80.0     | 77.5   | 1.0926     | 1.0589 | -3.1 | NA      | ±20      | Average RF |
| Phenol                    | 80.0     | 81.0   | 1.6516     | 1.6719 | 1.2  | NA      | ±20      | Average RF |
| Pyrene                    | 80.0     | 79.2   | 1.2292     | 1.2164 | -1.0 | NA      | ±20      | Average RF |
| 2,4,6-Tribromophenol      | 80.0     | 74.6   | 0.2675     | 0.2494 | -6.7 | NA      | ±20      | Average RF |
| 2-Fluorobiphenyl          | 80.0     | 77.7   | 1.5126     | 1.4683 | -2.9 | NA      | ±20      | Average RF |
| 2-Fluorophenol            | 80.0     | 80.5   | 1.3393     | 1.3482 | 0.7  | NA      | ±20      | Average RF |
| Nitrobenzene-d5           | 80.0     | 83.5   | 0.3601     | 0.3758 | 4.4  | NA      | ±20      | Average RF |
| Phenol-d6                 | 80.0     | 81.3   | 1.5821     | 1.6087 | 1.7  | NA      | ±20      | Average RF |
| p-Terphenyl-d14           | 80.0     | 77.0   | 0.9093     | 0.8751 | -3.8 | NA      | ±20      | Average RF |

Client: The LiRo Group  
Project: City of Buffalo - Franczyk Park Site/17-039-1144

Service Request: R1710113  
Date Analyzed: 10/31/17 06:54

**Continuing Calibration Verification (CCV) Summary  
Semivolatile Organic Compounds by GC/MS**

Analysis Method: 8270D  
File ID: I:\ACQUADATA\5973D\Data\103117\BM268.D\

Calibration Date: 10/26/2017  
Calibration ID: RC1700113  
Analysis Lot: 568326  
Units: ppm

| Analyte Name                 | Expected | Result | Average RF | CCV RF | % D   | % Drift | Criteria | Curve Fit  |
|------------------------------|----------|--------|------------|--------|-------|---------|----------|------------|
| 1,2,4-Trichlorobenzene       | 80.0     | 77.3   | 0.323      | 0.3122 | -3.3  | NA      | ±20      | Average RF |
| 1,2-Dichlorobenzene          | 80.0     | 82.0   | 1.4344     | 1.4697 | 2.5   | NA      | ±20      | Average RF |
| 1,3-Dichlorobenzene          | 80.0     | 81.9   | 1.4895     | 1.5242 | 2.3   | NA      | ±20      | Average RF |
| 1,4-Dichlorobenzene          | 80.0     | 83.1   | 1.4874     | 1.5448 | 3.9   | NA      | ±20      | Average RF |
| 2,4,5-Trichlorophenol        | 80.0     | 74.0   | 0.412      | 0.3809 | -7.6  | NA      | ±20      | Average RF |
| 2,4,6-Trichlorophenol        | 80.0     | 72.1   | 0.419      | 0.3774 | -9.9  | NA      | ±20      | Average RF |
| 2,4-Dichlorophenol           | 80.0     | 79.1   | 0.2836     | 0.2803 | -1.1  | NA      | ±20      | Average RF |
| 2,4-Dimethylphenol           | 80.0     | 83.6   | 0.34       | 0.3555 | 4.6   | NA      | ±20      | Average RF |
| 2,4-Dinitrophenol            | 80.0     | 67.2   | 0.161      | 0.14   | NA    | -15.9   | ±20      | Quadratic  |
| 2,4-Dinitrotoluene           | 80.0     | 81.7   | 0.4495     | 0.459  | 2.1   | NA      | ±20      | Average RF |
| 2,6-Dinitrotoluene           | 80.0     | 72.4   | 0.3517     | 0.3182 | -9.5  | NA      | ±20      | Average RF |
| 2-Chloronaphthalene          | 80.0     | 71.8   | 1.2987     | 1.1656 | -10.2 | NA      | ±20      | Average RF |
| 2-Chlorophenol               | 80.0     | 86.4   | 1.3684     | 1.4779 | 8.0   | NA      | ±20      | Average RF |
| 2-Methylnaphthalene          | 80.0     | 81.0   | 0.6794     | 0.6876 | 1.2   | NA      | ±20      | Average RF |
| 2-Methylphenol               | 80.0     | 84.1   | 1.149      | 1.2076 | 5.1   | NA      | ±20      | Average RF |
| 2-Nitroaniline               | 80.0     | 76.1   | 0.3552     | 0.3381 | -4.8  | NA      | ±20      | Average RF |
| 2-Nitrophenol                | 80.0     | 86.7   | 0.1798     | 0.1949 | 8.4   | NA      | ±20      | Average RF |
| 3,3'-Dichlorobenzidine       | 80.0     | 80.2   | 0.4975     | 0.4987 | 0.2   | NA      | ±20      | Average RF |
| 3-Nitroaniline               | 80.0     | 83.0   | 0.345      | 0.3578 | 3.7   | NA      | ±20      | Average RF |
| 4,6-Dinitro-2-methylphenol   | 80.0     | 79.2   | 0.1284     | 0.1321 | NA    | -0.9    | ±20      | Quadratic  |
| 4-Bromophenyl Phenyl Ether   | 80.0     | 75.9   | 0.2542     | 0.241  | -5.2  | NA      | ±20      | Average RF |
| 4-Chloro-3-methylphenol      | 80.0     | 83.8   | 0.2795     | 0.2926 | 4.7   | NA      | ±20      | Average RF |
| 4-Chloroaniline              | 80.0     | 79.0   | 0.4259     | 0.4204 | -1.3  | NA      | ±20      | Average RF |
| 4-Chlorophenyl Phenyl Ether  | 80.0     | 70.1   | 0.7681     | 0.6729 | -12.4 | NA      | ±20      | Average RF |
| 4-Nitroaniline               | 80.0     | 73.6   | 0.388      | 0.3567 | -8.1  | NA      | ±20      | Average RF |
| 4-Nitrophenol                | 80.0     | 76.0   | 0.2947     | 0.2798 | -5.0  | NA      | ±20      | Average RF |
| Acenaphthene                 | 80.0     | 75.3   | 1.3528     | 1.2739 | -5.8  | NA      | ±20      | Average RF |
| Acenaphthylene               | 80.0     | 78.9   | 2.0328     | 2.0055 | -1.3  | NA      | ±20      | Average RF |
| Anthracene                   | 80.0     | 81.0   | 1.0835     | 1.0971 | 1.3   | NA      | ±20      | Average RF |
| Benz(a)anthracene            | 80.0     | 78.9   | 1.1832     | 1.1672 | -1.3  | NA      | ±20      | Average RF |
| Benzo(a)pyrene               | 80.0     | 82.9   | 1.0634     | 1.102  | 3.6   | NA      | ±20      | Average RF |
| Benzo(b)fluoranthene         | 80.0     | 80.5   | 1.2132     | 1.2214 | 0.7   | NA      | ±20      | Average RF |
| Benzo(g,h,i)perylene         | 80.0     | 91.2   | 1.024      | 1.1667 | 13.9  | NA      | ±20      | Average RF |
| Benzo(k)fluoranthene         | 80.0     | 82.0   | 1.1683     | 1.1975 | 2.5   | NA      | ±20      | Average RF |
| Benzyl Alcohol               | 80.0     | 84.4   | 1.1331     | 1.1951 | 5.5   | NA      | ±20      | Average RF |
| 2,2'-Oxybis(1-chloropropane) | 80.0     | 81.0   | 1.894      | 1.9175 | 1.2   | NA      | ±20      | Average RF |
| Bis(2-chloroethoxy)methane   | 80.0     | 80.6   | 0.4243     | 0.4275 | 0.8   | NA      | ±20      | Average RF |
| Bis(2-chloroethyl) Ether     | 80.0     | 85.9   | 1.3123     | 1.4083 | 7.3   | NA      | ±20      | Average RF |
| Bis(2-ethylhexyl) Phthalate  | 80.0     | 83.3   | 0.8866     | 0.9228 | 4.1   | NA      | ±20      | Average RF |
| Butyl Benzyl Phthalate       | 80.0     | 84.0   | 0.6103     | 0.6411 | 5.0   | NA      | ±20      | Average RF |
| Carbazole                    | 80.0     | 86.8   | 1.0671     | 1.1578 | 8.5   | NA      | ±20      | Average RF |
| Chrysene                     | 80.0     | 77.8   | 1.1388     | 1.107  | -2.8  | NA      | ±20      | Average RF |

**Client:** The LiRo Group  
**Project:** City of Buffalo - Franczyk Park Site/17-039-1144

**Service Request:** R1710113  
**Date Analyzed:** 10/31/17 06:54

**Continuing Calibration Verification (CCV) Summary  
Semivolatile Organic Compounds by GC/MS**

**Analysis Method:** 8270D  
**File ID:** I:\ACQUADATA\5973D\Data\103117\BM268.D\

**Calibration Date:** 10/26/2017  
**Calibration ID:** RC1700113  
**Analysis Lot:** 568326  
**Units:** ppm

| Analyte Name              | Expected | Result | Average RF | CCV RF | % D   | % Drift | Criteria | Curve Fit  |
|---------------------------|----------|--------|------------|--------|-------|---------|----------|------------|
| Di-n-butyl Phthalate      | 80.0     | 83.8   | 1.3856     | 1.4512 | 4.7   | NA      | ±20      | Average RF |
| Di-n-octyl Phthalate      | 80.0     | 81.8   | 1.3769     | 1.4074 | 2.2   | NA      | ±20      | Average RF |
| Dibenz(a,h)anthracene     | 80.0     | 83.8   | 1.1147     | 1.1678 | 4.8   | NA      | ±20      | Average RF |
| Dibenzofuran              | 80.0     | 76.2   | 1.7964     | 1.7112 | -4.7  | NA      | ±20      | Average RF |
| Diethyl Phthalate         | 80.0     | 71.1   | 1.4865     | 1.3209 | -11.1 | NA      | ±20      | Average RF |
| Dimethyl Phthalate        | 80.0     | 70.5   | 1.4103     | 1.2436 | -11.8 | NA      | ±20      | Average RF |
| Fluoranthene              | 80.0     | 87.0   | 1.1828     | 1.2862 | 8.7   | NA      | ±20      | Average RF |
| Fluorene                  | 80.0     | 71.8   | 1.4682     | 1.3184 | -10.2 | NA      | ±20      | Average RF |
| Hexachlorobenzene         | 80.0     | 75.3   | 0.2755     | 0.2594 | -5.8  | NA      | ±20      | Average RF |
| Hexachlorobutadiene       | 80.0     | 82.3   | 0.1826     | 0.1877 | 2.8   | NA      | ±20      | Average RF |
| Hexachlorocyclopentadiene | 80.0     | 67.3   | 0.4014     | 0.3378 | -15.9 | NA      | ±20      | Average RF |
| Hexachloroethane          | 80.0     | 82.5   | 0.6192     | 0.6388 | 3.2   | NA      | ±20      | Average RF |
| Indeno(1,2,3-cd)pyrene    | 80.0     | 83.5   | 1.0486     | 1.094  | 4.3   | NA      | ±20      | Average RF |
| Isophorone                | 80.0     | 82.5   | 0.7247     | 0.7471 | 3.1   | NA      | ±20      | Average RF |
| N-Nitrosodi-n-propylamine | 80.0     | 84.3   | 0.9978     | 1.0515 | 5.4   | NA      | ±20      | Average RF |
| N-Nitrosodimethylamine    | 80.0     | 92.9   | 0.6979     | 0.8104 | 16.1  | NA      | ±20      | Average RF |
| N-Nitrosodiphenylamine    | 160      | 154    | 0.6028     | 0.5752 | -4.6  | NA      | ±20      | Average RF |
| Naphthalene               | 80.0     | 78.7   | 1.0169     | 0.9998 | -1.7  | NA      | ±20      | Average RF |
| Nitrobenzene              | 80.0     | 82.3   | 0.4008     | 0.4124 | 2.9   | NA      | ±20      | Average RF |
| Pentachlorophenol (PCP)   | 80.0     | 65.5   | 0.1495     | 0.1223 | NA    | -18.1   | ±20      | Quadratic  |
| Phenanthrene              | 80.0     | 78.8   | 1.0926     | 1.0766 | -1.5  | NA      | ±20      | Average RF |
| Phenol                    | 80.0     | 85.2   | 1.6516     | 1.7587 | 6.5   | NA      | ±20      | Average RF |
| Pyrene                    | 80.0     | 80.5   | 1.2292     | 1.2364 | 0.6   | NA      | ±20      | Average RF |
| 2,4,6-Tribromophenol      | 80.0     | 77.1   | 0.2675     | 0.2578 | -3.6  | NA      | ±20      | Average RF |
| 2-Fluorobiphenyl          | 80.0     | 72.2   | 1.5126     | 1.3645 | -9.8  | NA      | ±20      | Average RF |
| 2-Fluorophenol            | 80.0     | 88.6   | 1.3393     | 1.4834 | 10.8  | NA      | ±20      | Average RF |
| Nitrobenzene-d5           | 80.0     | 82.2   | 0.3601     | 0.3699 | 2.7   | NA      | ±20      | Average RF |
| Phenol-d6                 | 80.0     | 86.7   | 1.5821     | 1.7152 | 8.4   | NA      | ±20      | Average RF |
| p-Terphenyl-d14           | 80.0     | 77.0   | 0.9093     | 0.8753 | -3.7  | NA      | ±20      | Average RF |

**Client:** The LiRo Group  
**Project:** City of Buffalo - Franczyk Park Site/17-039-1144

**Service Request:**R1710113

**Analysis Run Log**  
**Semivolatile Organic Compounds by GC/MS**

**Analysis Method:** 8270D

**Analysis Lot:**567960  
**Instrument ID:**R-MS-54

| Raw Data File                           | Sample Name                         | Lab Code     | Date Analyzed | Time Analyzed | Q |
|---|-------------------------------------|--------------|---------------|---------------|---|
| I:\ACQUADATA\5973D\Data\103017\BM238.D\ | ZZZZZZZ                             | ZZZZZZZ      | 10/30/2017    | 09:43:00      |   |
| I:\ACQUADATA\5973D\Data\103017\BM238.D\ | ZZZZZZZ                             | ZZZZZZZ      | 10/30/2017    | 09:43:00      |   |
| I:\ACQUADATA\5973D\Data\103017\BM239.D\ | Continuing Calibration Verification | RQ1711211-02 | 10/30/2017    | 10:01:00      |   |
| I:\ACQUADATA\5973D\Data\103017\BM239.D\ | ZZZZZZZ                             | ZZZZZZZ      | 10/30/2017    | 10:01:00      |   |
| I:\ACQUADATA\5973D\Data\103017\BM241.D\ | Method Blank                        | RQ1711100-01 | 10/30/2017    | 10:58:00      |   |
| I:\ACQUADATA\5973D\Data\103017\BM241.D\ | ZZZZZZZ                             | ZZZZZZZ      | 10/30/2017    | 10:58:00      |   |
| I:\ACQUADATA\5973D\Data\103017\BM242.D\ | Lab Control Sample                  | RQ1711100-02 | 10/30/2017    | 11:26:00      |   |
| I:\ACQUADATA\5973D\Data\103017\BM242.D\ | ZZZZZZZ                             | ZZZZZZZ      | 10/30/2017    | 11:26:00      |   |
| I:\ACQUADATA\5973D\Data\103017\BM243.D\ | ZZZZZZZ                             | ZZZZZZZ      | 10/30/2017    | 11:55:00      |   |
| I:\ACQUADATA\5973D\Data\103017\BM243.D\ | Duplicate Lab Control Sample        | RQ1711100-03 | 10/30/2017    | 11:55:00      |   |
| I:\ACQUADATA\5973D\Data\103017\BM244.D\ | ZZZZZZZ                             | ZZZZZZZ      | 10/30/2017    | 12:23:00      |   |
| I:\ACQUADATA\5973D\Data\103017\BM244.D\ | ZZZZZZZ                             | ZZZZZZZ      | 10/30/2017    | 12:23:00      |   |
| I:\ACQUADATA\5973D\Data\103017\BM245.D\ | ZZZZZZZ                             | ZZZZZZZ      | 10/30/2017    | 12:51:00      |   |
| I:\ACQUADATA\5973D\Data\103017\BM245.D\ | ZZZZZZZ                             | ZZZZZZZ      | 10/30/2017    | 12:51:00      |   |
| I:\ACQUADATA\5973D\Data\103017\BM246.D\ | ZZZZZZZ                             | ZZZZZZZ      | 10/30/2017    | 13:20:00      |   |
| I:\ACQUADATA\5973D\Data\103017\BM247.D\ | ZZZZZZZ                             | ZZZZZZZ      | 10/30/2017    | 13:48:00      |   |
| I:\ACQUADATA\5973D\Data\103017\BM248.D\ | ZZZZZZZ                             | ZZZZZZZ      | 10/30/2017    | 14:16:00      |   |
| I:\ACQUADATA\5973D\Data\103017\BM249.D\ | ZZZZZZZ                             | ZZZZZZZ      | 10/30/2017    | 14:45:00      |   |
| I:\ACQUADATA\5973D\Data\103017\BM250.D\ | ZZZZZZZ                             | ZZZZZZZ      | 10/30/2017    | 15:13:00      |   |
| I:\ACQUADATA\5973D\Data\103017\BM251.D\ | ZZZZZZZ                             | ZZZZZZZ      | 10/30/2017    | 15:41:00      |   |
| I:\ACQUADATA\5973D\Data\103017\BM252.D\ | MW-7                                | R1710113-001 | 10/30/2017    | 16:09:00      |   |
| I:\ACQUADATA\5973D\Data\103017\BM253.D\ | MW-3                                | R1710113-002 | 10/30/2017    | 16:37:00      |   |
| I:\ACQUADATA\5973D\Data\103017\BM254.D\ | MW-D                                | R1710113-004 | 10/30/2017    | 17:05:00      |   |

**Client:** The LiRo Group  
**Project:** City of Buffalo - Franczyk Park Site/17-039-1144

**Service Request:**R1710113

**Analysis Run Log**  
**Semivolatile Organic Compounds by GC/MS**

**Analysis Method:** 8270D

**Analysis Lot:**567960  
**Instrument ID:**R-MS-54

| <b>Raw Data File</b>                   | <b>Sample Name</b> | <b>Lab Code</b> | <b>Date Analyzed</b> | <b>Time Analyzed</b> | <b>Q</b> |
|--|--------------------|-----------------|----------------------|----------------------|----------|
| I:\ACQUDATA\5973D\Data\103017\BM256.D\ | ZZZZZZZ            | ZZZZZZZ         | 10/30/2017           | 18:02:00             |          |
| I:\ACQUDATA\5973D\Data\103017\BM257.D\ | ZZZZZZZ            | ZZZZZZZ         | 10/30/2017           | 18:30:00             |          |
| I:\ACQUDATA\5973D\Data\103017\BM259.D\ | ZZZZZZZ            | ZZZZZZZ         | 10/30/2017           | 19:26:00             |          |
| I:\ACQUDATA\5973D\Data\103017\BM260.D\ | ZZZZZZZ            | ZZZZZZZ         | 10/30/2017           | 19:54:00             |          |
| I:\ACQUDATA\5973D\Data\103017\BM261.D\ | ZZZZZZZ            | ZZZZZZZ         | 10/30/2017           | 20:22:00             |          |
| I:\ACQUDATA\5973D\Data\103017\BM262.D\ | ZZZZZZZ            | ZZZZZZZ         | 10/30/2017           | 20:50:00             |          |
| I:\ACQUDATA\5973D\Data\103017\BM263.D\ | ZZZZZZZ            | ZZZZZZZ         | 10/30/2017           | 21:19:00             |          |
| I:\ACQUDATA\5973D\Data\103117\BM267.D\ | ZZZZZZZ            | ZZZZZZZ         | 10/31/2017           | 06:36:00             |          |
| I:\ACQUDATA\5973D\Data\103117\BM267.D\ | ZZZZZZZ            | ZZZZZZZ         | 10/31/2017           | 06:36:00             |          |
| I:\ACQUDATA\5973D\Data\103117\BM268.D\ | ZZZZZZZ            | ZZZZZZZ         | 10/31/2017           | 06:54:00             |          |
| I:\ACQUDATA\5973D\Data\103117\BM269.D\ | ZZZZZZZ            | ZZZZZZZ         | 10/31/2017           | 07:22:00             |          |
| I:\ACQUDATA\5973D\Data\103117\BM270.D\ | ZZZZZZZ            | ZZZZZZZ         | 10/31/2017           | 07:50:00             |          |
| I:\ACQUDATA\5973D\Data\103117\BM271.D\ | ZZZZZZZ            | ZZZZZZZ         | 10/31/2017           | 08:18:00             |          |
| I:\ACQUDATA\5973D\Data\103117\BM272.D\ | ZZZZZZZ            | ZZZZZZZ         | 10/31/2017           | 08:46:00             |          |
| I:\ACQUDATA\5973D\Data\103117\BM273.D\ | ZZZZZZZ            | ZZZZZZZ         | 10/31/2017           | 09:15:00             |          |
| I:\ACQUDATA\5973D\Data\103117\BM274.D\ | ZZZZZZZ            | ZZZZZZZ         | 10/31/2017           | 09:43:00             |          |
| I:\ACQUDATA\5973D\Data\103117\BM275.D\ | ZZZZZZZ            | ZZZZZZZ         | 10/31/2017           | 10:11:00             |          |
| I:\ACQUDATA\5973D\Data\103117\BM276.D\ | ZZZZZZZ            | ZZZZZZZ         | 10/31/2017           | 10:40:00             |          |
| I:\ACQUDATA\5973D\Data\103117\BM277.D\ | ZZZZZZZ            | ZZZZZZZ         | 10/31/2017           | 11:08:00             |          |
| I:\ACQUDATA\5973D\Data\103117\BM278.D\ | ZZZZZZZ            | ZZZZZZZ         | 10/31/2017           | 11:36:00             |          |
| I:\ACQUDATA\5973D\Data\103117\BM279.D\ | ZZZZZZZ            | ZZZZZZZ         | 10/31/2017           | 12:04:00             |          |
| I:\ACQUDATA\5973D\Data\103117\BM280.D\ | ZZZZZZZ            | ZZZZZZZ         | 10/31/2017           | 12:32:00             |          |
| I:\ACQUDATA\5973D\Data\103117\BM281.D\ | ZZZZZZZ            | ZZZZZZZ         | 10/31/2017           | 13:00:00             |          |

**Client:** The LiRo Group  
**Project:** City of Buffalo - Franczyk Park Site/17-039-1144

**Service Request:**R1710113

**Analysis Run Log**  
**Semivolatile Organic Compounds by GC/MS**

**Analysis Method:** 8270D

**Analysis Lot:**567960  
**Instrument ID:**R-MS-54

| <b>Raw Data File</b>                   | <b>Sample Name</b> | <b>Lab Code</b> | <b>Date Analyzed</b> | <b>Time Analyzed</b> | <b>Q</b> |
|--|--------------------|-----------------|----------------------|----------------------|----------|
| I:\ACQUDATA\5973D\Data\103117\BM282.D\ | ZZZZZZZ            | ZZZZZZZ         | 10/31/2017           | 13:29:00             |          |
| I:\ACQUDATA\5973D\Data\103117\BM283.D\ | ZZZZZZZ            | ZZZZZZZ         | 10/31/2017           | 13:57:00             |          |
| I:\ACQUDATA\5973D\Data\103117\BM284.D\ | ZZZZZZZ            | ZZZZZZZ         | 10/31/2017           | 14:25:00             |          |
| I:\ACQUDATA\5973D\Data\103117\BM285.D\ | ZZZZZZZ            | ZZZZZZZ         | 10/31/2017           | 14:53:00             |          |
| I:\ACQUDATA\5973D\Data\103117\BM286.D\ | ZZZZZZZ            | ZZZZZZZ         | 10/31/2017           | 15:21:00             |          |
| I:\ACQUDATA\5973D\Data\103117\BM287.D\ | ZZZZZZZ            | ZZZZZZZ         | 10/31/2017           | 15:49:00             |          |
| I:\ACQUDATA\5973D\Data\103117\BM288.D\ | ZZZZZZZ            | ZZZZZZZ         | 10/31/2017           | 16:17:00             |          |
| I:\ACQUDATA\5973D\Data\103117\BM289.D\ | ZZZZZZZ            | ZZZZZZZ         | 10/31/2017           | 16:45:00             |          |
| I:\ACQUDATA\5973D\Data\103117\BM291.D\ | ZZZZZZZ            | ZZZZZZZ         | 10/31/2017           | 17:41:00             |          |

ALS Group USA, Corp.  
dba ALS Environmental

QA/QC Report

**Client:** The LiRo Group  
**Project:** City of Buffalo - Franczyk Park Site/17-039-1144

**Service Request:**R1710113

**Analysis Run Log**  
**Semivolatile Organic Compounds by GC/MS**

**Analysis Method:** 8270D

**Analysis Lot:**568326  
**Instrument ID:**R-MS-54

| <b>Raw Data File</b>                       | <b>Sample Name</b>                  | <b>Lab Code</b> | <b>Date Analyzed</b> | <b>Time Analyzed</b> | <b>Q</b> |
|--|-------------------------------------|-----------------|----------------------|----------------------|----------|
| I:\ACQUDATA\5973D\Data\103117<br>\BM268.D\ | Continuing Calibration Verification | RQ1711335-02    | 10/31/2017           | 06:54:00             |          |
| I:\ACQUDATA\5973D\Data\103117<br>\BM290.D\ | MW-8                                | R1710113-006    | 10/31/2017           | 17:13:00             |          |

Analysis: 82700  
 Date: 10/30/17  
 Syringes: \_\_\_\_\_

Analyst: Amisiewicz  
 Instr. 5973D R-MS-54

Run Method: 82700 / TUNE  
 Quant Method: 8270102611D.M

LIMS Run#: 567960

| Pos. | Sample        | Diln.   | Stds. ID  | File# | OK? | Comments                   |
|------|---------------|---------|-----------|-------|-----|----------------------------|
| 1    | Blk           |         |           | Bm234 | -   |                            |
| 2    | Tune          |         | 184894    | 35    | (N) |                            |
| 2    | Tune          |         | ↓         | 36    | YT  |                            |
| 3    | CCV           |         | 185086    | 37    | (N) | change liner. Reorder STD. |
| 2    | Tune          |         | 184894    | 38    | YT  |                            |
| 3    | CCV           | 10 µL < |           | 39    | YCC |                            |
| 4    | CCV Phends    |         | 185089    | 40    | YCC |                            |
| 5    | RQ1711100-01  | Blk     | 301663    | 41    | Y   | (RPT for Hexa)             |
| 6    | ↓ -02         | LS      | (82700 w) | 42    | YQ  | Surr ↓ Several ↓ (phends)  |
| 7    | ↓ -03         | LSD     |           | 43    | YQ  | RPOs > 30                  |
| 8    | R1710069-001  |         | (Tics)    | 44    | Y   | (Hexa)                     |
| 9    | ↓ -008        |         | ↓         | 45    | Y   | ↓                          |
| 10   | R1710088-001  |         |           | 46    | Y   | (Phends)                   |
| 11   | ↓ -002        |         |           | 47    | Y   | ↓                          |
| 12   | RQ1711100-04  |         |           | 48    | YQ  | ↓                          |
| 13   | ↓ -05         |         |           | 49    | YQ  | ↓                          |
| 14   | R1710088-003  |         |           | 50    | Y   | ↓                          |
| 15   | ↓ -004        |         |           | 51    | Y   | ↓                          |
| 16   | R17101113-001 |         |           | 52    | Y   |                            |
| 17   | ↓ -002        |         |           | 53    | Y   |                            |
| 18   | ↓ -004        |         |           | 54    | Y   |                            |
| 19   | ↓ -006        | 10      |           | 55    | (N) | RPT 1/2                    |
| 20   | RQ1710880-01  | Blk     | 301700    | 56    | Y   |                            |
| 21   | ↓ -02         | LS      | (82705)   | 57    | Y   | Second ↓                   |
| 22   | ↓ -03         | LSD     |           | 58    | (N) | RPT TO confirm             |
| 23   | R1709912-001  |         |           | 59    | Y   | * dark                     |
| 24   | ↓ -002        |         |           | 60    | Y   | * dark                     |
| 25   | ↓ -003        |         |           | 61    | Y   |                            |
| 26   | ↓ -004        |         |           | 62    | Y   | Surr ↓                     |
| 27   | ↓ -005        |         |           | 63    | Y   |                            |
| 28   | ↓ -006        |         |           | 64    | (N) | OUT OF TUNE                |

24 11/3/17

All samples = 1 mL + 10 uL Combined IS/Surr.; 183464

Primary: \_\_\_\_\_ exp: \_\_\_\_\_  
 Primary: \_\_\_\_\_ exp: \_\_\_\_\_  
 Reagents: \_\_\_\_\_

Secondary: \_\_\_\_\_ exp: \_\_\_\_\_  
 Secondary: \_\_\_\_\_ exp: \_\_\_\_\_

Runlog GCEXT r2 4/27/17

O-967 Page 67



Analysis: 8270D  
 Date: 10/31/17  
 Syringes:

Analyst: Omisiuwei u2  
 Instr. 5973D R-MS-54

Run Method: 8270D pure  
 Quant Method: 8270102617D.4  
 LIMS Run#: 568326

| Pos. | Sample       | Diln. | Stds. ID         | File# | OK? | Comments       |
|------|--------------|-------|------------------|-------|-----|----------------|
| 1    | Blk          |       |                  | BM265 | -   |                |
| 2    | Tune         |       | 184824           | 66    | (N) |                |
| 3    | Tune         |       | ↓                | 67    | YF  |                |
| 3    | CCV          | 90% S | 185135<br>185137 | 68    | YCC | p-phenyl >20%  |
| 4    | CCV          |       |                  | 69    | YCC |                |
| 5    | R01711161-01 | Blk   | 301763           | 70    | Y   |                |
| 6    | -02          | LCS   | (8270W)          | 71    | YQ  | 4-BPPE ↓       |
| 7    | -03          | LCS   |                  | 72    | YQ  |                |
| 8    | R1710163-001 |       | (TCS)            | 73    | Y   | (Here)         |
| 9    | ↓ -005       |       | ↓                | 74    | Y   | ↓              |
| 10   | R1710208-001 |       | (TCS)            | 75    | Y   |                |
| 11   | R01711100-01 | Blk   | 301663           | 76    | Y   | (Here only)    |
| 12   | -02          | LCS   |                  | 77    | YQ  |                |
| 13   | ↓ -03        | LCS   |                  | 78    | YQ  |                |
| 14   | R1710069-001 |       |                  | 79    | Y   |                |
| 15   | ↓ -008       |       |                  | 80    | Y   |                |
| 16   | R01711197-01 | Blk   | 301870           | 81    | Y   |                |
| 17   | -02          | LCS   | (82705)          | 82    | YQ  |                |
| 18   | ↓ -03        | LCS   |                  | 83    | YQ  |                |
| 19   | R01710880-03 | LCS   | 301306           | 84    | YQ  | Nitrobenzene ↓ |
| 20   | R1709912-006 |       |                  | 85    | Y   |                |
| 21   | ↓ -007       |       |                  | 86    | Y   |                |
| 22   | ↓ -008       |       |                  | 87    | Y   |                |
| 23   | R01710880-04 |       | (R10880-005)     | 88    | YQ  | 3,3-DCS ↓      |
| 24   | ↓ -05        |       | ↓                | 89    | YQ  | PPDS >30 ↓     |
| 25   | R1710113-006 | 2.0   | 301663           | 90    | Y   |                |
| 26   | R1710058-001 | 2.0   | 301870           | 91    | Y   | (Here) start   |
| 27   | Blk          |       |                  | 92    | -   |                |
| 27   | ↓            |       |                  | 93    | -   |                |
| 27   | ↓            |       |                  | 94    | -   |                |

All samples = \_\_\_\_\_ mL + \_\_\_\_\_ uL Combined IS/Surr.;

Primary: \_\_\_\_\_ exp: \_\_\_\_\_  
 Primary: \_\_\_\_\_ exp: \_\_\_\_\_  
 Reagents:

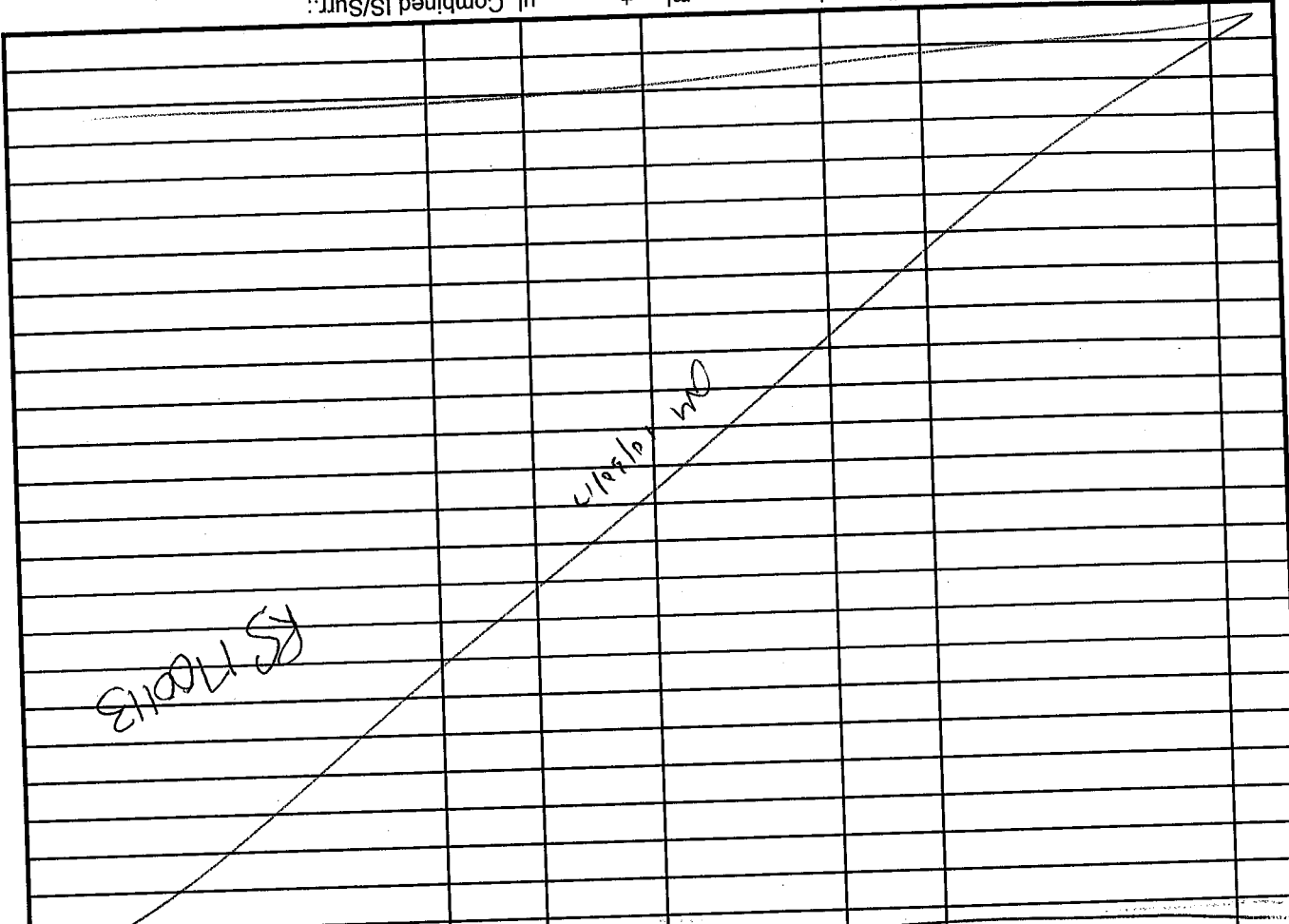
Secondary: \_\_\_\_\_ exp: \_\_\_\_\_  
 Secondary: \_\_\_\_\_ exp: \_\_\_\_\_

Runlog GCEXT r2 4/27/17  
 O-967 Page 68

Analysis: 87201435  
 Date: 10/26/17  
 Syringes: \_\_\_\_\_  
 Analyst: QMS/UCW/VR  
 Instr: 5973D R-MS-54  
 Run Method: 82710/17M  
 Quant Method: \_\_\_\_\_  
 LIMS Run#: \_\_\_\_\_

Pos. Sample Dilm. Stds. ID File# OK? Comments

|    |                    |  |        |     |     |  |
|----|--------------------|--|--------|-----|-----|--|
| 1  | Blk                |  |        |     |     |  |
| 2  | Tue                |  | 184894 | 94  | Y   |  |
| 3  | 1.4-dibutylene STD |  |        | 95  | Y   |  |
| 3  | Blk                |  |        | 96  | Y   |  |
| 4  | 2.5 ppm STD        |  | 185081 | 97  | Y   |  |
| 5  | 6.0                |  |        | 98  | (N) |  |
| 6  | 10                 |  | 185084 | 99  | Y   |  |
| 7  | 50                 |  | 1085   | 200 | Y   |  |
| 8  | 80                 |  | 086    | 01  | Y   |  |
| 9  | 100                |  | 087    | 02  | Y   |  |
| 10 | 120                |  | 088    | 03  | Y   |  |
| 11 | 160                |  | 089    | 04  | Y   |  |
| 12 | 5.0                |  | 083    | 05  | Y   |  |
| 13 | ICV                |  | 090    | 06  | Y   |  |



All samples = \_\_\_\_\_ mL + \_\_\_\_\_ uL Combined IS/Surr:

Primary: \_\_\_\_\_ exp: \_\_\_\_\_  
 Secondary: \_\_\_\_\_ exp: \_\_\_\_\_  
 Primary: \_\_\_\_\_ exp: \_\_\_\_\_  
 Secondary: \_\_\_\_\_ exp: \_\_\_\_\_  
 Reagents: \_\_\_\_\_

ALS Group USA, Corp.  
dba ALS Environmental

Prep Summary Report

**Client:** The LiRo Group  
**Project:** City of Buffalo - Franczyk Park Site/17-039-1144  
**Sample Matrix:** Water

**Service Request:**R1710113

Semivolatile Organic Compounds by GC/MS

**Prep Method:** EPA 3510C  
**Analytical Method:** 8270D

**Extraction Lot:**301663

| Sample Name                  | Lab Code         | Date Collected | Date Received | Sample Amount | Final Amount | Percent Solids |
|------------------------------|------------------|----------------|---------------|---------------|--------------|----------------|
| MW-7                         | R1710113-001     | 10/24/17       | 10/25/17      | 1060.0000     | 1 mL         |                |
| MW-3                         | R1710113-002     | 10/24/17       | 10/25/17      | 1060.0000     | 1 mL         |                |
| MW-D                         | R1710113-004     | 10/24/17       | 10/25/17      | 1060.0000     | 1 mL         |                |
| MW-8                         | R1710113-006     | 10/25/17       | 10/25/17      | 1060.0000     | 1 mL         |                |
| Method Blank                 | RQ1711100-01MB   | NA             | NA            | 1000 mL       | 1 mL         |                |
| Lab Control Sample           | RQ1711100-02LCS  | NA             | NA            | 1000 mL       | 1 mL         |                |
| Duplicate Lab Control Sample | RQ1711100-03DLCS | NA             | NA            | 1000 mL       | 1 mL         |                |

# Preparation Information Benchsheet

Prep Run#: 301663  
 Team: Semivoa GCMS/DMURPHY

Prep WorkFlow: OrgExtAq(7)  
 Prep Method: EPA 3510C

Status: Prepped  
 Prep Date/Time: 10/26/17 07:17 AM

| #  | Lab Code     | Client ID            | B#  | Amt. Ext. | Method /Test | pH | AE | BN | Final Vol | Sample Desc. (Initial/Final) | Spike Amt./Inv. ID  | Comments |
|----|--------------|----------------------|-----|-----------|--------------|----|----|----|-----------|------------------------------|---|----------|
| 1  | RQ1711100-01 | MB                   |     | 1000mL    | 8270D/SVO    | 6  | x  | x  | 1.00mL    | clear-colorless              | 1.0000 mL/184826  |          |
| 2  | RQ1711100-02 | LCS                  |     | 1000mL    | 8270D/SVO    | 6  | x  | x  | 1.00mL    | clear-colorless              | 1.0000 mL/184315;<br>1.0000 mL/184335;<br>1.0000 mL/184826;<br>1.0000 mL/184828 |          |
| 3  | RQ1711100-03 | DLCS                 |     | 1000mL    | 8270D/SVO    | 6  | x  | x  | 1.00mL    | clear-colorless              | 1.0000 mL/184315;<br>1.0000 mL/184826;<br>1.0000 mL/184335;<br>1.0000 mL/184828 |          |
| 4  | R1710069-001 | 1710191017B ST-7-453 | .01 | 1060mL    | 8270D/SVO    | 7  | x  | x  | 1.00mL    | yellow-cloudy                | 1.0000 mL/184826  |          |
| 5  | R1710069-008 | 1710191059B ST-7-544 | .01 | 1060mL    | 8270D/SVO    | 7  | x  | x  | 1.00mL    | clear-colorless              | 1.0000 mL/184826  |          |
| 6  | R1710088-001 | PCBM-01-1017         | .05 | 1060mL    | 8270D/SVO    | 7  | x  | x  | 1.00mL    | yellow-cloudy                | 1.0000 mL/184826  |          |
| 7  | R1710088-002 | PCBM-02-1017         | .06 | 1060mL    | 8270D/SVO    | 7  | x  | x  | 1.00mL    | yellow-cloudy                | 1.0000 mL/184826  |          |
| 8  | RQ1711100-04 | R1710088-002 MS      | .07 | 1060mL    | 8270D/SVO    | 7  | x  | x  | 1.00mL    | yellow-cloudy                | 1.0000 mL/184315;<br>1.0000 mL/184335;<br>1.0000 mL/184826;<br>1.0000 mL/184828 |          |
| 9  | RQ1711100-05 | R1710088-002 DMS     | .04 | 1060mL    | 8270D/SVO    | 7  | x  | x  | 1.00mL    | yellow-cloudy                | 1.0000 mL/184315;<br>1.0000 mL/184335;<br>1.0000 mL/184826;<br>1.0000 mL/184828 |          |
| 10 | R1710088-003 | PCM-03-1017          | .04 | 1060mL    | 8270D/SVO    | 7  | x  | x  | 1.00mL    | yellow-opaque                | 1.0000 mL/184826  |          |
| 11 | R1710088-004 | PCM-04-1017          | .04 | 1060mL    | 8270D/SVO    | 7  | x  | x  | 1.00mL    | yellow-opaque                | 1.0000 mL/184826  |          |
| 12 | R1710113-001 | MW-7                 | .04 | 1060mL    | 8270D/SVO    | 7  | x  | x  | 1.00mL    | brown-opaque                 | 1.0000 mL/184826  |          |
| 13 | R1710113-002 | MW-3                 | .01 | 1060mL    | 8270D/SVO    | 5  | x  | x  | 1.00mL    | brown-opaque                 | 1.0000 mL/184826  |          |
| 14 | R1710113-004 | MW-D                 | .04 | 1060mL    | 8270D/SVO    | 5  | x  | x  | 1.00mL    | brown-opaque                 | 1.0000 mL/184826  |          |
| 15 | R1710113-006 | MW-8                 | .01 | 1060mL    | 8270D/SVO    | 7  | x  | x  | 1.00mL    | black-opaque                 | 1.0000 mL/184826  |          |

### Spiking Solutions

|       |                                 |              |        |              |  |             |            |
|-------|---------------------------------|--------------|--------|--------------|--|-------------|------------|
| Name: | Benzidine LCS Spike 100ppm      | Inventory ID | 184315 | Logbook Ref: |  | Expires On: | 01/11/2018 |
| Name: | 8270 LCS-NSI                    | Inventory ID | 184335 | Logbook Ref: |  | Expires On: | 03/31/2018 |
| Name: | 8270 Soil Surrogate 100-200ppm  | Inventory ID | 184826 | Logbook Ref: |  | Expires On: | 04/15/2018 |
| Name: | OLM/SOM additional Spike 100ppm | Inventory ID | 184828 | Logbook Ref: |  | Expires On: | 12/04/2017 |

### Preparation Materials

|                                |                  |                           |          |  |                    |
|--------------------------------|------------------|---------------------------|----------|--|--------------------|
| Eppendorf Pipette Repeater     | EXT #17 (175854) | Sulfuric Acid, 50% H2SO4  | (184778) | Dichloromethane (Methylene Chloride) 99.9% MeCl2 | cannister (184849) |
| Prepared Sodium Sulfate Na2SO4 | (184949)         | Sodium Hydroxide 50% NaOH | (184370) | pH Paper 0-14                                    | (185029)           |

# Preparation Information Benchsheet

Prep Run#: 301663  
Team: Semivoa GCMS/DMURPHY

Prep WorkFlow: OrgExtAq(7)  
Prep Method: EPA 3510C

Status: Prepped  
Prep Date/Time: 10/26/17 07:17 AM

## Preparation Steps

| Step:     | Extraction     | Step:     | Concentration  | Step:     | Final Volume   |
|-----------|----------------|-----------|----------------|-----------|----------------|
| Started:  | 10/26/17 07:17 | Started:  | 10/27/17 11:08 | Started:  | 10/27/17 11:08 |
| Finished: | 10/26/17 14:29 | Finished: | 10/27/17 11:08 | Finished: | 10/27/17 11:08 |
| By:       | DMURPHY        | By:       | NBRADY         | By:       | NBRADY         |
| Comments  |                | Comments  |                | Comments  |                |

Comments:

Reviewed By: MSJ Date: 10/27/17

Spike Witness: MPEDRO

Date:

## Chain of Custody

|                  |       |       |       |                   |
|------------------|-------|-------|-------|-------------------|
| Relinquished By: | _____ | Date: | _____ | Extracts Examined |
| Received By:     | _____ | Date: | _____ |                   |
|                  |       | Yes   | No    |                   |



# Metals

**ALS Environmental—Rochester Laboratory**  
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623  
Phone (585) 288-5380 Fax (585) 288-8475  
[www.alsglobal.com](http://www.alsglobal.com)

**METALS**  
-1-  
**INORGANIC ANALYSIS DATA SHEET**

SAMPLE NO.

MW-7

Contract: R1710113

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: MW-7

Matrix (soil/water): WATER Lab Sample ID: R1710113-001

Level (low/med): LOW Date Received: 10/25/2017

Concentration Units (ug/L or mg/kg dry weight): UG/L

| CAS No.   | Analyte   | Concentration | C | Q | M  |
|-----------|-----------|---------------|---|---|----|
| 7429-90-5 | Aluminum  | 1120          |   |   | P  |
| 7440-36-0 | Antimony  | 60.0          | U |   | P  |
| 7440-38-2 | Arsenic   | 10.0          | U |   | P  |
| 7440-39-3 | Barium    | 23.5          |   |   | P  |
| 7440-41-7 | Beryllium | 3.0           | U |   | P  |
| 7440-43-9 | Cadmium   | 5.0           | U |   | P  |
| 7439-97-6 | Mercury   | 0.200         | U |   | CV |
| 7440-70-2 | Calcium   | 392000        |   |   | P  |
| 7440-47-3 | Chromium  | 10.0          | U |   | P  |
| 7440-48-4 | Cobalt    | 50.0          | U |   | P  |
| 7440-50-8 | Copper    | 20.0          | U |   | P  |
| 7439-89-6 | Iron      | 4110          |   |   | P  |
| 7439-92-1 | Lead      | 50.0          | U |   | P  |
| 7439-95-4 | Magnesium | 77700         |   |   | P  |
| 7439-96-5 | Manganese | 2950          |   |   | P  |
| 7440-02-0 | Nickel    | 40.0          | U |   | P  |
| 7440-09-7 | Potassium | 18700         |   |   | P  |
| 7782-49-2 | Selenium  | 10.0          | U |   | P  |
| 7440-22-4 | Silver    | 10.0          | U |   | P  |
| 7440-23-5 | Sodium    | 35100         |   |   | P  |
| 7440-28-0 | Thallium  | 100           | U |   | P  |
| 7440-62-2 | Vanadium  | 50.0          | U |   | P  |
| 7440-66-6 | Zinc      | 20.0          | U |   | P  |

Color Before: COLORLESS Clarity Before: CLEAR Texture: \_\_\_\_\_

Color After: COLORLESS Clarity After: CLEAR Artifacts: \_\_\_\_\_

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**METALS**  
-1-  
**INORGANIC ANALYSIS DATA SHEET**

SAMPLE NO.

MW-3

Contract: R1710113

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: MW-7

Matrix (soil/water): WATER Lab Sample ID: R1710113-002

Level (low/med): LOW Date Received: 10/25/2017

Concentration Units (ug/L or mg/kg dry weight): UG/L

| CAS No.   | Analyte   | Concentration | C | Q | M  |
|-----------|-----------|---------------|---|---|----|
| 7429-90-5 | Aluminum  | 214000        |   |   | P  |
| 7440-36-0 | Antimony  | 60.0          | U |   | P  |
| 7440-38-2 | Arsenic   | 10.0          | U |   | P  |
| 7440-39-3 | Barium    | 70.5          |   |   | P  |
| 7440-41-7 | Beryllium | 12.8          |   |   | P  |
| 7440-43-9 | Cadmium   | 12.4          |   |   | P  |
| 7439-97-6 | Mercury   | 0.200         | U |   | CV |
| 7440-70-2 | Calcium   | 414000        |   |   | P  |
| 7440-47-3 | Chromium  | 23.4          |   |   | P  |
| 7440-48-4 | Cobalt    | 50.0          | U |   | P  |
| 7440-50-8 | Copper    | 20.0          | U |   | P  |
| 7439-89-6 | Iron      | 1280000       |   |   | P  |
| 7439-92-1 | Lead      | 50.0          | U |   | P  |
| 7439-95-4 | Magnesium | 478000        |   |   | P  |
| 7439-96-5 | Manganese | 18400         |   |   | P  |
| 7440-02-0 | Nickel    | 40.0          | U |   | P  |
| 7440-09-7 | Potassium | 131000        |   |   | P  |
| 7782-49-2 | Selenium  | 20.0          | U |   | P  |
| 7440-22-4 | Silver    | 10.0          | U |   | P  |
| 7440-23-5 | Sodium    | 93100         |   |   | P  |
| 7440-28-0 | Thallium  | 100           | U |   | P  |
| 7440-62-2 | Vanadium  | 80.5          |   |   | P  |
| 7440-66-6 | Zinc      | 294           |   |   | P  |

Color Before: YELLOW Clarity Before: CLOUDY Texture: \_\_\_\_\_

Color After: YELLOW Clarity After: CLEAR Artifacts: \_\_\_\_\_

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



**METALS**  
-1-  
**INORGANIC ANALYSIS DATA SHEET**

SAMPLE NO.

MW-3 Diss

Contract: R1710113

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: MW-7

Matrix (soil/water): WATER Lab Sample ID: R1710113-003

Level (low/med): LOW Date Received: 10/25/2017

Concentration Units (ug/L or mg/kg dry weight): UG/L

| CAS No.   | Analyte   | Concentration | C | Q | M  |
|-----------|-----------|---------------|---|---|----|
| 7429-90-5 | Aluminum  | 225000        |   |   | P  |
| 7440-36-0 | Antimony  | 60.0          | U |   | P  |
| 7440-38-2 | Arsenic   | 10.0          | U |   | P  |
| 7440-39-3 | Barium    | 24.7          |   |   | P  |
| 7440-41-7 | Beryllium | 14.3          |   |   | P  |
| 7440-43-9 | Cadmium   | 14.5          |   |   | P  |
| 7439-97-6 | Mercury   | 0.200         | U |   | CV |
| 7440-70-2 | Calcium   | 437000        |   |   | P  |
| 7440-47-3 | Chromium  | 13.5          |   |   | P  |
| 7440-48-4 | Cobalt    | 50.0          | U |   | P  |
| 7440-50-8 | Copper    | 20.0          | U |   | P  |
| 7439-89-6 | Iron      | 1480000       |   |   | P  |
| 7439-92-1 | Lead      | 50.0          | U |   | P  |
| 7439-95-4 | Magnesium | 631000        |   |   | P  |
| 7439-96-5 | Manganese | 21100         |   |   | P  |
| 7440-02-0 | Nickel    | 40.0          | U |   | P  |
| 7440-09-7 | Potassium | 143000        |   |   | P  |
| 7782-49-2 | Selenium  | 31.3          |   |   | P  |
| 7440-22-4 | Silver    | 10.0          | U |   | P  |
| 7440-23-5 | Sodium    | 101000        |   |   | P  |
| 7440-28-0 | Thallium  | 100           | U |   | P  |
| 7440-62-2 | Vanadium  | 68.6          |   |   | P  |
| 7440-66-6 | Zinc      | 211           |   |   | P  |

Color Before: YELLOW Clarity Before: CLOUDY Texture: \_\_\_\_\_

Color After: YELLOW Clarity After: CLEAR Artifacts: \_\_\_\_\_

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**METALS**  
-1-  
**INORGANIC ANALYSIS DATA SHEET**

SAMPLE NO.

MW-D

Contract: R1710113

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: MW-7

Matrix (soil/water): WATER Lab Sample ID: R1710113-004

Level (low/med): LOW Date Received: 10/25/2017

Concentration Units (ug/L or mg/kg dry weight): UG/L

| CAS No.   | Analyte   | Concentration | C | Q | M  |
|-----------|-----------|---------------|---|---|----|
| 7429-90-5 | Aluminum  | 217000        |   |   | P  |
| 7440-36-0 | Antimony  | 60.0          | U |   | P  |
| 7440-38-2 | Arsenic   | 10.0          | U |   | P  |
| 7440-39-3 | Barium    | 75.7          |   |   | P  |
| 7440-41-7 | Beryllium | 12.9          |   |   | P  |
| 7440-43-9 | Cadmium   | 12.5          |   |   | P  |
| 7439-97-6 | Mercury   | 0.200         | U |   | CV |
| 7440-70-2 | Calcium   | 415000        |   |   | P  |
| 7440-47-3 | Chromium  | 24.3          |   |   | P  |
| 7440-48-4 | Cobalt    | 50.0          | U |   | P  |
| 7440-50-8 | Copper    | 20.0          | U |   | P  |
| 7439-89-6 | Iron      | 1260000       |   |   | P  |
| 7439-92-1 | Lead      | 50.0          | U |   | P  |
| 7439-95-4 | Magnesium | 481000        |   |   | P  |
| 7439-96-5 | Manganese | 18300         |   |   | P  |
| 7440-02-0 | Nickel    | 40.0          | U |   | P  |
| 7440-09-7 | Potassium | 133000        |   |   | P  |
| 7782-49-2 | Selenium  | 28.7          |   |   | P  |
| 7440-22-4 | Silver    | 10.0          | U |   | P  |
| 7440-23-5 | Sodium    | 92500         |   |   | P  |
| 7440-28-0 | Thallium  | 100           | U |   | P  |
| 7440-62-2 | Vanadium  | 81.9          |   |   | P  |
| 7440-66-6 | Zinc      | 306           |   |   | P  |

Color Before: YELLOW Clarity Before: CLOUDY Texture: \_\_\_\_\_

Color After: YELLOW Clarity After: CLOUDY Artifacts: \_\_\_\_\_

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**METALS**  
-1-  
**INORGANIC ANALYSIS DATA SHEET**

SAMPLE NO.

MW-D Diss

Contract: R1710113

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: MW-7

Matrix (soil/water): WATER Lab Sample ID: R1710113-005

Level (low/med): LOW Date Received: 10/25/2017

Concentration Units (ug/L or mg/kg dry weight): UG/L

| CAS No.   | Analyte   | Concentration | C | Q | M  |
|-----------|-----------|---------------|---|---|----|
| 7429-90-5 | Aluminum  | 176000        |   |   | P  |
| 7440-36-0 | Antimony  | 60.0          | U |   | P  |
| 7440-38-2 | Arsenic   | 10.0          | U |   | P  |
| 7440-39-3 | Barium    | 28.9          |   |   | P  |
| 7440-41-7 | Beryllium | 11.2          |   |   | P  |
| 7440-43-9 | Cadmium   | 11.0          |   |   | P  |
| 7439-97-6 | Mercury   | 0.200         | U |   | CV |
| 7440-70-2 | Calcium   | 439000        |   |   | P  |
| 7440-47-3 | Chromium  | 11.3          |   |   | P  |
| 7440-48-4 | Cobalt    | 50.0          | U |   | P  |
| 7440-50-8 | Copper    | 20.0          | U |   | P  |
| 7439-89-6 | Iron      | 1190000       |   |   | P  |
| 7439-92-1 | Lead      | 50.0          | U |   | P  |
| 7439-95-4 | Magnesium | 470000        |   |   | P  |
| 7439-96-5 | Manganese | 17300         |   |   | P  |
| 7440-02-0 | Nickel    | 40.0          | U |   | P  |
| 7440-09-7 | Potassium | 131000        |   |   | P  |
| 7782-49-2 | Selenium  | 18.6          |   |   | P  |
| 7440-22-4 | Silver    | 10.0          | U |   | P  |
| 7440-23-5 | Sodium    | 93200         |   |   | P  |
| 7440-28-0 | Thallium  | 20.0          | U |   | P  |
| 7440-62-2 | Vanadium  | 58.5          |   |   | P  |
| 7440-66-6 | Zinc      | 195           |   |   | P  |

Color Before: YELLOW Clarity Before: CLEAR Texture: \_\_\_\_\_

Color After: YELLOW Clarity After: CLEAR Artifacts: \_\_\_\_\_

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**METALS**  
-1-  
**INORGANIC ANALYSIS DATA SHEET**

SAMPLE NO.

MW-8

Contract: R1710113

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: MW-7

Matrix (soil/water): WATER Lab Sample ID: R1710113-006

Level (low/med): LOW Date Received: 10/25/2017

Concentration Units (ug/L or mg/kg dry weight): UG/L

| CAS No.   | Analyte   | Concentration | C | Q | M  |
|-----------|-----------|---------------|---|---|----|
| 7429-90-5 | Aluminum  | 200000        |   |   | P  |
| 7440-36-0 | Antimony  | 68.5          |   |   | P  |
| 7440-38-2 | Arsenic   | 581           |   |   | P  |
| 7440-39-3 | Barium    | 4220          |   |   | P  |
| 7440-41-7 | Beryllium | 6.9           |   |   | P  |
| 7440-43-9 | Cadmium   | 7.9           |   |   | P  |
| 7439-97-6 | Mercury   | 14.5          |   |   | CV |
| 7440-70-2 | Calcium   | 1140000       |   |   | P  |
| 7440-47-3 | Chromium  | 375           |   |   | P  |
| 7440-48-4 | Cobalt    | 50.0          | U |   | P  |
| 7440-50-8 | Copper    | 1080          |   |   | P  |
| 7439-89-6 | Iron      | 229000        |   |   | P  |
| 7439-92-1 | Lead      | 27400         |   |   | P  |
| 7439-95-4 | Magnesium | 227000        |   |   | P  |
| 7439-96-5 | Manganese | 3490          |   |   | P  |
| 7440-02-0 | Nickel    | 177           |   |   | P  |
| 7440-09-7 | Potassium | 118000        |   |   | P  |
| 7782-49-2 | Selenium  | 27.2          |   |   | P  |
| 7440-22-4 | Silver    | 14.4          |   |   | P  |
| 7440-23-5 | Sodium    | 39100         |   |   | P  |
| 7440-28-0 | Thallium  | 38.8          |   |   | P  |
| 7440-62-2 | Vanadium  | 405           |   |   | P  |
| 7440-66-6 | Zinc      | 3150          |   |   | P  |

Color Before: BROWN Clarity Before: CLOUDY Texture: \_\_\_\_\_

Color After: BROWN Clarity After: CLOUDY Artifacts: \_\_\_\_\_

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**METALS**  
-1-  
**INORGANIC ANALYSIS DATA SHEET**

SAMPLE NO.

MW-8 Diss

Contract: R1710113

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: MW-7

Matrix (soil/water): WATER Lab Sample ID: R1710113-007

Level (low/med): LOW Date Received: 10/25/2017

Concentration Units (ug/L or mg/kg dry weight): UG/L

| CAS No.   | Analyte   | Concentration | C | Q | M  |
|-----------|-----------|---------------|---|---|----|
| 7429-90-5 | Aluminum  | 89000         |   |   | P  |
| 7440-36-0 | Antimony  | 60.0          | U |   | P  |
| 7440-38-2 | Arsenic   | 347           |   |   | P  |
| 7440-39-3 | Barium    | 1970          |   |   | P  |
| 7440-41-7 | Beryllium | 3.0           |   |   | P  |
| 7440-43-9 | Cadmium   | 5.0           | U |   | P  |
| 7439-97-6 | Mercury   | 8.1           |   |   | CV |
| 7440-70-2 | Calcium   | 916000        |   |   | P  |
| 7440-47-3 | Chromium  | 163           |   |   | P  |
| 7440-48-4 | Cobalt    | 50.0          | U |   | P  |
| 7440-50-8 | Copper    | 487           |   |   | P  |
| 7439-89-6 | Iron      | 106000        |   |   | P  |
| 7439-92-1 | Lead      | 12900         |   |   | P  |
| 7439-95-4 | Magnesium | 210000        |   |   | P  |
| 7439-96-5 | Manganese | 2020          |   |   | P  |
| 7440-02-0 | Nickel    | 77.6          |   |   | P  |
| 7440-09-7 | Potassium | 89300         |   |   | P  |
| 7782-49-2 | Selenium  | 10.0          | U |   | P  |
| 7440-22-4 | Silver    | 10.0          | U |   | P  |
| 7440-23-5 | Sodium    | 39200         |   |   | P  |
| 7440-28-0 | Thallium  | 26.0          |   |   | P  |
| 7440-62-2 | Vanadium  | 181           |   |   | P  |
| 7440-66-6 | Zinc      | 1440          |   |   | P  |

Color Before: BROWN Clarity Before: CLOUDY Texture: \_\_\_\_\_

Color After: BROWN Clarity After: CLOUDY Artifacts: \_\_\_\_\_

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

# Metals Cover Page

Analyst: NM

Date: 10/31/17

Instrument: ICP6

Data File: 600ct316

Reviewed By: CK 11/1/17

Entered By: CK 11/1/17

| Starlims Run # | Analytes Used                                    | Batch ID | Method | Failed Analytes | Repeats  |
|----------------|--|----------|--------|-----------------|--|
| 568339         | AgAlASBaBeCaCdCo<br>CrCuFeKmgNaNiPb<br>SbSeTLVZn | 301737   | 6010C  |                 | 10018-003,009 Se   |
| 568344         | ASBaCaCdCrCuFeKmg<br>NaNiPbSeZn                  | 301957   | 6010C  | Mn              | 10031-019 Mn   |
| 568345         | TAL+B  | 301960   | 6010C  | Mn              | 10113-001 CaTL<br>-003-002 CaFeKmgPbTL<br>-002-003,005 CaFeKTLSe<br>-004 CaFeKTL<br>-006 CaFeK Pb<br>-007 CaFePbSe |
|                |  |          |        |                 | 10054-008,012 Ca<br>10200-001 KNa  |
| 568348         | AgBaBeCdCrCuFeMg<br>MnNiSbZn                     | 301955   | 6010C  |                 | 10073-009 Fe   |

## Package Data:

| Client Sub# | TIER           | Analytes Used | Batch ID | Raw Data Copied? |
|-------------|----------------|---------------|----------|------------------|
|             | III / IV / ILM |               |          | Yes / No         |
|             | III / IV / ILM |               |          | Yes / No         |
|             | III / IV / ILM |               |          | Yes / No         |
|             | III / IV / ILM |               |          | Yes / No         |
|             | III / IV / ILM |               |          | Yes / No         |
|             | III / IV / ILM |               |          | Yes / No         |
|             | III / IV / ILM |               |          | Yes / No         |
|             | III / IV / ILM |               |          | Yes / No         |
|             | III / IV / ILM |               |          | Yes / No         |

**ICP-6 Run Log**  
Serial number: MY15340001

Analyst: NM

Date: 10/31/17

Data File: 6OCT31B

|          | Prep Date | Lot #     |                   | Prep Date | Lot #     |
|----------|-----------|-----------|-------------------|-----------|-----------|
| MRL      | 9/18/17   | M7620093D | Cal Std 1         | 10/24/17  | M7620010B |
| ICSA     | 10/13/17  | M7620109A | Cal Std 2         | 10/25/17  | M7620022B |
| ICSAB    | 10/13/17  | M7620115H | Cal Std 5/ HLCCV1 | 10/30/17  | M7620032D |
| Int. Std | 10/20/17  | M7620125M | ICV/CCV           | 10/31/17  | M7620049Z |
| HLCCV3   | 10/25/17  | M7620056L | HLCCV2            | 10/25/17  | M7620072B |

(Cal Std 4 is a 1/5 and Cal Std 3 is a 1/100 dilution of Cal Std 5)

| Blank Prep - Daily | NHO3 | HCl | Pipet Used | DOD Pipet Verification | IEC Date |
|--------------------|------|-----|------------|------------------------|----------|
|                    |      |     | M2.5, M35  | M7290047               | -        |

| Lot   |                                       |      |                                       |      |                                       |
|-------|---------------------------------------|------|---------------------------------------|------|---------------------------------------|
| 1:9   | PBW-301737                            | 1:28 | PBW-301957                            | S1:8 | Continuing Calibration Verification 1 |
| 1:10  | LCSW-301737                           | 1:29 | LCSW-301957                           | S1:9 | Continuing Calibration Blank 1        |
| 1:11  | R1710018-001                          | 1:30 | R1710031-019                          | S1:3 | Contract Required Detection Limit     |
| 1:12  | R1710018-002                          | 1:31 | R1710033-001                          | S1:4 | Interference Check Solution A         |
| 1:13  | R1710018-003 100X                     | 1:32 | R1710033-002                          | S1:5 | Interference Check Solution AB        |
| 1:14  | R1710018-004                          | 1:33 | R1710033-003                          | S1:6 | Continuing Calibration Verification   |
| 1:15  | R1710018-005                          | 1:34 | R1710033-004                          | S1:7 | Continuing Calibration Blank          |
| 1:16  | R1710018-005S                         | 1:35 | R1710033-005                          | 2:2  | PBW-301960                            |
| 1:17  | R1710018-005SD                        | 1:36 | R1710033-005S                         | 2:3  | LCSW-301960                           |
| 1:18  | R1710018-005A                         | 1:37 | R1710033-005SD                        | 2:4  | R1710054-001                          |
| S1:6  | Continuing Calibration Verification   | S1:8 | Continuing Calibration Verification 1 | 2:5  | R1710054-001S                         |
| S1:7  | Continuing Calibration Blank          | S1:9 | Continuing Calibration Blank 1        | 2:6  | R1710054-001SD                        |
| 1:19  | R1710018-005L                         | 1:38 | R1710033-005A                         | 2:7  | R1710054-001A                         |
| 1:20  | R1710018-006                          | 1:39 | R1710033-005L                         | 2:8  | R1710054-001L                         |
| 1:21  | R1710018-007 10X                      | 1:40 | K1710862-001                          | 2:9  | R1710054-002                          |
| 1:22  | R1710018-007                          | 1:41 | K1710862-002                          | 2:10 | R1710054-004                          |
| 1:23  | R1710018-008                          | 1:42 | K1710862-003                          | 2:11 | R1710054-006                          |
| 1:24  | R1710018-009 100X                     | 1:43 | K1710862-004                          | S1:6 | Continuing Calibration Verification   |
| 1:25  | R1710018-010                          | 1:44 | K1710862-005                          | S1:7 | Continuing Calibration Blank          |
| 1:26  | R1710018-011                          | 1:45 | K1710862-006                          | 2:12 | R1710054-008                          |
| 1:27  | R1710191-001 10X                      | 1:46 | K1710862-006S                         | 2:13 | R1710054-010                          |
| S1:6  | Continuing Calibration Verification   | 1:47 | K1710862-006SD                        | 2:14 | R1710054-012                          |
| S1:7  | Continuing Calibration Blank          | S1:8 | Continuing Calibration Verification 1 | 2:15 | R1710054-013                          |
| S1:3  | Contract Required Detection Limit     | S1:9 | Continuing Calibration Blank 1        | 2:16 | R1710113-001                          |
| S1:4  | Interference Check Solution A         | 1:48 | K1710862-006A                         | 2:17 | R1710113-002 003 OK 11/1/17           |
| S1:5  | Interference Check Solution AB        | 1:49 | K1710862-006L                         | 2:18 | R1710113-003 002 OK 11/1/17           |
| S1:21 | HLCCV2                                | 1:50 | K1710862-007                          | 2:19 | R1710113-004                          |
| S1:22 | HLCCV3                                | 1:51 | K1710862-008                          | 2:20 | R1710113-005                          |
| S1:23 | HLCCV1                                | 1:52 | K1710862-009                          | 2:21 | R1710113-006                          |
| S1:8  | Continuing Calibration Verification 1 | 1:53 | K1710862-010                          | S1:6 | Continuing Calibration Verification   |
| S1:9  | Continuing Calibration Blank 1        | 1:54 | K1710862-001 T                        | S1:7 | Continuing Calibration Blank          |
|       |                                       | 1:55 | K1710862-002 T                        | 2:22 | R1710113-007                          |
|       |                                       | 1:56 | K1710862-006 T                        | 2:23 | R1710113-007L                         |
|       |                                       | 1:57 | K1710862-006S T                       | 2:24 | R1710200-001                          |
|       |                                       | S1:8 | Continuing Calibration Verification 1 | 2:25 | R1710200-003                          |
|       |                                       | S1:9 | Continuing Calibration Blank 1        | S1:6 | Continuing Calibration Verification   |
|       |                                       | 1:58 | K1710862-006SD T                      | S1:7 | Continuing Calibration Blank          |
|       |                                       | 1:59 | K1710862-006A T                       | S1:3 | Contract Required Detection Limit     |
|       |                                       | 1:60 | K1710862-006L T                       | S1:4 | Interference Check Solution A         |
|       |                                       | 2:1  | K1710862-014 T                        | S1:5 | Interference Check Solution AB        |

NM  
10/31/17 1/2

P:\NTRANET\QAQC

**ICP-6 Run Log**  
Serial number: MY15340001

Analyst: NM

Date: 10/31/17

Data File: 6OCT31B

|   | Prep Date | Lot # |                   | Prep Date | Lot # |
|---|-----------|-------|-------------------|-----------|-------|
| MRL   |           |       | Cal Std 1         |           |       |
| ICSA  |           |       | Cal Std 2         |           |       |
| ICSAB   |           |       | Cal Std 5/ HLCCV1 |           |       |
| Int. Std  |           |       | ICV/CCV           |           |       |
|   |           |       | HLCCV2            |           |       |
| (Cal Std 4 is a 1/5 and Cal Std 3 is a 1/100 dilution of Cal Std 5) |           |       |                   |           |       |

*See Previous Page*

*NM 10/31/17*

| Blank Prep - Daily | NHO3 | HC | Pipet Used | DOD Pipet Verification | IEC Date |
|--------------------|------|----|------------|------------------------|----------|
|                    |      |    |            |                        |          |

| Lot  |                                      |      |                                      |
|------|--------------------------------------|------|--------------------------------------|
| S1:8 | Continuing Calibration Verification1 | 2:45 | R1710073-014SD                       |
| S1:9 | Continuing Calibration Blank1        | S1:8 | Continuing Calibration Verification1 |
| 2:26 | PBW-301955                           | S1:9 | Continuing Calibration Blank1        |
| 2:27 | LCSW-301955                          | 2:46 | R1710073-014A                        |
| 2:28 | R1710073-001                         | 2:47 | R1710073-014L                        |
| 2:29 | R1710073-002                         | 2:48 | R1710073-015                         |
| 2:30 | R1710073-003                         | 2:49 | R1710073-016                         |
| 2:31 | R1710073-004                         | 2:50 | R1710073-017                         |
| 2:32 | R1710073-005                         | 2:51 | R1710073-018                         |
| 2:33 | R1710073-006                         | 2:52 | R1710073-019                         |
| 2:34 | R1710073-007                         | 2:53 | R1710073-020                         |
| 2:35 | R1710073-008                         | 2:54 | R1710073-021                         |
| S1:8 | Continuing Calibration Verification1 | 2:55 | R1710073-022                         |
| S1:9 | Continuing Calibration Blank1        | S1:8 | Continuing Calibration Verification1 |
| 2:36 | R1710073-009                         | S1:9 | Continuing Calibration Blank1        |
| 2:37 | R1710073-010                         | S1:3 | Contract Required Detection Limit    |
| 2:38 | R1710073-013                         | S1:4 | Interference Check Solution A        |
| 2:39 | R1710073-013S                        | S1:5 | Interference Check Solution AB       |
| 2:40 | R1710073-013SD                       | S1:6 | Continuing Calibration Verification  |
| 2:41 | R1710073-013A                        | S1:7 | Continuing Calibration Blank         |
| 2:42 | R1710073-013L                        |      |                                      |
| 2:43 | R1710073-014                         |      |                                      |
| 2:44 | R1710073-014S                        |      |                                      |

*NM  
10/31/17  
2/2*





Path: C:\Agilent\ICP Expert\My Results\6OCT31B.esws  
 Date created: 11/10/2015 11:09:45 AM  
 Instrument used: MY15340001  
 Software Version : 7.100.6821.61355    Firmware Version : 2994  
 Notes:

*Analyst:  
 NM/10/31/17  
 (10/11/17)*

Detailed Results

| Date Time           | Label      | Element Label (nm) | Conc         | %RSD | Unadjusted Conc | Intensity  |
|---------------------|------------|--------------------|--------------|------|-----------------|------------|
| 10/31/2017 18:19:15 | Blank      | Ag (328.068 nm)    | 0.0000 (ppm) | N/A  | 0.0000 (ppm)    | -103.5199  |
| 10/31/2017 18:19:15 | Blank      | Al (394.401 nm)    | 0.0000 (ppm) | N/A  | 0.0000 (ppm)    | 125.8898   |
| 10/31/2017 18:19:15 | Blank      | As (188.980 nm)    | 0.0000 (ppm) | N/A  | 0.0000 (ppm)    | -1.4556    |
| 10/31/2017 18:19:15 | Blank      | B (249.772 nm)     | 0.0000 (ppm) | N/A  | 0.0000 (ppm)    | 33.7366    |
| 10/31/2017 18:19:15 | Blank      | Ba (230.424 nm)    | 0.0000 (ppm) | N/A  | 0.0000 (ppm)    | 1.8955     |
| 10/31/2017 18:19:15 | Blank      | Be (313.107 nm)    | 0.0000 (ppm) | N/A  | 0.0000 (ppm)    | -523.7467  |
| 10/31/2017 18:19:15 | Blank      | Ca (227.547 nm)    | 0.0000 (ppm) | N/A  | 0.0000 (ppm)    | 4.4141     |
| 10/31/2017 18:19:15 | Blank      | Cd (214.439 nm)    | 0.0000 (ppm) | N/A  | 0.0000 (ppm)    | 13.5722    |
| 10/31/2017 18:19:15 | Blank      | Co (230.786 nm)    | 0.0000 (ppm) | N/A  | 0.0000 (ppm)    | -3.5604    |
| 10/31/2017 18:19:15 | Blank      | Cr (267.716 nm)    | 0.0000 (ppm) | N/A  | 0.0000 (ppm)    | -1.0703    |
| 10/31/2017 18:19:15 | Blank      | Cu (327.395 nm)    | 0.0000 (ppm) | N/A  | 0.0000 (ppm)    | 12.9636    |
| 10/31/2017 18:19:15 | Blank      | Fe (234.350 nm)    | 0.0000 (ppm) | N/A  | 0.0000 (ppm)    | 11.8400    |
| 10/31/2017 18:19:15 | Blank      | K (766.491 nm)     | 0.0000 (ppm) | N/A  | 0.0000 (ppm)    | -8.8328    |
| 10/31/2017 18:19:15 | Blank      | Mg (279.078 nm)    | 0.0000 (ppm) | N/A  | 0.0000 (ppm)    | -0.6701    |
| 10/31/2017 18:19:15 | Blank      | Mn (257.610 nm)    | 0.0000 (ppm) | N/A  | 0.0000 (ppm)    | 4.3915     |
| 10/31/2017 18:19:15 | Blank      | Mo (202.032 nm)    | 0.0000 (ppm) | N/A  | 0.0000 (ppm)    | 7.0792     |
| 10/31/2017 18:19:15 | Blank      | Na (588.995 nm)    | 0.0000 (ppm) | N/A  | 0.0000 (ppm)    | -5460.2635 |
| 10/31/2017 18:19:15 | Blank      | Ni (230.299 nm)    | 0.0000 (ppm) | N/A  | 0.0000 (ppm)    | -20.6132   |
| 10/31/2017 18:19:15 | Blank      | Pb (220.353 nm)    | 0.0000 (ppm) | N/A  | 0.0000 (ppm)    | 5.0502     |
| 10/31/2017 18:19:15 | Blank      | Sb (217.582 nm)    | 0.0000 (ppm) | N/A  | 0.0000 (ppm)    | 0.8064     |
| 10/31/2017 18:19:15 | Blank      | Se (196.026 nm)    | 0.0000 (ppm) | N/A  | 0.0000 (ppm)    | 0.7762     |
| 10/31/2017 18:19:15 | Blank      | Sn (189.925 nm)    | 0.0000 (ppm) | N/A  | 0.0000 (ppm)    | -0.0732    |
| 10/31/2017 18:19:15 | Blank      | Sr (216.596 nm)    | 0.0000 (ppm) | N/A  | 0.0000 (ppm)    | -0.6593    |
| 10/31/2017 18:19:15 | Blank      | Tl (336.122 nm)    | 0.0000 (ppm) | N/A  | 0.0000 (ppm)    | -481.7161  |
| 10/31/2017 18:19:15 | Blank      | Tl (351.923 nm)    | 0.0000 (ppm) | N/A  | 0.0000 (ppm)    | 7.3004     |
| 10/31/2017 18:19:15 | Blank      | V (292.401 nm)     | 0.0000 (ppm) | N/A  | 0.0000 (ppm)    | 108.9825   |
| 10/31/2017 18:19:15 | Blank      | Y (360.074 nm)     | 1.00 (Ratio) | 0.00 | 1.00 (Ratio)    | 853197.58  |
| 10/31/2017 18:19:15 | Blank      | Y_R (360.074 nm)   | 1.00 (Ratio) | 0.00 | 1.00 (Ratio)    | 854201.44  |
| 10/31/2017 18:19:15 | Blank      | Zn (213.857 nm)    | 0.0000 (ppm) | N/A  | 0.0000 (ppm)    | -26.6762   |
| 10/31/2017 18:22:35 | Standard 1 | Ag (328.068 nm)    |              | N/A  |                 | -104.7942  |
| 10/31/2017 18:22:35 | Standard 1 | Al (394.401 nm)    |              | N/A  |                 | 351.1252   |
| 10/31/2017 18:22:35 | Standard 1 | As (188.980 nm)    | 0.0050 (ppm) | N/A  | 0.0050 (ppm)    | 3.4940     |
| 10/31/2017 18:22:35 | Standard 1 | B (249.772 nm)     |              | N/A  |                 | 34.0968    |
| 10/31/2017 18:22:35 | Standard 1 | Ba (230.424 nm)    | 0.0200 (ppm) | N/A  | 0.0200 (ppm)    | 703.0304   |
| 10/31/2017 18:22:35 | Standard 1 | Be (313.107 nm)    |              | N/A  |                 | -520.6401  |
| 10/31/2017 18:22:35 | Standard 1 | Ca (227.547 nm)    |              | N/A  |                 | 33.0679    |
| 10/31/2017 18:22:35 | Standard 1 | Cd (214.439 nm)    | 0.0010 (ppm) | N/A  | 0.0010 (ppm)    | 35.3551    |
| 10/31/2017 18:22:35 | Standard 1 | Co (230.786 nm)    | 0.0030 (ppm) | N/A  | 0.0030 (ppm)    | 27.0994    |
| 10/31/2017 18:22:35 | Standard 1 | Cr (267.716 nm)    | 0.0050 (ppm) | N/A  | 0.0050 (ppm)    | 278.0843   |
| 10/31/2017 18:22:35 | Standard 1 | Cu (327.395 nm)    | 0.0100 (ppm) | N/A  | 0.0100 (ppm)    | 654.1048   |

| Date Time           | Label      | Element Label (nm) | Conc         | %RSD | Unadjusted Conc | Intensity  |
|---------------------|------------|--------------------|--------------|------|-----------------|------------|
| 10/31/2017 18:22:35 | Standard 1 | Fe (234.350 nm)    |              | N/A  |                 | 52.6441    |
| 10/31/2017 18:22:35 | Standard 1 | K (766.491 nm)     |              | N/A  |                 | 5502.4831  |
| 10/31/2017 18:22:35 | Standard 1 | Mg (279.078 nm)    |              | N/A  |                 | 946.6257   |
| 10/31/2017 18:22:35 | Standard 1 | Mn (257.610 nm)    | 0.0100 (ppm) | N/A  | 0.0100 (ppm)    | 3343.9407  |
| 10/31/2017 18:22:35 | Standard 1 | Mo (202.032 nm)    | 0.0250 (ppm) | N/A  | 0.0250 (ppm)    | 253.7540   |
| 10/31/2017 18:22:35 | Standard 1 | Na (588.995 nm)    |              | N/A  |                 | 17236.4553 |
| 10/31/2017 18:22:35 | Standard 1 | Ni (230.299 nm)    |              | N/A  |                 | -19.4085   |
| 10/31/2017 18:22:35 | Standard 1 | Pb (220.353 nm)    | 0.0050 (ppm) | N/A  | 0.0050 (ppm)    | 15.7987    |
| 10/31/2017 18:22:35 | Standard 1 | Sb (217.582 nm)    | 0.0100 (ppm) | N/A  | 0.0100 (ppm)    | 12.8064    |
| 10/31/2017 18:22:35 | Standard 1 | Se (196.026 nm)    |              | N/A  |                 | 1.7561     |
| 10/31/2017 18:22:35 | Standard 1 | Sn (189.925 nm)    |              | N/A  |                 | 0.2859     |
| 10/31/2017 18:22:35 | Standard 1 | Sr (216.596 nm)    |              | N/A  |                 | -1.0881    |
| 10/31/2017 18:22:35 | Standard 1 | Ti (336.122 nm)    |              | N/A  |                 | -462.9603  |
| 10/31/2017 18:22:35 | Standard 1 | Ti (351.923 nm)    | 0.0100 (ppm) | N/A  | 0.0100 (ppm)    | 29.9563    |
| 10/31/2017 18:22:35 | Standard 1 | V (292.401 nm)     | 0.0030 (ppm) | N/A  | 0.0030 (ppm)    | 208.0102   |
| 10/31/2017 18:22:35 | Standard 1 | Y (360.074 nm)     | 1.00 (Ratio) | 0.82 | 1.00 (Ratio)    | 849198.82  |
| 10/31/2017 18:22:35 | Standard 1 | Y_R (360.074 nm)   | 1.00 (Ratio) | 0.82 | 1.00 (Ratio)    | 850192.04  |
| 10/31/2017 18:22:35 | Standard 1 | Zn (213.857 nm)    | 0.0100 (ppm) | N/A  | 0.0100 (ppm)    | 254.5639   |
| 10/31/2017 18:25:55 | Standard 2 | Ag (328.068 nm)    |              | N/A  |                 | -102.4632  |
| 10/31/2017 18:25:55 | Standard 2 | Al (394.401 nm)    | 0.1000 (ppm) | N/A  | 0.1000 (ppm)    | 1242.4452  |
| 10/31/2017 18:25:55 | Standard 2 | As (188.980 nm)    | 0.0100 (ppm) | N/A  | 0.0100 (ppm)    | 7.2067     |
| 10/31/2017 18:25:55 | Standard 2 | B (249.772 nm)     | 0.2000 (ppm) | N/A  | 0.2000 (ppm)    | 5159.2552  |
| 10/31/2017 18:25:55 | Standard 2 | Ba (230.424 nm)    |              | N/A  |                 | 3.9312     |
| 10/31/2017 18:25:55 | Standard 2 | Be (313.107 nm)    | 0.0030 (ppm) | N/A  | 0.0030 (ppm)    | 3744.1623  |
| 10/31/2017 18:25:55 | Standard 2 | Ca (227.547 nm)    | 1.0000 (ppm) | N/A  | 1.0000 (ppm)    | 57.1130    |
| 10/31/2017 18:25:55 | Standard 2 | Cd (214.439 nm)    | 0.0050 (ppm) | N/A  | 0.0050 (ppm)    | 121.3219   |
| 10/31/2017 18:25:55 | Standard 2 | Co (230.786 nm)    |              | N/A  |                 | -3.3831    |
| 10/31/2017 18:25:55 | Standard 2 | Cr (267.716 nm)    |              | N/A  |                 | 17.6804    |
| 10/31/2017 18:25:55 | Standard 2 | Cu (327.395 nm)    | 0.0200 (ppm) | N/A  | 0.0200 (ppm)    | 1234.1570  |
| 10/31/2017 18:25:55 | Standard 2 | Fe (234.350 nm)    |              | N/A  |                 | 27.9560    |
| 10/31/2017 18:25:55 | Standard 2 | K (766.491 nm)     | 2.0000 (ppm) | N/A  | 2.0000 (ppm)    | 5448.0512  |
| 10/31/2017 18:25:55 | Standard 2 | Mg (279.078 nm)    | 1.0000 (ppm) | N/A  | 1.0000 (ppm)    | 1896.5676  |
| 10/31/2017 18:25:55 | Standard 2 | Mn (257.610 nm)    |              | N/A  |                 | 53.6019    |
| 10/31/2017 18:25:55 | Standard 2 | Mo (202.032 nm)    |              | N/A  |                 | 8.9899     |
| 10/31/2017 18:25:55 | Standard 2 | Na (588.995 nm)    | 1.0000 (ppm) | N/A  | 1.0000 (ppm)    | 39488.6222 |
| 10/31/2017 18:25:55 | Standard 2 | Ni (230.299 nm)    |              | N/A  |                 | -23.0376   |
| 10/31/2017 18:25:55 | Standard 2 | Pb (220.353 nm)    | 0.0500 (ppm) | N/A  | 0.0500 (ppm)    | 111.6192   |
| 10/31/2017 18:25:55 | Standard 2 | Sb (217.582 nm)    | 0.0600 (ppm) | N/A  | 0.0600 (ppm)    | 79.2915    |
| 10/31/2017 18:25:55 | Standard 2 | Se (196.026 nm)    | 0.0100 (ppm) | N/A  | 0.0100 (ppm)    | 10.9879    |
| 10/31/2017 18:25:55 | Standard 2 | Sn (189.925 nm)    | 0.5000 (ppm) | N/A  | 0.5000 (ppm)    | 605.7899   |
| 10/31/2017 18:25:55 | Standard 2 | Sr (216.596 nm)    |              | N/A  |                 | -1.2608    |
| 10/31/2017 18:25:55 | Standard 2 | Ti (336.122 nm)    |              | N/A  |                 | -465.9189  |
| 10/31/2017 18:25:55 | Standard 2 | Ti (351.923 nm)    |              | N/A  |                 | 12.1476    |
| 10/31/2017 18:25:55 | Standard 2 | V (292.401 nm)     |              | N/A  |                 | 106.5438   |
| 10/31/2017 18:25:55 | Standard 2 | Y (360.074 nm)     | 0.99 (Ratio) | 0.54 | 0.99 (Ratio)    | 848349.31  |
| 10/31/2017 18:25:55 | Standard 2 | Y_R (360.074 nm)   | 0.99 (Ratio) | 0.54 | 0.99 (Ratio)    | 849273.00  |
| 10/31/2017 18:25:55 | Standard 2 | Zn (213.857 nm)    |              | N/A  |                 | -19.9982   |
| 10/31/2017 18:29:15 | Standard 3 | Ag (328.068 nm)    | 0.0100 (ppm) | N/A  | 0.0100 (ppm)    | 597.2075   |
| 10/31/2017 18:29:15 | Standard 3 | Al (394.401 nm)    |              | N/A  |                 | 2363.0519  |
| 10/31/2017 18:29:15 | Standard 3 | As (188.980 nm)    |              | N/A  |                 | 14.6275    |
| 10/31/2017 18:29:15 | Standard 3 | B (249.772 nm)     |              | N/A  |                 | 1365.6804  |

| Date Time           | Label      | Element Label (nm) | Conc          | %RSD | Unadjusted Conc | Intensity   |
|---------------------|------------|--------------------|---------------|------|-----------------|-------------|
| 10/31/2017 18:29:15 | Standard 3 | Ba (230.424 nm)    |               | N/A  |                 | 7122.8755   |
| 10/31/2017 18:29:15 | Standard 3 | Be (313.107 nm)    | 0.0050 (ppm)  | N/A  | 0.0050 (ppm)    | 6627.6959   |
| 10/31/2017 18:29:15 | Standard 3 | Ca (227.547 nm)    | 0.5000 (ppm)  | N/A  | 0.5000 (ppm)    | 32.9342     |
| 10/31/2017 18:29:15 | Standard 3 | Cd (214.439 nm)    |               | N/A  |                 | 233.5080    |
| 10/31/2017 18:29:15 | Standard 3 | Co (230.786 nm)    | 0.0500 (ppm)  | N/A  | 0.0500 (ppm)    | 495.5987    |
| 10/31/2017 18:29:15 | Standard 3 | Cr (267.716 nm)    | 0.0100 (ppm)  | N/A  | 0.0100 (ppm)    | 502.3833    |
| 10/31/2017 18:29:15 | Standard 3 | Cu (327.395 nm)    |               | N/A  |                 | 1523.4347   |
| 10/31/2017 18:29:15 | Standard 3 | Fe (234.350 nm)    | 0.1000 (ppm)  | N/A  | 0.1000 (ppm)    | 1452.7629   |
| 10/31/2017 18:29:15 | Standard 3 | K (766.491 nm)     | 0.5000 (ppm)  | N/A  | 0.5000 (ppm)    | 1396.0043   |
| 10/31/2017 18:29:15 | Standard 3 | Mg (279.078 nm)    | 0.5000 (ppm)  | N/A  | 0.5000 (ppm)    | 948.8947    |
| 10/31/2017 18:29:15 | Standard 3 | Mn (257.610 nm)    |               | N/A  |                 | 4959.0570   |
| 10/31/2017 18:29:15 | Standard 3 | Mo (202.032 nm)    |               | N/A  |                 | 505.1944    |
| 10/31/2017 18:29:15 | Standard 3 | Na (588.995 nm)    | 0.5000 (ppm)  | N/A  | 0.5000 (ppm)    | 17122.2998  |
| 10/31/2017 18:29:15 | Standard 3 | Ni (230.299 nm)    | 0.0400 (ppm)  | N/A  | 0.0400 (ppm)    | 252.4379    |
| 10/31/2017 18:29:15 | Standard 3 | Pb (220.353 nm)    |               | N/A  |                 | 26.9071     |
| 10/31/2017 18:29:15 | Standard 3 | Sb (217.582 nm)    |               | N/A  |                 | 132.9939    |
| 10/31/2017 18:29:15 | Standard 3 | Se (196.026 nm)    |               | N/A  |                 | 8.1127      |
| 10/31/2017 18:29:15 | Standard 3 | Sn (189.925 nm)    |               | N/A  |                 | 125.7195    |
| 10/31/2017 18:29:15 | Standard 3 | Sr (216.596 nm)    | 0.0500 (ppm)  | N/A  | 0.0500 (ppm)    | 726.0513    |
| 10/31/2017 18:29:15 | Standard 3 | Ti (336.122 nm)    | 0.0500 (ppm)  | N/A  | 0.0500 (ppm)    | 9963.5907   |
| 10/31/2017 18:29:15 | Standard 3 | Tl (351.923 nm)    | 0.0200 (ppm)  | N/A  | 0.0200 (ppm)    | 64.4533     |
| 10/31/2017 18:29:15 | Standard 3 | V (292.401 nm)     | 0.0500 (ppm)  | N/A  | 0.0500 (ppm)    | 1855.1659   |
| 10/31/2017 18:29:15 | Standard 3 | Y (360.074 nm)     | 1.00 (Ratio)  | 0.71 | 1.00 (Ratio)    | 850320.55   |
| 10/31/2017 18:29:15 | Standard 3 | Y_R (360.074 nm)   | 1.00 (Ratio)  | 0.72 | 1.00 (Ratio)    | 851257.37   |
| 10/31/2017 18:29:15 | Standard 3 | Zn (213.857 nm)    | 0.0200 (ppm)  | N/A  | 0.0200 (ppm)    | 531.8399    |
| 10/31/2017 18:32:35 | Standard 4 | Ag (328.068 nm)    | 0.2000 (ppm)  | N/A  | 0.2000 (ppm)    | 13890.3236  |
| 10/31/2017 18:32:35 | Standard 4 | Al (394.401 nm)    | 4.0000 (ppm)  | N/A  | 4.0000 (ppm)    | 47714.5145  |
| 10/31/2017 18:32:35 | Standard 4 | As (188.980 nm)    | 0.4000 (ppm)  | N/A  | 0.4000 (ppm)    | 349.2770    |
| 10/31/2017 18:32:35 | Standard 4 | B (249.772 nm)     | 1.0000 (ppm)  | N/A  | 1.0000 (ppm)    | 27221.1367  |
| 10/31/2017 18:32:35 | Standard 4 | Ba (230.424 nm)    | 4.0000 (ppm)  | N/A  | 4.0000 (ppm)    | 140472.0872 |
| 10/31/2017 18:32:35 | Standard 4 | Be (313.107 nm)    | 0.1000 (ppm)  | N/A  | 0.1000 (ppm)    | 147210.2647 |
| 10/31/2017 18:32:35 | Standard 4 | Ca (227.547 nm)    | 10.0000 (ppm) | N/A  | 10.0000 (ppm)   | 541.4631    |
| 10/31/2017 18:32:35 | Standard 4 | Cd (214.439 nm)    | 0.2000 (ppm)  | N/A  | 0.2000 (ppm)    | 4452.3226   |
| 10/31/2017 18:32:35 | Standard 4 | Co (230.786 nm)    | 1.0000 (ppm)  | N/A  | 1.0000 (ppm)    | 10066.5545  |
| 10/31/2017 18:32:35 | Standard 4 | Cr (267.716 nm)    | 0.2000 (ppm)  | N/A  | 0.2000 (ppm)    | 10024.2416  |
| 10/31/2017 18:32:35 | Standard 4 | Cu (327.395 nm)    | 0.5000 (ppm)  | N/A  | 0.5000 (ppm)    | 30341.8357  |
| 10/31/2017 18:32:35 | Standard 4 | Fe (234.350 nm)    | 2.0000 (ppm)  | N/A  | 2.0000 (ppm)    | 23115.6597  |
| 10/31/2017 18:32:35 | Standard 4 | K (766.491 nm)     | 10.0000 (ppm) | N/A  | 10.0000 (ppm)   | 28822.1085  |
| 10/31/2017 18:32:35 | Standard 4 | Mg (279.078 nm)    | 10.0000 (ppm) | N/A  | 10.0000 (ppm)   | 19226.4520  |
| 10/31/2017 18:32:35 | Standard 4 | Mn (257.610 nm)    | 0.3000 (ppm)  | N/A  | 0.3000 (ppm)    | 95871.4661  |
| 10/31/2017 18:32:35 | Standard 4 | Mo (202.032 nm)    | 1.0000 (ppm)  | N/A  | 1.0000 (ppm)    | 10245.4814  |
| 10/31/2017 18:32:35 | Standard 4 | Na (588.995 nm)    | 10.0000 (ppm) | N/A  | 10.0000 (ppm)   | 445567.6530 |
| 10/31/2017 18:32:35 | Standard 4 | Ni (230.299 nm)    | 0.8000 (ppm)  | N/A  | 0.8000 (ppm)    | 5521.9775   |
| 10/31/2017 18:32:35 | Standard 4 | Pb (220.353 nm)    | 0.2000 (ppm)  | N/A  | 0.2000 (ppm)    | 439.9752    |
| 10/31/2017 18:32:35 | Standard 4 | Sb (217.582 nm)    | 2.0000 (ppm)  | N/A  | 2.0000 (ppm)    | 2725.8639   |
| 10/31/2017 18:32:35 | Standard 4 | Se (196.026 nm)    | 0.2000 (ppm)  | N/A  | 0.2000 (ppm)    | 169.5243    |
| 10/31/2017 18:32:35 | Standard 4 | Sn (189.925 nm)    | 2.0000 (ppm)  | N/A  | 2.0000 (ppm)    | 2479.5408   |
| 10/31/2017 18:32:35 | Standard 4 | Sr (216.596 nm)    | 1.0000 (ppm)  | N/A  | 1.0000 (ppm)    | 14495.7996  |
| 10/31/2017 18:32:35 | Standard 4 | Ti (336.122 nm)    | 1.0000 (ppm)  | N/A  | 1.0000 (ppm)    | 210607.9691 |
| 10/31/2017 18:32:35 | Standard 4 | Tl (351.923 nm)    | 0.4000 (ppm)  | N/A  | 0.4000 (ppm)    | 1064.6912   |
| 10/31/2017 18:32:35 | Standard 4 | V (292.401 nm)     | 1.0000 (ppm)  | N/A  | 1.0000 (ppm)    | 35532.2803  |

| Date Time           | Label                            | Element Label (nm) | Conc          | %RSD | Unadjusted Conc | Intensity    |
|---------------------|----------------------------------|--------------------|---------------|------|-----------------|--------------|
| 10/31/2017 18:32:35 | Standard 4                       | Y (360.074 nm)     | 0.97 (Ratio)  | 0.59 | 0.97 (Ratio)    | 830041.98    |
| 10/31/2017 18:32:35 | Standard 4                       | Y_R (360.074 nm)   | 0.97 (Ratio)  | 0.59 | 0.97 (Ratio)    | 830919.92    |
| 10/31/2017 18:32:35 | Standard 4                       | Zn (213.857 nm)    | 0.4000 (ppm)  | N/A  | 0.4000 (ppm)    | 11111.4334   |
| 10/31/2017 18:35:55 | Standard 5                       | Ag (328.068 nm)    | 1.0000 (ppm)  | N/A  | 1.0000 (ppm)    | 71405.2576   |
| 10/31/2017 18:35:55 | Standard 5                       | Al (394.401 nm)    | 20.0000 (ppm) | N/A  | 20.0000 (ppm)   | 256801.1015  |
| 10/31/2017 18:35:55 | Standard 5                       | As (188.980 nm)    | 2.0000 (ppm)  | N/A  | 2.0000 (ppm)    | 1787.7393    |
| 10/31/2017 18:35:55 | Standard 5                       | B (249.772 nm)     | 5.0000 (ppm)  | N/A  | 5.0000 (ppm)    | 138586.3572  |
| 10/31/2017 18:35:55 | Standard 5                       | Ba (230.424 nm)    | 20.0000 (ppm) | N/A  | 20.0000 (ppm)   | 671184.1781  |
| 10/31/2017 18:35:55 | Standard 5                       | Be (313.107 nm)    | 0.5000 (ppm)  | N/A  | 0.5000 (ppm)    | 738074.1927  |
| 10/31/2017 18:35:55 | Standard 5                       | Ca (227.547 nm)    | 50.0000 (ppm) | N/A  | 50.0000 (ppm)   | 2824.4336    |
| 10/31/2017 18:35:55 | Standard 5                       | Cd (214.439 nm)    | 1.0000 (ppm)  | N/A  | 1.0000 (ppm)    | 21641.1722   |
| 10/31/2017 18:35:55 | Standard 5                       | Co (230.786 nm)    | 5.0000 (ppm)  | N/A  | 5.0000 (ppm)    | 49320.7722   |
| 10/31/2017 18:35:55 | Standard 5                       | Cr (267.716 nm)    | 1.0000 (ppm)  | N/A  | 1.0000 (ppm)    | 49488.3909   |
| 10/31/2017 18:35:55 | Standard 5                       | Cu (327.395 nm)    | 2.5000 (ppm)  | N/A  | 2.5000 (ppm)    | 155368.7260  |
| 10/31/2017 18:35:55 | Standard 5                       | Fe (234.350 nm)    | 10.0000 (ppm) | N/A  | 10.0000 (ppm)   | 111548.0093  |
| 10/31/2017 18:35:55 | Standard 5                       | K (766.491 nm)     | 50.0000 (ppm) | N/A  | 50.0000 (ppm)   | 151147.9269  |
| 10/31/2017 18:35:55 | Standard 5                       | Mg (279.078 nm)    | 50.0000 (ppm) | N/A  | 50.0000 (ppm)   | 96498.2712   |
| 10/31/2017 18:35:55 | Standard 5                       | Mn (257.610 nm)    | 1.5000 (ppm)  | N/A  | 1.5000 (ppm)    | 469794.4575  |
| 10/31/2017 18:35:55 | Standard 5                       | Mo (202.032 nm)    | 5.0000 (ppm)  | N/A  | 5.0000 (ppm)    | 50966.2867   |
| 10/31/2017 18:35:55 | Standard 5                       | Na (588.995 nm)    | 50.0000 (ppm) | N/A  | 50.0000 (ppm)   | 2269032.0713 |
| 10/31/2017 18:35:55 | Standard 5                       | Ni (230.299 nm)    | 4.0000 (ppm)  | N/A  | 4.0000 (ppm)    | 26895.3429   |
| 10/31/2017 18:35:55 | Standard 5                       | Pb (220.353 nm)    | 1.0000 (ppm)  | N/A  | 1.0000 (ppm)    | 2140.1011    |
| 10/31/2017 18:35:55 | Standard 5                       | Sb (217.582 nm)    | 10.0000 (ppm) | N/A  | 10.0000 (ppm)   | 13678.3515   |
| 10/31/2017 18:35:55 | Standard 5                       | Se (196.026 nm)    | 1.0000 (ppm)  | N/A  | 1.0000 (ppm)    | 857.6859     |
| 10/31/2017 18:35:55 | Standard 5                       | Sn (189.925 nm)    | 10.0000 (ppm) | N/A  | 10.0000 (ppm)   | 12097.7908   |
| 10/31/2017 18:35:55 | Standard 5                       | Sr (216.596 nm)    | 5.0000 (ppm)  | N/A  | 5.0000 (ppm)    | 70932.9257   |
| 10/31/2017 18:35:55 | Standard 5                       | Ti (336.122 nm)    | 5.0000 (ppm)  | N/A  | 5.0000 (ppm)    | 1045320.7208 |
| 10/31/2017 18:35:55 | Standard 5                       | Tl (351.923 nm)    | 2.0000 (ppm)  | N/A  | 2.0000 (ppm)    | 5508.9903    |
| 10/31/2017 18:35:55 | Standard 5                       | V (292.401 nm)     | 5.0000 (ppm)  | N/A  | 5.0000 (ppm)    | 176827.5888  |
| 10/31/2017 18:35:55 | Standard 5                       | Y (360.074 nm)     | 0.93 (Ratio)  | 0.43 | 0.93 (Ratio)    | 795913.03    |
| 10/31/2017 18:35:55 | Standard 5                       | Y_R (360.074 nm)   | 0.93 (Ratio)  | 0.43 | 0.93 (Ratio)    | 796689.16    |
| 10/31/2017 18:35:55 | Standard 5                       | Zn (213.857 nm)    | 2.0000 (ppm)  | N/A  | 2.0000 (ppm)    | 55934.9305   |
| 10/31/2017 18:39:15 | Initial Calibration Verification | Ag (328.068 nm)    | 0.4861 (ppm)  | 2.75 | 0.4861 (ppm)    | 34627.7133   |
| 10/31/2017 18:39:15 | Initial Calibration Verification | Al (394.401 nm)    | 9.4170 (ppm)  | 2.83 | 9.4170 (ppm)    | 120642.3731  |
| 10/31/2017 18:39:15 | Initial Calibration Verification | As (188.980 nm)    | 0.9618 (ppm)  | 2.97 | 0.9618 (ppm)    | 858.3469     |
| 10/31/2017 18:39:15 | Initial Calibration Verification | B (249.772 nm)     | 2.4188 (ppm)  | 2.76 | 2.4188 (ppm)    | 67003.2983   |
| 10/31/2017 18:39:15 | Initial Calibration Verification | Ba (230.424 nm)    | 10.1955 (ppm) | 2.79 | 10.1955 (ppm)   | 342766.4788  |
| 10/31/2017 18:39:15 | Initial Calibration Verification | Be (313.107 nm)    | 0.2506 (ppm)  | 2.86 | 0.2506 (ppm)    | 369648.1308  |
| 10/31/2017 18:39:15 | Initial Calibration Verification | Ca (227.547 nm)    | 24.1074 (ppm) | 2.66 | 24.1074 (ppm)   | 1361.5514    |
| 10/31/2017 18:39:15 | Initial Calibration Verification | Cd (214.439 nm)    | 0.4977 (ppm)  | 3.07 | 0.4977 (ppm)    | 10788.4391   |
| 10/31/2017 18:39:15 | Initial Calibration Verification | Co (230.786 nm)    | 2.5723 (ppm)  | 2.90 | 2.5723 (ppm)    | 25392.4648   |
| 10/31/2017 18:39:15 | Initial Calibration Verification | Cr (267.716 nm)    | 0.5003 (ppm)  | 3.04 | 0.5003 (ppm)    | 24769.0045   |
| 10/31/2017 18:39:15 | Initial Calibration Verification | Cu (327.395 nm)    | 1.1990 (ppm)  | 2.76 | 1.1990 (ppm)    | 74450.9240   |
| 10/31/2017 18:39:15 | Initial Calibration Verification | Fe (234.350 nm)    | 4.8091 (ppm)  | 2.97 | 4.8091 (ppm)    | 53725.4482   |
| 10/31/2017 18:39:15 | Initial Calibration Verification | K (766.491 nm)     | 24.4613 (ppm) | 2.39 | 24.4613 (ppm)   | 73797.8101   |
| 10/31/2017 18:39:15 | Initial Calibration Verification | Mg (279.078 nm)    | 24.8717 (ppm) | 2.95 | 24.8717 (ppm)   | 47993.8464   |
| 10/31/2017 18:39:15 | Initial Calibration Verification | Mn (257.610 nm)    | 0.7484 (ppm)  | 2.98 | 0.7484 (ppm)    | 234570.5900  |
| 10/31/2017 18:39:15 | Initial Calibration Verification | Mo (202.032 nm)    | 2.3849 (ppm)  | 2.95 | 2.3849 (ppm)    | 24317.5397   |
| 10/31/2017 18:39:15 | Initial Calibration Verification | Na (588.995 nm)    | 24.5330 (ppm) | 2.53 | 24.5330 (ppm)   | 1110171.1730 |
| 10/31/2017 18:39:15 | Initial Calibration Verification | Ni (230.299 nm)    | 2.0255 (ppm)  | 2.97 | 2.0255 (ppm)    | 13624.1850   |
| 10/31/2017 18:39:15 | Initial Calibration Verification | Pb (220.353 nm)    | 0.4975 (ppm)  | 3.16 | 0.4975 (ppm)    | 1067.9328    |

| Date Time           | Label                             | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity   |
|---------------------|-----------------------------------|--------------------|-----------------|----------|-----------------|-------------|
| 10/31/2017 18:39:15 | Initial Calibration Verification  | Sb (217.582 nm)    | 4.8717 (ppm)    | 2.92     | 4.8717 (ppm)    | 6663.0527   |
| 10/31/2017 18:39:15 | Initial Calibration Verification  | Se (196.026 nm)    | 0.4794 (ppm)    | 1.95     | 0.4794 (ppm)    | 411.3137    |
| 10/31/2017 18:39:15 | Initial Calibration Verification  | Sn (189.925 nm)    | 5.0492 (ppm)    | 3.86     | 5.0492 (ppm)    | 6114.1922   |
| 10/31/2017 18:39:15 | Initial Calibration Verification  | Sr (216.596 nm)    | 2.5244 (ppm)    | 2.35     | 2.5244 (ppm)    | 35842.9633  |
| 10/31/2017 18:39:15 | Initial Calibration Verification  | Ti (336.122 nm)    | 2.4890 (ppm)    | 2.85     | 2.4890 (ppm)    | 520310.2938 |
| 10/31/2017 18:39:15 | Initial Calibration Verification  | Tl (351.923 nm)    | 0.9776 (ppm)    | 2.79     | 0.9776 (ppm)    | 2692.6160   |
| 10/31/2017 18:39:15 | Initial Calibration Verification  | V (292.401 nm)     | 2.5015 (ppm)    | 2.74     | 2.5015 (ppm)    | 88527.6020  |
| 10/31/2017 18:39:15 | Initial Calibration Verification  | Y (360.074 nm)     | 0.96 (Ratio)    | 2.04     | 0.96 (Ratio)    | 821049.66   |
| 10/31/2017 18:39:15 | Initial Calibration Verification  | Y_R (360.074 nm)   | 0.96 (Ratio)    | 2.04     | 0.96 (Ratio)    | 821870.63   |
| 10/31/2017 18:39:15 | Initial Calibration Verification  | Zn (213.857 nm)    | 0.9965 (ppm)    | 2.96     | 0.9965 (ppm)    | 27850.6476  |
| 10/31/2017 18:42:34 | Initial Calibration Blank         | Ag (328.068 nm)    | 0.0003 (ppm)    | 39.35    | 0.0003 (ppm)    | -82.5601    |
| 10/31/2017 18:42:34 | Initial Calibration Blank         | Al (394.401 nm)    | 0.0056 (ppm)    | 43.08    | 0.0056 (ppm)    | 197.7476    |
| 10/31/2017 18:42:34 | Initial Calibration Blank         | As (188.980 nm)    | -0.0011 u (ppm) | 80.14    | -0.0011 (ppm)   | -2.4467     |
| 10/31/2017 18:42:34 | Initial Calibration Blank         | B (249.772 nm)     | 0.0064 (ppm)    | 22.23    | 0.0064 (ppm)    | 210.4616    |
| 10/31/2017 18:42:34 | Initial Calibration Blank         | Ba (230.424 nm)    | 0.0088 (ppm)    | 45.13    | 0.0088 (ppm)    | 297.9993    |
| 10/31/2017 18:42:34 | Initial Calibration Blank         | Be (313.107 nm)    | 0.0002 (ppm)    | 32.78    | 0.0002 (ppm)    | -253.2082   |
| 10/31/2017 18:42:34 | Initial Calibration Blank         | Cb (227.547 nm)    | 0.0089 u (ppm)  | > 100.00 | 0.0089 (ppm)    | 4.9145      |
| 10/31/2017 18:42:34 | Initial Calibration Blank         | Cd (214.439 nm)    | 0.0004 (ppm)    | 8.00     | 0.0004 (ppm)    | 22.2399     |
| 10/31/2017 18:42:34 | Initial Calibration Blank         | Co (230.786 nm)    | 0.0020 (ppm)    | 32.82    | 0.0020 (ppm)    | 16.3176     |
| 10/31/2017 18:42:34 | Initial Calibration Blank         | Cr (267.716 nm)    | 0.0003 (ppm)    | 52.86    | 0.0003 (ppm)    | 14.6836     |
| 10/31/2017 18:42:34 | Initial Calibration Blank         | Cu (327.395 nm)    | 0.0011 (ppm)    | 33.81    | 0.0011 (ppm)    | 80.5329     |
| 10/31/2017 18:42:34 | Initial Calibration Blank         | Fe (234.350 nm)    | 0.0043 (ppm)    | 38.90    | 0.0043 (ppm)    | 60.0026     |
| 10/31/2017 18:42:34 | Initial Calibration Blank         | K (766.491 nm)     | 0.0623 (ppm)    | 15.29    | 0.0623 (ppm)    | 179.0306    |
| 10/31/2017 18:42:34 | Initial Calibration Blank         | Mg (279.078 nm)    | 0.0164 (ppm)    | 39.15    | 0.0164 (ppm)    | 30.9269     |
| 10/31/2017 18:42:34 | Initial Calibration Blank         | Mn (257.610 nm)    | 0.0006 (ppm)    | 31.31    | 0.0006 (ppm)    | 191.2506    |
| 10/31/2017 18:42:34 | Initial Calibration Blank         | Mo (202.032 nm)    | 0.0040 (ppm)    | 14.36    | 0.0040 (ppm)    | 48.1357     |
| 10/31/2017 18:42:34 | Initial Calibration Blank         | Na (588.995 nm)    | 0.0151 (ppm)    | 41.06    | 0.0151 (ppm)    | -4774.4815  |
| 10/31/2017 18:42:34 | Initial Calibration Blank         | Ni (230.299 nm)    | 0.0013 (ppm)    | 79.98    | 0.0013 (ppm)    | -11.6472    |
| 10/31/2017 18:42:34 | Initial Calibration Blank         | Pb (220.353 nm)    | -0.0002 u (ppm) | > 100.00 | -0.0002 (ppm)   | 4.5493      |
| 10/31/2017 18:42:34 | Initial Calibration Blank         | Sb (217.582 nm)    | 0.0056 (ppm)    | 36.92    | 0.0056 (ppm)    | 8.5088      |
| 10/31/2017 18:42:34 | Initial Calibration Blank         | Se (196.026 nm)    | -0.0011 u (ppm) | 61.47    | -0.0011 (ppm)   | -0.1640     |
| 10/31/2017 18:42:34 | Initial Calibration Blank         | Sn (189.925 nm)    | 0.0042 (ppm)    | 57.16    | 0.0042 (ppm)    | 5.0362      |
| 10/31/2017 18:42:34 | Initial Calibration Blank         | Sr (216.596 nm)    | 0.0017 (ppm)    | 52.99    | 0.0017 (ppm)    | 23.5437     |
| 10/31/2017 18:42:34 | Initial Calibration Blank         | Ti (336.122 nm)    | 0.0031 (ppm)    | 19.70    | 0.0031 (ppm)    | 163.8718    |
| 10/31/2017 18:42:34 | Initial Calibration Blank         | Tl (351.923 nm)    | 0.0018 u (ppm)  | > 100.00 | 0.0018 (ppm)    | 12.3110     |
| 10/31/2017 18:42:34 | Initial Calibration Blank         | V (292.401 nm)     | 0.0018 (ppm)    | 40.48    | 0.0018 (ppm)    | 171.7929    |
| 10/31/2017 18:42:34 | Initial Calibration Blank         | Y (360.074 nm)     | 0.99 (Ratio)    | 0.61     | 0.99 (Ratio)    | 847177.32   |
| 10/31/2017 18:42:34 | Initial Calibration Blank         | Y_R (360.074 nm)   | 0.99 (Ratio)    | 0.60     | 0.99 (Ratio)    | 848069.83   |
| 10/31/2017 18:42:34 | Initial Calibration Blank         | Zn (213.857 nm)    | 0.0009 (ppm)    | 26.16    | 0.0009 (ppm)    | -1.5850     |
| 10/31/2017 18:45:52 | Contract Required Detection Limit | Ag (328.068 nm)    | 0.0098 (ppm)    | 1.23     | 0.0098 (ppm)    | 595.4004    |
| 10/31/2017 18:45:52 | Contract Required Detection Limit | Al (394.401 nm)    | 0.1775 (ppm)    | 1.16     | 0.1775 (ppm)    | 2397.9015   |
| 10/31/2017 18:45:52 | Contract Required Detection Limit | As (188.980 nm)    | 0.0195 (ppm)    | 11.64    | 0.0195 (ppm)    | 15.9660     |
| 10/31/2017 18:45:52 | Contract Required Detection Limit | B (249.772 nm)     | 0.1922 (ppm)    | 0.37     | 0.1922 (ppm)    | 5353.8759   |
| 10/31/2017 18:45:52 | Contract Required Detection Limit | Ba (230.424 nm)    | 0.2143 (ppm)    | 0.57     | 0.2143 (ppm)    | 7205.6035   |
| 10/31/2017 18:45:52 | Contract Required Detection Limit | Be (313.107 nm)    | 0.0049 (ppm)    | 0.46     | 0.0049 (ppm)    | 6757.1918   |
| 10/31/2017 18:45:52 | Contract Required Detection Limit | Cb (227.547 nm)    | 1.0015 (ppm)    | 2.64     | 1.0015 (ppm)    | 60.7961     |
| 10/31/2017 18:45:52 | Contract Required Detection Limit | Cd (214.439 nm)    | 0.0104 (ppm)    | 1.43     | 0.0104 (ppm)    | 238.5050    |
| 10/31/2017 18:45:52 | Contract Required Detection Limit | Co (230.786 nm)    | 0.0528 (ppm)    | 0.32     | 0.0528 (ppm)    | 517.7737    |
| 10/31/2017 18:45:52 | Contract Required Detection Limit | Cr (267.716 nm)    | 0.0103 (ppm)    | 0.76     | 0.0103 (ppm)    | 510.3866    |
| 10/31/2017 18:45:52 | Contract Required Detection Limit | Cu (327.395 nm)    | 0.0248 (ppm)    | 0.61     | 0.0248 (ppm)    | 1552.8695   |
| 10/31/2017 18:45:52 | Contract Required Detection Limit | Fe (234.350 nm)    | 0.1040 (ppm)    | 0.59     | 0.1040 (ppm)    | 1173.5397   |

| Date Time           | Label                             | Element Label (nm) | Conc             | %RSD     | Unadjusted Conc | Intensity    |
|---------------------|-----------------------------------|--------------------|------------------|----------|-----------------|--------------|
| 10/31/2017 18:45:52 | Contract Required Detection Limit | K (766.491 nm)     | 0.9433 (ppm)     | 1.43     | 0.9433 (ppm)    | 2837.2691    |
| 10/31/2017 18:45:52 | Contract Required Detection Limit | Mg (279.078 nm)    | 0.9995 (ppm)     | 0.52     | 0.9995 (ppm)    | 1928.0956    |
| 10/31/2017 18:45:52 | Contract Required Detection Limit | Mn (257.610 nm)    | 0.0156 (ppm)     | 0.37     | 0.0156 (ppm)    | 4898.3802    |
| 10/31/2017 18:45:52 | Contract Required Detection Limit | Mo (202.032 nm)    | 0.0262 (ppm)     | 1.17     | 0.0262 (ppm)    | 274.1087     |
| 10/31/2017 18:45:52 | Contract Required Detection Limit | Na (588.995 nm)    | 1.0014 (ppm)     | 0.79     | 1.0014 (ppm)    | 40077.8037   |
| 10/31/2017 18:45:52 | Contract Required Detection Limit | Ni (230.299 nm)    | 0.0420 (ppm)     | 3.09     | 0.0420 (ppm)    | 262.3593     |
| 10/31/2017 18:45:52 | Contract Required Detection Limit | Pb (220.353 nm)    | 0.0102 (ppm)     | 0.69     | 0.0102 (ppm)    | 26.7744      |
| 10/31/2017 18:45:52 | Contract Required Detection Limit | Sb (217.582 nm)    | 0.0616 (ppm)     | 1.38     | 0.0616 (ppm)    | 84.9916      |
| 10/31/2017 18:45:52 | Contract Required Detection Limit | Se (196.026 nm)    | 0.0093 (ppm)     | 22.93    | 0.0093 (ppm)    | 8.7716       |
| 10/31/2017 18:45:52 | Contract Required Detection Limit | Sn (189.925 nm)    | 0.5087 (ppm)     | 0.97     | 0.5087 (ppm)    | 615.9125     |
| 10/31/2017 18:45:52 | Contract Required Detection Limit | Sr (216.596 nm)    | 0.1021 (ppm)     | 0.80     | 0.1021 (ppm)    | 1448.5682    |
| 10/31/2017 18:45:52 | Contract Required Detection Limit | Ti (336.122 nm)    | 0.0517 (ppm)     | 0.45     | 0.0517 (ppm)    | 10326.6401   |
| 10/31/2017 18:45:52 | Contract Required Detection Limit | Tl (351.923 nm)    | 0.0191 (ppm)     | 2.28     | 0.0191 (ppm)    | 59.7186      |
| 10/31/2017 18:45:52 | Contract Required Detection Limit | V (292.401 nm)     | 0.0502 (ppm)     | 0.88     | 0.0502 (ppm)    | 1883.3431    |
| 10/31/2017 18:45:52 | Contract Required Detection Limit | Y (360.074 nm)     | 0.99 (Ratio)     | 0.69     | 0.99 (Ratio)    | 847948.14    |
| 10/31/2017 18:45:52 | Contract Required Detection Limit | Y_R (360.074 nm)   | 0.99 (Ratio)     | 0.68     | 0.99 (Ratio)    | 848832.25    |
| 10/31/2017 18:45:52 | Contract Required Detection Limit | Zn (213.857 nm)    | 0.0197 (ppm)     | 1.79     | 0.0197 (ppm)    | 523.7761     |
| 10/31/2017 18:49:11 | Interference Check Solution A     | Ag (328.068 nm)    | 0.0002 u (ppm)   | > 100.00 | 0.0002 (ppm)    | -90.5680     |
| 10/31/2017 18:49:11 | Interference Check Solution A     | Al (394.401 nm)    | 259.9502 o (ppm) | 0.12     | 259.9502 (ppm)  | 3326890.4029 |
| 10/31/2017 18:49:11 | Interference Check Solution A     | As (188.980 nm)    | -0.0005 u (ppm)  | > 100.00 | -0.0005 (ppm)   | -1.8703      |
| 10/31/2017 18:49:11 | Interference Check Solution A     | B (249.772 nm)     | 0.0404 (ppm)     | 0.85     | 0.0404 (ppm)    | 1152.8935    |
| 10/31/2017 18:49:11 | Interference Check Solution A     | Ba (230.424 nm)    | 0.0015 (ppm)     | 40.20    | 0.0015 (ppm)    | 53.9346      |
| 10/31/2017 18:49:11 | Interference Check Solution A     | Be (313.107 nm)    | 0.0000 (ppm)     | 54.91    | 0.0000 (ppm)    | -551.9257    |
| 10/31/2017 18:49:11 | Interference Check Solution A     | Ca (227.547 nm)    | 264.6263 o (ppm) | 0.06     | 264.6263 (ppm)  | 14901.6591   |
| 10/31/2017 18:49:11 | Interference Check Solution A     | Cd (214.439 nm)    | -0.0009 u (ppm)  | 16.87    | -0.0009 (ppm)   | -6.9342      |
| 10/31/2017 18:49:11 | Interference Check Solution A     | Co (230.786 nm)    | -0.0016 u (ppm)  | 16.78    | -0.0016 (ppm)   | -19.4252     |
| 10/31/2017 18:49:11 | Interference Check Solution A     | Cr (267.716 nm)    | 0.0002 (ppm)     | 67.38    | 0.0002 (ppm)    | 11.0867      |
| 10/31/2017 18:49:11 | Interference Check Solution A     | Cu (327.395 nm)    | 0.0010 (ppm)     | 7.97     | 0.0010 (ppm)    | 74.0422      |
| 10/31/2017 18:49:11 | Interference Check Solution A     | Fe (234.350 nm)    | 88.3031 o (ppm)  | 0.04     | 88.3031 (ppm)   | 986290.9493  |
| 10/31/2017 18:49:11 | Interference Check Solution A     | K (766.491 nm)     | 0.0402 (ppm)     | 39.04    | 0.0402 (ppm)    | 112.5109     |
| 10/31/2017 18:49:11 | Interference Check Solution A     | Mg (279.078 nm)    | 263.0468 o (ppm) | 0.11     | 263.0468 (ppm)  | 507596.5570  |
| 10/31/2017 18:49:11 | Interference Check Solution A     | Mn (257.610 nm)    | 0.0017 (ppm)     | 4.00     | 0.0017 (ppm)    | 529.5732     |
| 10/31/2017 18:49:11 | Interference Check Solution A     | Mo (202.032 nm)    | 0.0010 (ppm)     | 9.45     | 0.0010 (ppm)    | 17.0742      |
| 10/31/2017 18:49:11 | Interference Check Solution A     | Na (588.995 nm)    | 0.0036 (ppm)     | 84.39    | 0.0036 (ppm)    | -5294.9202   |
| 10/31/2017 18:49:11 | Interference Check Solution A     | Ni (230.299 nm)    | -0.0024 u (ppm)  | 22.35    | -0.0024 (ppm)   | -37.0990     |
| 10/31/2017 18:49:11 | Interference Check Solution A     | Pb (220.353 nm)    | -0.0037 u (ppm)  | 60.17    | -0.0037 (ppm)   | -2.9035      |
| 10/31/2017 18:49:11 | Interference Check Solution A     | Sb (217.582 nm)    | -0.0016 u (ppm)  | > 100.00 | -0.0016 (ppm)   | -1.3302      |
| 10/31/2017 18:49:11 | Interference Check Solution A     | Se (196.026 nm)    | 0.0027 u (ppm)   | > 100.00 | 0.0027 (ppm)    | 3.0605       |
| 10/31/2017 18:49:11 | Interference Check Solution A     | Sn (189.925 nm)    | 0.0001 u (ppm)   | > 100.00 | 0.0001 (ppm)    | 0.0871       |
| 10/31/2017 18:49:11 | Interference Check Solution A     | Sr (216.596 nm)    | 0.0187 (ppm)     | 3.68     | 0.0187 (ppm)    | 264.4206     |
| 10/31/2017 18:49:11 | Interference Check Solution A     | Ti (336.122 nm)    | 0.0020 (ppm)     | 8.57     | 0.0020 (ppm)    | -63.5234     |
| 10/31/2017 18:49:11 | Interference Check Solution A     | Tl (351.923 nm)    | 0.0054 (ppm)     | 65.52    | 0.0054 (ppm)    | 22.1308      |
| 10/31/2017 18:49:11 | Interference Check Solution A     | V (292.401 nm)     | 0.0033 K (ppm)   | 3.55     | 0.0033 (ppm)    | 226.3767 K   |
| 10/31/2017 18:49:11 | Interference Check Solution A     | Y (360.074 nm)     | 0.89 (Ratio)     | 0.58     | 0.89 (Ratio)    | 756425.06    |
| 10/31/2017 18:49:11 | Interference Check Solution A     | Y_R (360.074 nm)   | 0.89 (Ratio)     | 0.58     | 0.89 (Ratio)    | 757102.22    |
| 10/31/2017 18:49:11 | Interference Check Solution A     | Zn (213.857 nm)    | 0.0110 K (ppm)   | 2.19     | 0.0110 (ppm)    | 281.7229 K   |
| 10/31/2017 18:52:30 | Interference Check Solution AB    | Ag (328.068 nm)    | 0.2108 (ppm)     | 0.18     | 0.2108 (ppm)    | 14960.2165   |
| 10/31/2017 18:52:30 | Interference Check Solution AB    | Al (394.401 nm)    | 258.1980 o (ppm) | 0.32     | 258.1980 (ppm)  | 3304466.2759 |
| 10/31/2017 18:52:30 | Interference Check Solution AB    | As (188.980 nm)    | 0.0979 (ppm)     | 7.20     | 0.0979 (ppm)    | 86.0380      |
| 10/31/2017 18:52:30 | Interference Check Solution AB    | B (249.772 nm)     | 0.0399 (ppm)     | 0.53     | 0.0399 (ppm)    | 1138.5698    |
| 10/31/2017 18:52:30 | Interference Check Solution AB    | Ba (230.424 nm)    | 0.5153 (ppm)     | 0.37     | 0.5153 (ppm)    | 17327.2760   |

| Date Time           | Label                               | Element Label (nm) | Conc             | %RSD     | Unadjusted Conc | Intensity    |
|---------------------|-------------------------------------|--------------------|------------------|----------|-----------------|--------------|
| 10/31/2017 18:52:30 | Interference Check Solution AB      | Be (313.107 nm)    | 0.4967 (ppm)     | 0.08     | 0.4967 (ppm)    | 733178.2491  |
| 10/31/2017 18:52:30 | Interference Check Solution AB      | Ca (227.547 nm)    | 260.4955 o (ppm) | 0.30     | 260.4955 (ppm)  | 14669.1156   |
| 10/31/2017 18:52:30 | Interference Check Solution AB      | Cd (214.439 nm)    | 0.9495 (ppm)     | 0.23     | 0.9495 (ppm)    | 20570.3874   |
| 10/31/2017 18:52:30 | Interference Check Solution AB      | Co (230.786 nm)    | 0.4894 (ppm)     | 0.28     | 0.4894 (ppm)    | 4827.8473    |
| 10/31/2017 18:52:30 | Interference Check Solution AB      | Cr (267.716 nm)    | 0.4844 (ppm)     | 0.20     | 0.4844 (ppm)    | 23983.3702   |
| 10/31/2017 18:52:30 | Interference Check Solution AB      | Cu (327.395 nm)    | 0.5192 (ppm)     | 0.26     | 0.5192 (ppm)    | 32246.1858   |
| 10/31/2017 18:52:30 | Interference Check Solution AB      | Fe (234.350 nm)    | 87.5749 o (ppm)  | 0.17     | 87.5749 (ppm)   | 978157.9533  |
| 10/31/2017 18:52:30 | Interference Check Solution AB      | K (766.491 nm)     | 0.0151 (ppm)     | 9.40     | 0.0151 (ppm)    | 36.6554      |
| 10/31/2017 18:52:30 | Interference Check Solution AB      | Mg (279.078 nm)    | 260.7395 o (ppm) | 0.17     | 260.7395 (ppm)  | 503144.0969  |
| 10/31/2017 18:52:30 | Interference Check Solution AB      | Mn (257.610 nm)    | 0.4872 (ppm)     | 0.15     | 0.4872 (ppm)    | 152710.4190  |
| 10/31/2017 18:52:30 | Interference Check Solution AB      | Mo (202.032 nm)    | 0.0007 (ppm)     | 19.11    | 0.0007 (ppm)    | 13.8915      |
| 10/31/2017 18:52:30 | Interference Check Solution AB      | Na (588.995 nm)    | 0.0111 (ppm)     | 5.26     | 0.0111 (ppm)    | -4954.7422   |
| 10/31/2017 18:52:30 | Interference Check Solution AB      | Ni (230.299 nm)    | 0.9427 (ppm)     | 0.37     | 0.9427 (ppm)    | 6329.9384    |
| 10/31/2017 18:52:30 | Interference Check Solution AB      | Pb (220.353 nm)    | 0.0469 (ppm)     | 4.13     | 0.0469 (ppm)    | 105.3423     |
| 10/31/2017 18:52:30 | Interference Check Solution AB      | Sb (217.582 nm)    | 0.6045 (ppm)     | 0.42     | 0.6045 (ppm)    | 827.4691     |
| 10/31/2017 18:52:30 | Interference Check Solution AB      | Se (196.026 nm)    | 0.0499 (ppm)     | 7.86     | 0.0499 (ppm)    | 43.5269      |
| 10/31/2017 18:52:30 | Interference Check Solution AB      | Sn (189.925 nm)    | -0.0004 u (ppm)  | > 100.00 | -0.0004 (ppm)   | -0.6019      |
| 10/31/2017 18:52:30 | Interference Check Solution AB      | Sr (216.596 nm)    | 0.0194 (ppm)     | 2.64     | 0.0194 (ppm)    | 274.2486     |
| 10/31/2017 18:52:30 | Interference Check Solution AB      | Ti (336.122 nm)    | 0.0016 (ppm)     | 6.15     | 0.0016 (ppm)    | -157.0270    |
| 10/31/2017 18:52:30 | Interference Check Solution AB      | Tl (351.923 nm)    | 0.1124 (ppm)     | 0.85     | 0.1124 (ppm)    | 315.9982     |
| 10/31/2017 18:52:30 | Interference Check Solution AB      | V (292.401 nm)     | 0.4991 (ppm)     | 0.07     | 0.4991 (ppm)    | 17749.7399   |
| 10/31/2017 18:52:30 | Interference Check Solution AB      | Y (360.074 nm)     | 0.89 (Ratio)     | 0.68     | 0.89 (Ratio)    | 760865.40    |
| 10/31/2017 18:52:30 | Interference Check Solution AB      | Y_R (360.074 nm)   | 0.89 (Ratio)     | 0.68     | 0.89 (Ratio)    | 761545.12    |
| 10/31/2017 18:52:30 | Interference Check Solution AB      | Zn (213.857 nm)    | 1.0121 (ppm)     | 0.15     | 1.0121 (ppm)    | 28287.1724   |
| 10/31/2017 18:55:50 | Continuing Calibration Verification | Ag (328.068 nm)    | 0.4845 (ppm)     | 0.24     | 0.4845 (ppm)    | 34512.0908   |
| 10/31/2017 18:55:50 | Continuing Calibration Verification | Al (394.401 nm)    | 9.5951 (ppm)     | 1.31     | 9.5951 (ppm)    | 122920.7219  |
| 10/31/2017 18:55:50 | Continuing Calibration Verification | As (188.980 nm)    | 0.9414 (ppm)     | 1.26     | 0.9414 (ppm)    | 840.0968     |
| 10/31/2017 18:55:50 | Continuing Calibration Verification | B (249.772 nm)     | 2.4004 (ppm)     | 0.24     | 2.4004 (ppm)    | 66494.3204   |
| 10/31/2017 18:55:50 | Continuing Calibration Verification | Ba (230.424 nm)    | 10.1662 (ppm)    | 0.23     | 10.1662 (ppm)   | 341779.5196  |
| 10/31/2017 18:55:50 | Continuing Calibration Verification | Be (313.107 nm)    | 0.2506 (ppm)     | 0.47     | 0.2506 (ppm)    | 369627.3198  |
| 10/31/2017 18:55:50 | Continuing Calibration Verification | Ca (227.547 nm)    | 24.1928 (ppm)    | 1.14     | 24.1928 (ppm)   | 1366.3585    |
| 10/31/2017 18:55:50 | Continuing Calibration Verification | Cd (214.439 nm)    | 0.4963 (ppm)     | 0.26     | 0.4963 (ppm)    | 10758.9171   |
| 10/31/2017 18:55:50 | Continuing Calibration Verification | Co (230.786 nm)    | 2.5629 (ppm)     | 0.28     | 2.5629 (ppm)    | 25299.1703   |
| 10/31/2017 18:55:50 | Continuing Calibration Verification | Cr (267.716 nm)    | 0.4989 (ppm)     | 0.24     | 0.4989 (ppm)    | 24699.4434   |
| 10/31/2017 18:55:50 | Continuing Calibration Verification | Cu (327.395 nm)    | 1.1920 (ppm)     | 0.45     | 1.1920 (ppm)    | 74019.7360   |
| 10/31/2017 18:55:50 | Continuing Calibration Verification | Fe (234.350 nm)    | 4.8924 (ppm)     | 0.92     | 4.8924 (ppm)    | 54656.1994   |
| 10/31/2017 18:55:50 | Continuing Calibration Verification | K (766.491 nm)     | 24.2960 (ppm)    | 0.51     | 24.2960 (ppm)   | 73298.9737   |
| 10/31/2017 18:55:50 | Continuing Calibration Verification | Mg (279.078 nm)    | 25.0431 (ppm)    | 0.56     | 25.0431 (ppm)   | 48324.5751   |
| 10/31/2017 18:55:50 | Continuing Calibration Verification | Mn (257.610 nm)    | 0.7458 (ppm)     | 0.30     | 0.7458 (ppm)    | 233773.9268  |
| 10/31/2017 18:55:50 | Continuing Calibration Verification | Mo (202.032 nm)    | 2.3718 (ppm)     | 0.25     | 2.3718 (ppm)    | 24184.4103   |
| 10/31/2017 18:55:50 | Continuing Calibration Verification | Na (588.995 nm)    | 24.3734 (ppm)    | 0.55     | 24.3734 (ppm)   | 1102911.3926 |
| 10/31/2017 18:55:50 | Continuing Calibration Verification | Ni (230.299 nm)    | 2.0144 (ppm)     | 0.19     | 2.0144 (ppm)    | 13549.5381   |
| 10/31/2017 18:55:50 | Continuing Calibration Verification | Pb (220.353 nm)    | 0.4954 (ppm)     | 0.25     | 0.4954 (ppm)    | 1063.4940    |
| 10/31/2017 18:55:50 | Continuing Calibration Verification | Sb (217.582 nm)    | 4.8522 (ppm)     | 0.56     | 4.8522 (ppm)    | 6636.3759    |
| 10/31/2017 18:55:50 | Continuing Calibration Verification | Se (196.026 nm)    | 0.4836 (ppm)     | 1.16     | 0.4836 (ppm)    | 414.9293     |
| 10/31/2017 18:55:50 | Continuing Calibration Verification | Sn (189.925 nm)    | 5.0462 (ppm)     | 0.22     | 5.0462 (ppm)    | 6110.6030    |
| 10/31/2017 18:55:50 | Continuing Calibration Verification | Sr (216.596 nm)    | 2.4992 (ppm)     | 0.15     | 2.4992 (ppm)    | 35484.9560   |
| 10/31/2017 18:55:50 | Continuing Calibration Verification | Ti (336.122 nm)    | 2.4748 (ppm)     | 0.24     | 2.4748 (ppm)    | 517340.8372  |
| 10/31/2017 18:55:50 | Continuing Calibration Verification | Tl (351.923 nm)    | 0.9743 (ppm)     | 0.49     | 0.9743 (ppm)    | 2683.4204    |
| 10/31/2017 18:55:50 | Continuing Calibration Verification | V (292.401 nm)     | 2.4898 (ppm)     | 0.30     | 2.4898 (ppm)    | 88116.8522   |
| 10/31/2017 18:55:50 | Continuing Calibration Verification | Y (360.074 nm)     | 0.96 (Ratio)     | 0.69     | 0.96 (Ratio)    | 821294.07    |

| Date Time           | Label                               | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity  |
|---------------------|-------------------------------------|--------------------|-----------------|----------|-----------------|------------|
| 10/31/2017 18:55:50 | Continuing Calibration Verification | Y_R (360.074 nm)   | 0.96 (Ratio)    | 0.68     | 0.96 (Ratio)    | 822068.96  |
| 10/31/2017 18:55:50 | Continuing Calibration Verification | Zn (213.857 nm)    | 0.9942 (ppm)    | 0.28     | 0.9942 (ppm)    | 27787.5359 |
| 10/31/2017 18:59:09 | Continuing Calibration Blank        | Ag (328.068 nm)    | 0.0003 (ppm)    | 46.20    | 0.0003 (ppm)    | -80.0609   |
| 10/31/2017 18:59:09 | Continuing Calibration Blank        | Al (394.401 nm)    | 0.0505 (ppm)    | 53.49    | 0.0505 (ppm)    | 772.3344   |
| 10/31/2017 18:59:09 | Continuing Calibration Blank        | As (188.980 nm)    | 0.0011 (ppm)    | 82.14    | 0.0011 (ppm)    | -0.4421    |
| 10/31/2017 18:59:09 | Continuing Calibration Blank        | B (249.772 nm)     | 0.0046 (ppm)    | 37.91    | 0.0046 (ppm)    | 161.8618   |
| 10/31/2017 18:59:09 | Continuing Calibration Blank        | Ba (230.424 nm)    | 0.0076 (ppm)    | 74.83    | 0.0076 (ppm)    | 257.8152   |
| 10/31/2017 18:59:09 | Continuing Calibration Blank        | Be (313.107 nm)    | 0.0003 (ppm)    | 56.24    | 0.0003 (ppm)    | -139.1428  |
| 10/31/2017 18:59:09 | Continuing Calibration Blank        | Ca (227.547 nm)    | 0.1341 (ppm)    | 38.53    | 0.1341 (ppm)    | 11.9636    |
| 10/31/2017 18:59:09 | Continuing Calibration Blank        | Cd (214.439 nm)    | 0.0006 (ppm)    | 60.98    | 0.0006 (ppm)    | 26.3982    |
| 10/31/2017 18:59:09 | Continuing Calibration Blank        | Co (230.786 nm)    | 0.0016 (ppm)    | 76.12    | 0.0016 (ppm)    | 12.3197    |
| 10/31/2017 18:59:09 | Continuing Calibration Blank        | Cr (267.716 nm)    | 0.0004 (ppm)    | 43.24    | 0.0004 (ppm)    | 16.7494    |
| 10/31/2017 18:59:09 | Continuing Calibration Blank        | Cu (327.395 nm)    | 0.0008 (ppm)    | 69.64    | 0.0008 (ppm)    | 64.6771    |
| 10/31/2017 18:59:09 | Continuing Calibration Blank        | Fe (234.350 nm)    | 0.0253 (ppm)    | 50.69    | 0.0253 (ppm)    | 294.2845   |
| 10/31/2017 18:59:09 | Continuing Calibration Blank        | K (766.491 nm)     | 0.0365 (ppm)    | 30.28    | 0.0365 (ppm)    | 101.2997   |
| 10/31/2017 18:59:09 | Continuing Calibration Blank        | Mg (279.078 nm)    | 0.0700 (ppm)    | 50.50    | 0.0700 (ppm)    | 134.4187   |
| 10/31/2017 18:59:09 | Continuing Calibration Blank        | Mn (257.610 nm)    | 0.0006 (ppm)    | 60.57    | 0.0006 (ppm)    | 192.8246   |
| 10/31/2017 18:59:09 | Continuing Calibration Blank        | Mo (202.032 nm)    | 0.0033 (ppm)    | 33.16    | 0.0033 (ppm)    | 40.8714    |
| 10/31/2017 18:59:09 | Continuing Calibration Blank        | Na (588.995 nm)    | 0.0102 (ppm)    | > 100.00 | 0.0102 (ppm)    | -4998.6198 |
| 10/31/2017 18:59:09 | Continuing Calibration Blank        | Ni (230.299 nm)    | 0.0010 (ppm)    | 93.79    | 0.0010 (ppm)    | -14.1261   |
| 10/31/2017 18:59:09 | Continuing Calibration Blank        | Pb (220.353 nm)    | -0.0003 u (ppm) | > 100.00 | -0.0003 (ppm)   | 4.4305     |
| 10/31/2017 18:59:09 | Continuing Calibration Blank        | Sb (217.582 nm)    | 0.0031 (ppm)    | 41.90    | 0.0031 (ppm)    | 5.0129     |
| 10/31/2017 18:59:09 | Continuing Calibration Blank        | Se (196.026 nm)    | 0.0004 u (ppm)  | > 100.00 | 0.0004 (ppm)    | 1.1252     |
| 10/31/2017 18:59:09 | Continuing Calibration Blank        | Sn (189.925 nm)    | 0.0042 (ppm)    | 70.94    | 0.0042 (ppm)    | 4.9944     |
| 10/31/2017 18:59:09 | Continuing Calibration Blank        | Sr (216.586 nm)    | 0.0015 (ppm)    | 50.05    | 0.0015 (ppm)    | 21.2871    |
| 10/31/2017 18:59:09 | Continuing Calibration Blank        | Tl (336.122 nm)    | 0.0025 (ppm)    | 39.15    | 0.0025 (ppm)    | 35.1386    |
| 10/31/2017 18:59:09 | Continuing Calibration Blank        | Tl (351.923 nm)    | 0.0003 u (ppm)  | > 100.00 | 0.0003 (ppm)    | 8.1176     |
| 10/31/2017 18:59:09 | Continuing Calibration Blank        | V (292.401 nm)     | 0.0016 (ppm)    | 65.58    | 0.0016 (ppm)    | 166.6594   |
| 10/31/2017 18:59:09 | Continuing Calibration Blank        | Y (360.074 nm)     | 1.00 (Ratio)    | 0.62     | 1.00 (Ratio)    | 853356.01  |
| 10/31/2017 18:59:09 | Continuing Calibration Blank        | Y_R (360.074 nm)   | 1.00 (Ratio)    | 0.62     | 1.00 (Ratio)    | 854195.81  |
| 10/31/2017 18:59:09 | Continuing Calibration Blank        | Zn (213.857 nm)    | 0.0009 (ppm)    | 54.41    | 0.0009 (ppm)    | -2.1376    |
| 10/31/2017 19:02:28 | PBW-301737                          | Ag (328.068 nm)    | 0.0001 (ppm)    | 80.42    | 0.0001 (ppm)    | -95.5811   |
| 10/31/2017 19:02:28 | PBW-301737                          | Al (394.401 nm)    | 0.0145 (ppm)    | 19.74    | 0.0145 (ppm)    | 311.4250   |
| 10/31/2017 19:02:28 | PBW-301737                          | As (188.980 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | -1.4553    |
| 10/31/2017 19:02:28 | PBW-301737                          | B (249.772 nm)     | 0.0018 (ppm)    | 2.88     | 0.0018 (ppm)    | 84.2294    |
| 10/31/2017 19:02:28 | PBW-301737                          | Ba (230.424 nm)    | 0.0006 (ppm)    | 23.91    | 0.0006 (ppm)    | 23.2935    |
| 10/31/2017 19:02:28 | PBW-301737                          | Be (313.107 nm)    | 0.0000 (ppm)    | 27.94    | 0.0000 (ppm)    | -468.8862  |
| 10/31/2017 19:02:28 | PBW-301737                          | Ca (227.547 nm)    | 0.0048 u (ppm)  | > 100.00 | 0.0048 (ppm)    | 4.6825     |
| 10/31/2017 19:02:28 | PBW-301737                          | Cd (214.439 nm)    | 0.0000 u (ppm)  | 38.96    | 0.0000 (ppm)    | 12.5433    |
| 10/31/2017 19:02:28 | PBW-301737                          | Co (230.786 nm)    | 0.0002 u (ppm)  | > 100.00 | 0.0002 (ppm)    | -1.2469    |
| 10/31/2017 19:02:28 | PBW-301737                          | Cr (267.716 nm)    | 0.0004 (ppm)    | 17.08    | 0.0004 (ppm)    | 19.5218    |
| 10/31/2017 19:02:28 | PBW-301737                          | Cu (327.395 nm)    | 0.0001 u (ppm)  | > 100.00 | 0.0001 (ppm)    | 21.7875    |
| 10/31/2017 19:02:28 | PBW-301737                          | Fe (234.350 nm)    | 0.0174 (ppm)    | 9.48     | 0.0174 (ppm)    | 206.2646   |
| 10/31/2017 19:02:28 | PBW-301737                          | K (766.491 nm)     | 0.0151 (ppm)    | 8.34     | 0.0151 (ppm)    | 36.6167    |
| 10/31/2017 19:02:28 | PBW-301737                          | Mg (279.078 nm)    | 0.0141 (ppm)    | 29.91    | 0.0141 (ppm)    | 26.5769    |
| 10/31/2017 19:02:28 | PBW-301737                          | Mn (257.610 nm)    | 0.0005 (ppm)    | 3.70     | 0.0005 (ppm)    | 150.0201   |
| 10/31/2017 19:02:28 | PBW-301737                          | Mo (202.032 nm)    | 0.0003 (ppm)    | 38.84    | 0.0003 (ppm)    | 10.4014    |
| 10/31/2017 19:02:28 | PBW-301737                          | Na (588.995 nm)    | 0.0080 (ppm)    | 8.71     | 0.0080 (ppm)    | -5098.5604 |
| 10/31/2017 19:02:28 | PBW-301737                          | Ni (230.299 nm)    | 0.0002 (ppm)    | 31.68    | 0.0002 (ppm)    | -18.9948   |
| 10/31/2017 19:02:28 | PBW-301737                          | Pb (220.353 nm)    | -0.0014 u (ppm) | 80.85    | -0.0014 (ppm)   | 2.1240     |
| 10/31/2017 19:02:28 | PBW-301737                          | Sb (217.582 nm)    | 0.0013 (ppm)    | 58.60    | 0.0013 (ppm)    | 2.5826     |



| Date Time           | Label        | Element Label (nm) | Conc              | %RSD     | Unadjusted Conc | Intensity   |
|---------------------|--------------|--------------------|-------------------|----------|-----------------|-------------|
| 10/31/2017 19:02:28 | PBW-301737   | Se (196.026 nm)    | -0.0032 u (ppm)   | 81.84    | -0.0032 (ppm)   | -1.9730     |
| 10/31/2017 19:02:28 | PBW-301737   | Sn (189.925 nm)    | 0.0006 u (ppm)    | > 100.00 | 0.0006 (ppm)    | 0.6424      |
| 10/31/2017 19:02:28 | PBW-301737   | Sr (216.596 nm)    | 0.0001 u (ppm)    | > 100.00 | 0.0001 (ppm)    | 0.8060      |
| 10/31/2017 19:02:28 | PBW-301737   | Ti (336.122 nm)    | 0.0009 (ppm)      | 6.87     | 0.0009 (ppm)    | -285.0023   |
| 10/31/2017 19:02:28 | PBW-301737   | Tl (351.923 nm)    | -0.0004 u (ppm) † | > 100.00 | -0.0004 (ppm)   | 6.3064      |
| 10/31/2017 19:02:28 | PBW-301737   | V (292.401 nm)     | 0.0001 (ppm)      | > 100.00 | 0.0001 (ppm)    | 112.2015    |
| 10/31/2017 19:02:28 | PBW-301737   | Y (360.074 nm)     | 1.01 (Ratio)      | 0.62     | 1.01 (Ratio)    | 865010.70   |
| 10/31/2017 19:02:28 | PBW-301737   | Y_R (360.074 nm)   | 1.01 (Ratio)      | 0.62     | 1.01 (Ratio)    | 865875.64   |
| 10/31/2017 19:02:28 | PBW-301737   | Zn (213.857 nm)    | 0.0039 (ppm)      | 3.56     | 0.0039 (ppm)    | 81.7135     |
| 10/31/2017 19:05:47 | LCSW-301737  | Ag (328.068 nm)    | 0.0496 (ppm)      | 0.20     | 0.0496 (ppm)    | 3441.1032   |
| 10/31/2017 19:05:47 | LCSW-301737  | Al (394.401 nm)    | 1.8649 (ppm)      | 0.54     | 1.8649 (ppm)    | 23992.0454  |
| 10/31/2017 19:05:47 | LCSW-301737  | As (188.980 nm)    | 0.0366 (ppm)      | 2.80     | 0.0366 (ppm)    | 31.2244     |
| 10/31/2017 19:05:47 | LCSW-301737  | B (249.772 nm)     | 0.9691 (ppm)      | 0.24     | 0.9691 (ppm)    | 26866.7366  |
| 10/31/2017 19:05:47 | LCSW-301737  | Ba (230.424 nm)    | 2.0698 (ppm)      | 0.55     | 2.0698 (ppm)    | 69587.7542  |
| 10/31/2017 19:05:47 | LCSW-301737  | Be (313.107 nm)    | 0.0502 (ppm)      | 0.25     | 0.0502 (ppm)    | 73654.0710  |
| 10/31/2017 19:05:47 | LCSW-301737  | Ca (227.547 nm)    | 1.9582 (ppm)      | 1.71     | 1.9582 (ppm)    | 114.6512    |
| 10/31/2017 19:05:47 | LCSW-301737  | Cd (214.439 nm)    | 0.0514 (ppm)      | 0.56     | 0.0514 (ppm)    | 1126.2181   |
| 10/31/2017 19:05:47 | LCSW-301737  | Co (230.786 nm)    | 0.5146 (ppm)      | 0.34     | 0.5146 (ppm)    | 5076.6060   |
| 10/31/2017 19:05:47 | LCSW-301737  | Cr (267.716 nm)    | 0.1987 (ppm)      | 0.33     | 0.1987 (ppm)    | 9837.6038   |
| 10/31/2017 19:05:47 | LCSW-301737  | Cu (327.395 nm)    | 0.2438 (ppm)      | 0.63     | 0.2438 (ppm)    | 15146.6361  |
| 10/31/2017 19:05:47 | LCSW-301737  | Fe (234.350 nm)    | 0.9827 (ppm)      | 0.41     | 0.9827 (ppm)    | 10987.7730  |
| 10/31/2017 19:05:47 | LCSW-301737  | K (766.491 nm)     | 19.1824 (ppm)     | 0.46     | 19.1824 (ppm)   | 57869.7829  |
| 10/31/2017 19:05:47 | LCSW-301737  | Mg (279.078 nm)    | 2.0075 (ppm)      | 0.35     | 2.0075 (ppm)    | 3873.1951   |
| 10/31/2017 19:05:47 | LCSW-301737  | Mn (257.610 nm)    | 0.4960 (ppm)      | 0.27     | 0.4960 (ppm)    | 155464.7935 |
| 10/31/2017 19:05:47 | LCSW-301737  | Mo (202.032 nm)    | 0.4768 (ppm)      | 0.28     | 0.4768 (ppm)    | 4867.2634   |
| 10/31/2017 19:05:47 | LCSW-301737  | Na (588.895 nm)    | 19.4967 (ppm) †   | 0.66     | 19.4967 (ppm)   | 881145.4552 |
| 10/31/2017 19:05:47 | LCSW-301737  | Ni (230.299 nm)    | 0.5121 (ppm)      | 0.34     | 0.5121 (ppm)    | 3429.3605   |
| 10/31/2017 19:05:47 | LCSW-301737  | Pb (220.353 nm)    | 0.5144 (ppm) †    | 0.30     | 0.5144 (ppm)    | 1104.1603   |
| 10/31/2017 19:05:47 | LCSW-301737  | Sb (217.582 nm)    | 0.4989 (ppm)      | 0.64     | 0.4989 (ppm)    | 683.1288    |
| 10/31/2017 19:05:47 | LCSW-301737  | Se (196.026 nm)    | 1.0517 (ppm) †    | 0.27     | 1.0517 (ppm)    | 801.4623    |
| 10/31/2017 19:05:47 | LCSW-301737  | Sn (189.925 nm)    | 5.0588 (ppm)      | 0.55     | 5.0588 (ppm)    | 6125.8030   |
| 10/31/2017 19:05:47 | LCSW-301737  | Sr (216.596 nm)    | 2.0349 (ppm)      | 0.61     | 2.0349 (ppm)    | 28892.4829  |
| 10/31/2017 19:05:47 | LCSW-301737  | Ti (336.122 nm)    | 0.4908 (ppm)      | 0.37     | 0.4908 (ppm)    | 102204.0813 |
| 10/31/2017 19:05:47 | LCSW-301737  | Tl (351.923 nm)    | 1.8740 (ppm) †    | 0.43     | 1.8740 (ppm)    | 5154.5533   |
| 10/31/2017 19:05:47 | LCSW-301737  | V (292.401 nm)     | 0.4993 (ppm)      | 0.26     | 0.4993 (ppm)    | 17756.3793  |
| 10/31/2017 19:05:47 | LCSW-301737  | Y (360.074 nm)     | 0.98 (Ratio)      | 0.64     | 0.98 (Ratio)    | 838221.75   |
| 10/31/2017 19:05:47 | LCSW-301737  | Y_R (360.074 nm)   | 0.98 (Ratio)      | 0.64     | 0.98 (Ratio)    | 839023.07   |
| 10/31/2017 19:05:47 | LCSW-301737  | Zn (213.857 nm)    | 0.5100 (ppm)      | 0.12     | 0.5100 (ppm)    | 14239.7317  |
| 10/31/2017 19:09:07 | R1710018-001 | Ag (328.068 nm)    | 0.0001 (ppm)      | 48.83    | 0.0001 (ppm)    | -86.5800    |
| 10/31/2017 19:09:07 | R1710018-001 | Al (394.401 nm)    | 0.2857 (ppm)      | 2.31     | 0.2857 (ppm)    | 3781.8392   |
| 10/31/2017 19:09:07 | R1710018-001 | As (188.980 nm)    | -0.0021 u (ppm)   | 54.98    | -0.0021 (ppm)   | -3.3217     |
| 10/31/2017 19:09:07 | R1710018-001 | B (249.772 nm)     | 0.0263 (ppm)      | 2.76     | 0.0263 (ppm)    | 761.2436    |
| 10/31/2017 19:09:07 | R1710018-001 | Ba (230.424 nm)    | 0.0123 (ppm)      | 9.52     | 0.0123 (ppm)    | 414.3354    |
| 10/31/2017 19:09:07 | R1710018-001 | Be (313.107 nm)    | 0.0001 (ppm)      | 25.81    | 0.0001 (ppm)    | -382.2707   |
| 10/31/2017 19:09:07 | R1710018-001 | Ca (227.547 nm)    | 52.5406 (ppm)     | 0.47     | 52.5406 (ppm)   | 2962.2085   |
| 10/31/2017 19:09:07 | R1710018-001 | Cd (214.439 nm)    | 0.0000 u (ppm)    | > 100.00 | 0.0000 (ppm)    | 13.0683     |
| 10/31/2017 19:09:07 | R1710018-001 | Co (230.786 nm)    | 0.0009 (ppm)      | 23.41    | 0.0009 (ppm)    | 5.5562      |
| 10/31/2017 19:09:07 | R1710018-001 | Cr (267.716 nm)    | 0.0013 (ppm)      | 6.99     | 0.0013 (ppm)    | 60.8966     |
| 10/31/2017 19:09:07 | R1710018-001 | Cu (327.395 nm)    | 0.0009 (ppm)      | 33.38    | 0.0009 (ppm)    | 66.6417     |
| 10/31/2017 19:09:07 | R1710018-001 | Fe (234.350 nm)    | 0.2889 (ppm)      | 0.75     | 0.2889 (ppm)    | 3238.2398   |
| 10/31/2017 19:09:07 | R1710018-001 | K (766.491 nm)     | 2.1913 (ppm)      | 1.38     | 2.1913 (ppm)    | 6602.8726   |

| Date Time           | Label             | Element Label (nm) | Conc             | %RSD     | Unadjusted Conc | Intensity    |
|---------------------|-------------------|--------------------|------------------|----------|-----------------|--------------|
| 10/31/2017 19:09:07 | R1710018-001      | Mg (279.078 nm)    | 3.2848 (ppm)     | 0.51     | 3.2848 (ppm)    | 6337.9343    |
| 10/31/2017 19:09:07 | R1710018-001      | Mn (257.610 nm)    | 0.9959 (ppm)     | 0.32     | 0.9959 (ppm)    | 312153.4475  |
| 10/31/2017 19:09:07 | R1710018-001      | Mo (202.032 nm)    | 0.0010 (ppm)     | 11.47    | 0.0010 (ppm)    | 17.0519      |
| 10/31/2017 19:09:07 | R1710018-001      | Na (588.995 nm)    | 100.3885 o (ppm) | 0.37     | 100.3885 (ppm)  | 4559680.5169 |
| 10/31/2017 19:09:07 | R1710018-001      | Ni (230.299 nm)    | -0.0028 u (ppm)  | 30.17    | -0.0028 (ppm)   | -39.6125     |
| 10/31/2017 19:09:07 | R1710018-001      | Pb (220.353 nm)    | -0.0008 u (ppm)  | > 100.00 | -0.0008 (ppm)   | 3.3585       |
| 10/31/2017 19:09:07 | R1710018-001      | Sb (217.582 nm)    | 0.0012 u (ppm)   | > 100.00 | 0.0012 (ppm)    | 2.3922       |
| 10/31/2017 19:09:07 | R1710018-001      | Se (196.026 nm)    | -0.0002 u (ppm)  | > 100.00 | -0.0002 (ppm)   | 0.5895       |
| 10/31/2017 19:09:07 | R1710018-001      | Sn (189.925 nm)    | 0.0047 (ppm)     | 48.32    | 0.0047 (ppm)    | 5.5608       |
| 10/31/2017 19:09:07 | R1710018-001      | Sr (216.596 nm)    | 0.1986 (ppm)     | 0.06     | 0.1986 (ppm)    | 2819.3033    |
| 10/31/2017 19:09:07 | R1710018-001      | Ti (336.122 nm)    | 0.0162 (ppm)     | 1.78     | 0.0162 (ppm)    | 2900.9786    |
| 10/31/2017 19:09:07 | R1710018-001      | Tl (351.923 nm)    | 0.0012 u (ppm)   | > 100.00 | 0.0012 (ppm)    | 10.6628      |
| 10/31/2017 19:09:07 | R1710018-001      | V (292.401 nm)     | 0.0011 (ppm)     | 7.54     | 0.0011 (ppm)    | 148.0328     |
| 10/31/2017 19:09:07 | R1710018-001      | Y (360.074 nm)     | 0.95 (Ratio)     | 0.55     | 0.95 (Ratio)    | 814752.35    |
| 10/31/2017 19:09:07 | R1710018-001      | Y_R (360.074 nm)   | 0.95 (Ratio)     | 0.55     | 0.95 (Ratio)    | 815502.89    |
| 10/31/2017 19:09:07 | R1710018-001      | Zn (213.857 nm)    | 0.0068 (ppm)     | 4.56     | 0.0068 (ppm)    | 164.1360     |
| 10/31/2017 19:12:27 | R1710018-002      | Ag (328.068 nm)    | 0.0001 (ppm)     | 18.02    | 0.0001 (ppm)    | -96.2884     |
| 10/31/2017 19:12:27 | R1710018-002      | Al (394.401 nm)    | 0.2891 (ppm)     | 0.74     | 0.2891 (ppm)    | 3825.2923    |
| 10/31/2017 19:12:27 | R1710018-002      | As (188.980 nm)    | 0.0001 u (ppm)   | > 100.00 | 0.0001 (ppm)    | -1.4073      |
| 10/31/2017 19:12:27 | R1710018-002      | B (249.772 nm)     | 0.0247 (ppm)     | 1.20     | 0.0247 (ppm)    | 718.4898     |
| 10/31/2017 19:12:27 | R1710018-002      | Ba (230.424 nm)    | 0.0106 (ppm)     | 0.51     | 0.0106 (ppm)    | 357.5761     |
| 10/31/2017 19:12:27 | R1710018-002      | Be (313.107 nm)    | 0.0000 (ppm)     | 33.66    | 0.0000 (ppm)    | -484.6493    |
| 10/31/2017 19:12:27 | R1710018-002      | Ca (227.547 nm)    | 53.0036 (ppm)    | 0.31     | 53.0036 (ppm)   | 2988.2750    |
| 10/31/2017 19:12:27 | R1710018-002      | Cd (214.439 nm)    | -0.0001 u (ppm)  | > 100.00 | -0.0001 (ppm)   | 11.7878      |
| 10/31/2017 19:12:27 | R1710018-002      | Co (230.786 nm)    | 0.0000 u (ppm)   | > 100.00 | 0.0000 (ppm)    | -3.0933      |
| 10/31/2017 19:12:27 | R1710018-002      | Cr (267.716 nm)    | 0.0010 (ppm)     | 4.04     | 0.0010 (ppm)    | 49.3753      |
| 10/31/2017 19:12:27 | R1710018-002      | Cu (327.395 nm)    | 0.0007 (ppm)     | 0.60     | 0.0007 (ppm)    | 53.7821      |
| 10/31/2017 19:12:27 | R1710018-002      | Fe (234.350 nm)    | 0.3060 (ppm)     | 0.34     | 0.3060 (ppm)    | 3429.9372    |
| 10/31/2017 19:12:27 | R1710018-002      | K (766.491 nm)     | 2.1887 (ppm)     | 0.51     | 2.1887 (ppm)    | 6594.9554    |
| 10/31/2017 19:12:27 | R1710018-002      | Mg (279.078 nm)    | 3.2888 (ppm)     | 0.64     | 3.2888 (ppm)    | 6345.6698    |
| 10/31/2017 19:12:27 | R1710018-002      | Mn (257.610 nm)    | 1.0041 (ppm)     | 0.24     | 1.0041 (ppm)    | 314725.3922  |
| 10/31/2017 19:12:27 | R1710018-002      | Mo (202.032 nm)    | 0.0002 (ppm)     | > 100.00 | 0.0002 (ppm)    | 8.6205       |
| 10/31/2017 19:12:27 | R1710018-002      | Na (588.995 nm)    | 101.5960 o (ppm) | 0.35     | 101.5960 (ppm)  | 4614591.3006 |
| 10/31/2017 19:12:27 | R1710018-002      | Ni (230.299 nm)    | -0.0037 u (ppm)  | 24.27    | -0.0037 (ppm)   | -45.8067     |
| 10/31/2017 19:12:27 | R1710018-002      | Pb (220.353 nm)    | -0.0009 u (ppm)  | 71.87    | -0.0009 (ppm)   | 3.1105       |
| 10/31/2017 19:12:27 | R1710018-002      | Sb (217.582 nm)    | 0.0012 u (ppm)   | > 100.00 | 0.0012 (ppm)    | 2.3794       |
| 10/31/2017 19:12:27 | R1710018-002      | Se (196.026 nm)    | 0.0031 u (ppm)   | > 100.00 | 0.0031 (ppm)    | 3.4267       |
| 10/31/2017 19:12:27 | R1710018-002      | Sn (189.925 nm)    | -0.0005 u (ppm)  | > 100.00 | -0.0005 (ppm)   | -0.6385      |
| 10/31/2017 19:12:27 | R1710018-002      | Sr (216.596 nm)    | 0.1978 (ppm)     | 0.33     | 0.1978 (ppm)    | 2807.8816    |
| 10/31/2017 19:12:27 | R1710018-002      | Ti (336.122 nm)    | 0.0164 (ppm)     | 0.76     | 0.0164 (ppm)    | 2946.7381    |
| 10/31/2017 19:12:27 | R1710018-002      | Tl (351.923 nm)    | -0.0024 u (ppm)  | 97.15    | -0.0024 (ppm)   | 0.5772       |
| 10/31/2017 19:12:27 | R1710018-002      | V (292.401 nm)     | 0.0006 (ppm)     | 38.70    | 0.0006 (ppm)    | 128.7461     |
| 10/31/2017 19:12:27 | R1710018-002      | Y (360.074 nm)     | 0.96 (Ratio)     | 0.70     | 0.96 (Ratio)    | 819477.59    |
| 10/31/2017 19:12:27 | R1710018-002      | Y_R (360.074 nm)   | 0.96 (Ratio)     | 0.70     | 0.96 (Ratio)    | 820222.53    |
| 10/31/2017 19:12:27 | R1710018-002      | Zn (213.857 nm)    | 0.0082 (ppm)     | 1.36     | 0.0082 (ppm)    | 202.1171     |
| 10/31/2017 19:15:46 | R1710018-003 100X | Ag (328.068 nm)    | -0.0003 u (ppm)  | 15.35    | -0.0003 (ppm)   | -128.2823    |
| 10/31/2017 19:15:46 | R1710018-003 100X | Al (394.401 nm)    | 0.0082 (ppm)     | 16.96    | 0.0082 (ppm)    | 231.0850     |
| 10/31/2017 19:15:46 | R1710018-003 100X | As (188.980 nm)    | -0.0003 u (ppm)  | > 100.00 | -0.0003 (ppm)   | -1.7272      |
| 10/31/2017 19:15:46 | R1710018-003 100X | B (249.772 nm)     | 0.0001 (ppm)     | 64.98    | 0.0001 (ppm)    | 36.1234      |
| 10/31/2017 19:15:46 | R1710018-003 100X | Ba (230.424 nm)    | 0.0007 (ppm)     | 21.09    | 0.0007 (ppm)    | 25.5409      |
| 10/31/2017 19:15:46 | R1710018-003 100X | Be (313.107 nm)    | 0.0000 (ppm)     | > 100.00 | 0.0000 (ppm)    | -509.0813    |

| Date Time           | Label             | Element Label (nm) | Conc             | %RSD     | Unadjusted Conc | Intensity    |
|---------------------|-------------------|--------------------|------------------|----------|-----------------|--------------|
| 10/31/2017 19:15:46 | R1710018-003 100X | Ce (227.547 nm)    | 1.2834 (ppm)     | 5.25     | 1.2834 (ppm)    | 76.6640      |
| 10/31/2017 18:15:46 | R1710018-003 100X | Cd (214.439 nm)    | 0.0000 (ppm)     | > 100.00 | 0.0000 (ppm)    | 14.2255      |
| 10/31/2017 18:15:46 | R1710018-003 100X | Co (230.786 nm)    | 0.0002 (ppm)     | > 100.00 | 0.0002 (ppm)    | -1.8814      |
| 10/31/2017 18:15:46 | R1710018-003 100X | Cr (267.716 nm)    | -0.0070 u (ppm)  | 2.30     | -0.0070 (ppm)   | -345.5087    |
| 10/31/2017 18:15:46 | R1710018-003 100X | Cu (327.395 nm)    | 0.0002 (ppm)     | 17.31    | 0.0002 (ppm)    | 24.3030      |
| 10/31/2017 18:15:46 | R1710018-003 100X | Fe (234.350 nm)    | 0.0081 (ppm)     | 9.33     | 0.0081 (ppm)    | 102.5199     |
| 10/31/2017 18:15:46 | R1710018-003 100X | K (766.491 nm)     | 0.1232 (ppm)     | 5.91     | 0.1232 (ppm)    | 362.8985     |
| 10/31/2017 18:15:46 | R1710018-003 100X | Mg (279.078 nm)    | 0.1265 (ppm)     | 0.94     | 0.1265 (ppm)    | 243.4100     |
| 10/31/2017 18:15:46 | R1710018-003 100X | Mn (257.610 nm)    | 21.4072 o (ppm)  | 1.01     | 21.4072 (ppm)   | 6709866.6987 |
| 10/31/2017 18:15:46 | R1710018-003 100X | Mo (202.032 nm)    | 0.0000 u (ppm)   | > 100.00 | 0.0000 (ppm)    | 7.4226       |
| 10/31/2017 18:15:46 | R1710018-003 100X | Na (588.995 nm)    | 13.0256 (ppm)    | 0.89     | 13.0256 (ppm)   | 586876.1575  |
| 10/31/2017 18:15:46 | R1710018-003 100X | Ni (230.299 nm)    | 0.0000 u (ppm)   | > 100.00 | 0.0000 (ppm)    | -20.2896     |
| 10/31/2017 18:15:46 | R1710018-003 100X | Pb (220.353 nm)    | 0.0022 (ppm)     | 97.26    | 0.0022 (ppm)    | 9.7386       |
| 10/31/2017 18:15:46 | R1710018-003 100X | Sb (217.582 nm)    | -0.0003 u (ppm)  | > 100.00 | -0.0003 (ppm)   | 0.3362       |
| 10/31/2017 18:15:46 | R1710018-003 100X | Se (196.026 nm)    | 0.0134 (ppm)     | 29.66    | 0.0134 (ppm)    | 12.2595      |
| 10/31/2017 18:15:46 | R1710018-003 100X | Sn (189.925 nm)    | 0.0009 u (ppm)   | > 100.00 | 0.0009 (ppm)    | 0.9958       |
| 10/31/2017 18:15:46 | R1710018-003 100X | Sr (216.596 nm)    | 0.0056 (ppm)     | 2.19     | 0.0056 (ppm)    | 78.4667      |
| 10/31/2017 18:15:46 | R1710018-003 100X | Ti (336.122 nm)    | 0.0003 (ppm)     | 43.89    | 0.0003 (ppm)    | -416.6573    |
| 10/31/2017 18:15:46 | R1710018-003 100X | Tl (351.923 nm)    | 0.0009 u (ppm)   | > 100.00 | 0.0009 (ppm)    | 9.8910       |
| 10/31/2017 18:15:46 | R1710018-003 100X | V (292.401 nm)     | 0.0002 (ppm)     | 39.65    | 0.0002 (ppm)    | 115.6861     |
| 10/31/2017 18:15:46 | R1710018-003 100X | Y (360.074 nm)     | 0.99 (Ratio)     | 0.58     | 0.99 (Ratio)    | 847679.89    |
| 10/31/2017 18:15:46 | R1710018-003 100X | Y_R (360.074 nm)   | 0.99 (Ratio)     | 0.59     | 0.99 (Ratio)    | 848489.96    |
| 10/31/2017 18:15:46 | R1710018-003 100X | Zn (213.857 nm)    | 0.0046 (ppm)     | 1.18     | 0.0046 (ppm)    | 102.0083     |
| 10/31/2017 18:19:06 | R1710018-004      | Ag (328.068 nm)    | 0.0001 (ppm)     | 29.27    | 0.0001 (ppm)    | -83.7871     |
| 10/31/2017 18:19:06 | R1710018-004      | Al (394.401 nm)    | 0.2820 (ppm)     | 0.33     | 0.2820 (ppm)    | 3734.8481    |
| 10/31/2017 18:19:06 | R1710018-004      | As (188.980 nm)    | -0.0009 u (ppm)  | > 100.00 | -0.0009 (ppm)   | -2.2207      |
| 10/31/2017 18:19:06 | R1710018-004      | B (249.772 nm)     | 0.0274 (ppm)     | 0.86     | 0.0274 (ppm)    | 791.3277     |
| 10/31/2017 18:19:06 | R1710018-004      | Ba (230.424 nm)    | 0.0275 (ppm)     | 0.20     | 0.0275 (ppm)    | 927.4311     |
| 10/31/2017 18:19:06 | R1710018-004      | Be (313.107 nm)    | 0.0000 (ppm)     | 50.56    | 0.0000 (ppm)    | -510.9586    |
| 10/31/2017 18:19:06 | R1710018-004      | Ce (227.547 nm)    | 50.6572 (ppm)    | 0.34     | 50.6572 (ppm)   | 2856.1810    |
| 10/31/2017 18:19:06 | R1710018-004      | Cd (214.439 nm)    | -0.0002 u (ppm)  | 38.17    | -0.0002 (ppm)   | 10.2400      |
| 10/31/2017 18:19:06 | R1710018-004      | Co (230.786 nm)    | 0.0000 u (ppm)   | > 100.00 | 0.0000 (ppm)    | -4.0133      |
| 10/31/2017 18:19:06 | R1710018-004      | Cr (267.716 nm)    | 0.0014 (ppm)     | 14.66    | 0.0014 (ppm)    | 65.9096      |
| 10/31/2017 18:19:06 | R1710018-004      | Cu (327.395 nm)    | 0.0010 (ppm)     | 10.15    | 0.0010 (ppm)    | 74.2195      |
| 10/31/2017 18:19:06 | R1710018-004      | Fe (234.350 nm)    | 0.3257 (ppm)     | 0.34     | 0.3257 (ppm)    | 3649.5812    |
| 10/31/2017 18:19:06 | R1710018-004      | K (766.491 nm)     | 1.7837 (ppm)     | 0.34     | 1.7837 (ppm)    | 5373.0349    |
| 10/31/2017 18:19:06 | R1710018-004      | Mg (279.078 nm)    | 2.4754 (ppm)     | 0.34     | 2.4754 (ppm)    | 4776.1411    |
| 10/31/2017 18:19:06 | R1710018-004      | Mn (257.610 nm)    | 1.7962 o (ppm)   | 0.16     | 1.7962 (ppm)    | 562997.8077  |
| 10/31/2017 18:19:06 | R1710018-004      | Mo (202.032 nm)    | 0.0004 (ppm)     | 54.64    | 0.0004 (ppm)    | 10.7568      |
| 10/31/2017 18:19:06 | R1710018-004      | Na (588.995 nm)    | 118.3902 o (ppm) | 0.65     | 118.3902 (ppm)  | 5378299.9024 |
| 10/31/2017 18:19:06 | R1710018-004      | Ni (230.299 nm)    | -0.0018 u (ppm)  | 33.32    | -0.0018 (ppm)   | -33.0299     |
| 10/31/2017 18:19:06 | R1710018-004      | Pb (220.353 nm)    | 0.0006 u (ppm)   | > 100.00 | 0.0006 (ppm)    | 6.2632       |
| 10/31/2017 18:19:06 | R1710018-004      | Sb (217.582 nm)    | 0.0020 (ppm)     | 90.56    | 0.0020 (ppm)    | 3.5103       |
| 10/31/2017 18:19:06 | R1710018-004      | Se (196.026 nm)    | 0.0012 u (ppm)   | > 100.00 | 0.0012 (ppm)    | 1.8293       |
| 10/31/2017 18:19:06 | R1710018-004      | Sn (189.925 nm)    | 0.0001 u (ppm)   | > 100.00 | 0.0001 (ppm)    | 0.0919       |
| 10/31/2017 18:19:06 | R1710018-004      | Sr (216.596 nm)    | 0.1455 (ppm)     | 0.51     | 0.1455 (ppm)    | 2064.5831    |
| 10/31/2017 18:19:06 | R1710018-004      | Ti (336.122 nm)    | 0.0149 (ppm)     | 0.87     | 0.0149 (ppm)    | 2633.5613    |
| 10/31/2017 18:19:06 | R1710018-004      | Tl (351.923 nm)    | -0.0016 u (ppm)  | > 100.00 | -0.0016 (ppm)   | 2.8897       |
| 10/31/2017 18:19:06 | R1710018-004      | V (292.401 nm)     | 0.0008 (ppm)     | 18.94    | 0.0008 (ppm)    | 137.6273     |
| 10/31/2017 18:19:06 | R1710018-004      | Y (360.074 nm)     | 0.95 (Ratio)     | 0.62     | 0.95 (Ratio)    | 811661.82    |
| 10/31/2017 18:19:06 | R1710018-004      | Y_R (360.074 nm)   | 0.95 (Ratio)     | 0.62     | 0.95 (Ratio)    | 812379.58    |

| Date Time           | Label         | Element Label (nm) | Conc             | %RSD     | Unadjusted Conc | Intensity    |
|---------------------|---------------|--------------------|------------------|----------|-----------------|--------------|
| 10/31/2017 19:19:06 | R1710018-004  | Zn (213.857 nm)    | 0.0094 (ppm)     | 2.10     | 0.0094 (ppm)    | 235.3144     |
| 10/31/2017 19:22:25 | R1710018-005  | Ag (328.068 nm)    | 0.0001 (ppm)     | > 100.00 | 0.0001 (ppm)    | -99.8440     |
| 10/31/2017 19:22:25 | R1710018-005  | Al (394.401 nm)    | 0.4483 (ppm)     | 0.56     | 0.4483 (ppm)    | 5863.3964    |
| 10/31/2017 19:22:25 | R1710018-005  | As (188.980 nm)    | 0.0007 u (ppm)   | > 100.00 | 0.0007 (ppm)    | -0.8564      |
| 10/31/2017 19:22:25 | R1710018-005  | B (249.772 nm)     | 0.0246 (ppm)     | 0.36     | 0.0246 (ppm)    | 715.4115     |
| 10/31/2017 19:22:25 | R1710018-005  | Ba (230.424 nm)    | 0.0265 (ppm)     | 0.92     | 0.0265 (ppm)    | 893.4048     |
| 10/31/2017 19:22:25 | R1710018-005  | Be (313.107 nm)    | 0.0000 (ppm)     | 75.63    | 0.0000 (ppm)    | -499.1542    |
| 10/31/2017 19:22:25 | R1710018-005  | Ce (227.547 nm)    | 71.7336 o (ppm)  | 0.49     | 71.7336 (ppm)   | 4042.6867    |
| 10/31/2017 19:22:25 | R1710018-005  | Cd (214.439 nm)    | 0.0000 u (ppm)   | > 100.00 | 0.0000 (ppm)    | 13.4912      |
| 10/31/2017 19:22:25 | R1710018-005  | Co (230.786 nm)    | 0.0003 (ppm)     | 14.28    | 0.0003 (ppm)    | -0.5955      |
| 10/31/2017 19:22:25 | R1710018-005  | Cr (267.716 nm)    | 0.0024 (ppm)     | 6.47     | 0.0024 (ppm)    | 117.4311     |
| 10/31/2017 19:22:25 | R1710018-005  | Cu (327.395 nm)    | 0.0006 (ppm)     | 8.85     | 0.0006 (ppm)    | 51.4364      |
| 10/31/2017 19:22:25 | R1710018-005  | Fe (234.350 nm)    | 0.4972 (ppm)     | 0.39     | 0.4972 (ppm)    | 5564.9619    |
| 10/31/2017 19:22:25 | R1710018-005  | K (766.491 nm)     | 2.3279 (ppm)     | 0.89     | 2.3279 (ppm)    | 7015.1422    |
| 10/31/2017 19:22:25 | R1710018-005  | Mg (279.078 nm)    | 4.7926 (ppm)     | 0.37     | 4.7926 (ppm)    | 9247.4482    |
| 10/31/2017 19:22:25 | R1710018-005  | Mn (257.610 nm)    | 0.0383 (ppm)     | 10.64    | 0.0383 (ppm)    | 11995.9958   |
| 10/31/2017 19:22:25 | R1710018-005  | Mo (202.032 nm)    | 0.0001 (ppm)     | > 100.00 | 0.0001 (ppm)    | 7.8876       |
| 10/31/2017 19:22:25 | R1710018-005  | Na (588.995 nm)    | 105.7623 o (ppm) | 0.63     | 105.7623 (ppm)  | 4804049.8498 |
| 10/31/2017 19:22:25 | R1710018-005  | Ni (230.299 nm)    | -0.0057 u (ppm)  | 21.54    | -0.0057 (ppm)   | -58.9892     |
| 10/31/2017 19:22:25 | R1710018-005  | Pb (220.353 nm)    | -0.0004 u (ppm)  | > 100.00 | -0.0004 (ppm)   | 4.2293       |
| 10/31/2017 19:22:25 | R1710018-005  | Sb (217.582 nm)    | 0.0002 u (ppm)   | > 100.00 | 0.0002 (ppm)    | 1.1160       |
| 10/31/2017 19:22:25 | R1710018-005  | Se (196.026 nm)    | -0.0007 u (ppm)  | > 100.00 | -0.0007 (ppm)   | 0.2146       |
| 10/31/2017 19:22:25 | R1710018-005  | Sn (189.925 nm)    | 0.0004 u (ppm)   | > 100.00 | 0.0004 (ppm)    | 0.4573       |
| 10/31/2017 19:22:25 | R1710018-005  | Sr (216.596 nm)    | 0.2605 (ppm)     | 0.50     | 0.2605 (ppm)    | 3698.1793    |
| 10/31/2017 19:22:25 | R1710018-005  | Ti (336.122 nm)    | 0.0257 (ppm)     | 2.15     | 0.0257 (ppm)    | 4889.5702    |
| 10/31/2017 19:22:25 | R1710018-005  | Tl (351.923 nm)    | 0.0025 (ppm)     | 57.97    | 0.0025 (ppm)    | 14.0938      |
| 10/31/2017 19:22:25 | R1710018-005  | V (292.401 nm)     | 0.0010 (ppm)     | 9.27     | 0.0010 (ppm)    | 145.2499     |
| 10/31/2017 19:22:25 | R1710018-005  | Y (360.074 nm)     | 0.95 (Ratio)     | 0.51     | 0.95 (Ratio)    | 809002.90    |
| 10/31/2017 19:22:25 | R1710018-005  | Y_R (360.074 nm)   | 0.95 (Ratio)     | 0.51     | 0.95 (Ratio)    | 809734.19    |
| 10/31/2017 19:22:25 | R1710018-005  | Zn (213.857 nm)    | 0.0094 (ppm)     | 1.27     | 0.0094 (ppm)    | 237.5621     |
| 10/31/2017 19:25:43 | R1710018-005S | Ag (328.068 nm)    | 0.0522 (ppm)     | 0.56     | 0.0522 (ppm)    | 3623.4889    |
| 10/31/2017 19:25:43 | R1710018-005S | Al (394.401 nm)    | 2.6579 (ppm)     | 0.59     | 2.6579 (ppm)    | 34140.2580   |
| 10/31/2017 19:25:43 | R1710018-005S | As (188.980 nm)    | 0.0454 (ppm)     | 10.11    | 0.0454 (ppm)    | 39.1530      |
| 10/31/2017 19:25:43 | R1710018-005S | B (249.772 nm)     | 1.0615 (ppm)     | 0.37     | 1.0615 (ppm)    | 29422.9718   |
| 10/31/2017 19:25:43 | R1710018-005S | Ba (230.424 nm)    | 2.1492 (ppm)     | 0.55     | 2.1492 (ppm)    | 72256.8062   |
| 10/31/2017 19:25:43 | R1710018-005S | Be (313.107 nm)    | 0.0530 (ppm)     | 0.54     | 0.0530 (ppm)    | 77696.0270   |
| 10/31/2017 19:25:43 | R1710018-005S | Ca (227.547 nm)    | 77.1204 o (ppm)  | 0.61     | 77.1204 (ppm)   | 4345.9402    |
| 10/31/2017 19:25:43 | R1710018-005S | Cd (214.439 nm)    | 0.0528 (ppm)     | 0.54     | 0.0528 (ppm)    | 1156.1547    |
| 10/31/2017 19:25:43 | R1710018-005S | Co (230.786 nm)    | 0.5294 (ppm)     | 0.37     | 0.5294 (ppm)    | 5223.2653    |
| 10/31/2017 19:25:43 | R1710018-005S | Cr (267.716 nm)    | 0.2088 (ppm)     | 0.31     | 0.2088 (ppm)    | 10335.8108   |
| 10/31/2017 19:25:43 | R1710018-005S | Cu (327.395 nm)    | 0.2584 (ppm)     | 0.40     | 0.2584 (ppm)    | 16056.3738   |
| 10/31/2017 19:25:43 | R1710018-005S | Fe (234.350 nm)    | 1.6382 (ppm)     | 0.43     | 1.6382 (ppm)    | 18309.5945   |
| 10/31/2017 19:25:43 | R1710018-005S | K (766.491 nm)     | 23.9274 (ppm)    | 0.75     | 23.9274 (ppm)   | 72187.0697   |
| 10/31/2017 19:25:43 | R1710018-005S | Mg (279.078 nm)    | 7.0769 (ppm)     | 0.45     | 7.0769 (ppm)    | 13655.5337   |
| 10/31/2017 19:25:43 | R1710018-005S | Mn (257.610 nm)    | 0.5489 (ppm)     | 0.28     | 0.5489 (ppm)    | 172042.7220  |
| 10/31/2017 19:25:43 | R1710018-005S | Mo (202.032 nm)    | 0.5006 (ppm)     | 0.38     | 0.5006 (ppm)    | 5109.7712    |
| 10/31/2017 19:25:43 | R1710018-005S | Na (588.995 nm)    | 128.4642 o (ppm) | 1.00     | 128.4642 (ppm)  | 5836412.4222 |
| 10/31/2017 19:25:43 | R1710018-005S | Ni (230.299 nm)    | 0.5191 (ppm)     | 0.51     | 0.5191 (ppm)    | 3476.5642    |
| 10/31/2017 19:25:43 | R1710018-005S | Pb (220.353 nm)    | 0.5268 (ppm)     | 0.48     | 0.5268 (ppm)    | 1130.6110    |
| 10/31/2017 19:25:43 | R1710018-005S | Sb (217.582 nm)    | 0.5303 (ppm)     | 0.96     | 0.5303 (ppm)    | 726.0593     |
| 10/31/2017 19:25:43 | R1710018-005S | Se (196.026 nm)    | 1.1204 o (ppm)   | 0.56     | 1.1204 (ppm)    | 960.2918     |

| Date Time           | Label          | Element Label (nm) | Conc             | %RSD  | Unadjusted Conc | Intensity    |
|---------------------|----------------|--------------------|------------------|-------|-----------------|--------------|
| 10/31/2017 19:25:43 | R1710018-005S  | Sn (189.925 nm)    | 5.3354 (ppm)     | 0.74  | 5.3354 (ppm)    | 6460.8510    |
| 10/31/2017 19:25:43 | R1710018-005S  | Sr (216.596 nm)    | 2.3491 (ppm)     | 0.19  | 2.3491 (ppm)    | 33353.0497   |
| 10/31/2017 19:25:43 | R1710018-005S  | Ti (336.122 nm)    | 0.5360 (ppm)     | 0.59  | 0.5360 (ppm)    | 111672.9407  |
| 10/31/2017 19:25:43 | R1710018-005S  | Ti (351.923 nm)    | 2.0384 (ppm)     | 0.25  | 2.0384 (ppm)    | 5606.1264    |
| 10/31/2017 19:25:43 | R1710018-005S  | V (292.401 nm)     | 0.5252 (ppm)     | 0.54  | 0.5252 (ppm)    | 18671.9725   |
| 10/31/2017 19:25:43 | R1710018-005S  | Y (360.074 nm)     | 0.90 (Ratio)     | 0.84  | 0.90 (Ratio)    | 770535.10    |
| 10/31/2017 19:25:43 | R1710018-005S  | Y_R (360.074 nm)   | 0.90 (Ratio)     | 0.84  | 0.90 (Ratio)    | 771205.53    |
| 10/31/2017 19:25:43 | R1710018-005S  | Zn (213.857 nm)    | 0.5440 (ppm)     | 0.59  | 0.5440 (ppm)    | 15192.2828   |
| 10/31/2017 19:29:03 | R1710018-005SD | Ag (328.068 nm)    | 0.0513 (ppm)     | 0.73  | 0.0513 (ppm)    | 3562.2924    |
| 10/31/2017 19:29:03 | R1710018-005SD | Al (394.401 nm)    | 2.4341 (ppm)     | 0.48  | 2.4341 (ppm)    | 31277.0810   |
| 10/31/2017 19:29:03 | R1710018-005SD | As (188.980 nm)    | 0.0433 (ppm)     | 8.10  | 0.0433 (ppm)    | 37.2851      |
| 10/31/2017 19:29:03 | R1710018-005SD | B (249.772 nm)     | 1.0406 (ppm)     | 0.34  | 1.0406 (ppm)    | 28844.7119   |
| 10/31/2017 19:29:03 | R1710018-005SD | Ba (230.424 nm)    | 2.1028 (ppm)     | 0.42  | 2.1028 (ppm)    | 70697.4682   |
| 10/31/2017 19:29:03 | R1710018-005SD | Be (313.107 nm)    | 0.0519 (ppm)     | 0.45  | 0.0519 (ppm)    | 76112.9818   |
| 10/31/2017 19:29:03 | R1710018-005SD | Ca (227.547 nm)    | 75.3723 o (ppm)  | 0.70  | 75.3723 (ppm)   | 4247.5298    |
| 10/31/2017 19:29:03 | R1710018-005SD | Cd (214.439 nm)    | 0.0519 (ppm)     | 0.58  | 0.0519 (ppm)    | 1137.2967    |
| 10/31/2017 19:29:03 | R1710018-005SD | Co (230.786 nm)    | 0.5187 (ppm)     | 0.55  | 0.5187 (ppm)    | 5117.5707    |
| 10/31/2017 19:29:03 | R1710018-005SD | Cr (267.716 nm)    | 0.2043 (ppm)     | 0.34  | 0.2043 (ppm)    | 10112.4419   |
| 10/31/2017 19:29:03 | R1710018-005SD | Cu (327.395 nm)    | 0.2528 (ppm)     | 0.44  | 0.2528 (ppm)    | 15709.0266   |
| 10/31/2017 19:29:03 | R1710018-005SD | Fe (234.350 nm)    | 1.4605 (ppm)     | 0.43  | 1.4605 (ppm)    | 16324.2023   |
| 10/31/2017 19:29:03 | R1710018-005SD | K (766.491 nm)     | 23.4453 (ppm)    | 0.57  | 23.4453 (ppm)   | 70732.2552   |
| 10/31/2017 19:29:03 | R1710018-005SD | Mg (279.078 nm)    | 6.8902 (ppm)     | 0.41  | 6.8902 (ppm)    | 13295.3229   |
| 10/31/2017 19:29:03 | R1710018-005SD | Mn (257.610 nm)    | 0.5329 (ppm)     | 0.28  | 0.5329 (ppm)    | 167036.4037  |
| 10/31/2017 19:29:03 | R1710018-005SD | Mo (202.032 nm)    | 0.4914 (ppm)     | 0.46  | 0.4914 (ppm)    | 5015.9843    |
| 10/31/2017 19:29:03 | R1710018-005SD | Na (588.995 nm)    | 125.4129 o (ppm) | 0.57  | 125.4129 (ppm)  | 5697655.4703 |
| 10/31/2017 19:29:03 | R1710018-005SD | Ni (230.299 nm)    | 0.5113 (ppm)     | 0.83  | 0.5113 (ppm)    | 3424.0384    |
| 10/31/2017 19:29:03 | R1710018-005SD | Pb (220.353 nm)    | 0.5164 (ppm)     | 0.45  | 0.5164 (ppm)    | 1108.3392    |
| 10/31/2017 19:29:03 | R1710018-005SD | Sb (217.582 nm)    | 0.5229 (ppm)     | 0.49  | 0.5229 (ppm)    | 715.8939     |
| 10/31/2017 19:29:03 | R1710018-005SD | Se (196.026 nm)    | 1.1073 o (ppm)   | 0.69  | 1.1073 (ppm)    | 949.0896     |
| 10/31/2017 19:29:03 | R1710018-005SD | Sn (189.925 nm)    | 5.2145 (ppm)     | 0.29  | 5.2145 (ppm)    | 6314.4448    |
| 10/31/2017 19:29:03 | R1710018-005SD | Sr (216.596 nm)    | 2.2966 (ppm)     | 0.75  | 2.2966 (ppm)    | 32608.2062   |
| 10/31/2017 19:29:03 | R1710018-005SD | Ti (336.122 nm)    | 0.5189 (ppm)     | 0.49  | 0.5189 (ppm)    | 108087.2063  |
| 10/31/2017 19:29:03 | R1710018-005SD | Ti (351.923 nm)    | 1.9970 (ppm)     | 0.60  | 1.9970 (ppm)    | 5492.3974    |
| 10/31/2017 19:29:03 | R1710018-005SD | V (292.401 nm)     | 0.5149 (ppm)     | 0.45  | 0.5149 (ppm)    | 18310.1218   |
| 10/31/2017 19:29:03 | R1710018-005SD | Y (360.074 nm)     | 0.92 (Ratio)     | 0.91  | 0.92 (Ratio)    | 781943.77    |
| 10/31/2017 19:29:03 | R1710018-005SD | Y_R (360.074 nm)   | 0.92 (Ratio)     | 0.91  | 0.92 (Ratio)    | 782634.37    |
| 10/31/2017 19:29:03 | R1710018-005SD | Zn (213.857 nm)    | 0.5296 (ppm)     | 0.81  | 0.5296 (ppm)    | 14789.7809   |
| 10/31/2017 19:32:21 | R1710018-005A  | Ag (328.068 nm)    | 0.0486 (ppm)     | 0.76  | 0.0486 (ppm)    | 3371.3679    |
| 10/31/2017 19:32:21 | R1710018-005A  | Al (394.401 nm)    | 2.3777 (ppm)     | 0.67  | 2.3777 (ppm)    | 30555.4930   |
| 10/31/2017 19:32:21 | R1710018-005A  | As (188.980 nm)    | 0.0412 (ppm)     | 11.66 | 0.0412 (ppm)    | 35.3531      |
| 10/31/2017 19:32:21 | R1710018-005A  | B (249.772 nm)     | 1.1283 (ppm)     | 0.44  | 1.1283 (ppm)    | 31274.0903   |
| 10/31/2017 19:32:21 | R1710018-005A  | Ba (230.424 nm)    | 2.0098 (ppm)     | 0.69  | 2.0098 (ppm)    | 67568.4588   |
| 10/31/2017 19:32:21 | R1710018-005A  | Be (313.107 nm)    | 0.0495 (ppm)     | 0.53  | 0.0495 (ppm)    | 72528.3531   |
| 10/31/2017 19:32:21 | R1710018-005A  | Ca (227.547 nm)    | 73.5094 o (ppm)  | 0.53  | 73.5094 (ppm)   | 4142.6547    |
| 10/31/2017 19:32:21 | R1710018-005A  | Cd (214.439 nm)    | 0.0494 (ppm)     | 0.02  | 0.0494 (ppm)    | 1082.3089    |
| 10/31/2017 19:32:21 | R1710018-005A  | Co (230.786 nm)    | 0.4947 (ppm)     | 0.51  | 0.4947 (ppm)    | 4880.1898    |
| 10/31/2017 19:32:21 | R1710018-005A  | Cr (267.716 nm)    | 0.1956 (ppm)     | 0.47  | 0.1956 (ppm)    | 9681.9301    |
| 10/31/2017 19:32:21 | R1710018-005A  | Cu (327.395 nm)    | 0.2405 (ppm)     | 0.57  | 0.2405 (ppm)    | 14945.5153   |
| 10/31/2017 19:32:21 | R1710018-005A  | Fe (234.350 nm)    | 1.4385 (ppm)     | 0.61  | 1.4385 (ppm)    | 16079.0442   |
| 10/31/2017 19:32:21 | R1710018-005A  | K (766.491 nm)     | 22.4060 (ppm)    | 0.67  | 22.4060 (ppm)   | 67596.3764   |
| 10/31/2017 19:32:21 | R1710018-005A  | Mg (279.078 nm)    | 6.7083 (ppm)     | 0.44  | 6.7083 (ppm)    | 12944.2181   |

| Date Time           | Label                               | Element Label (nm) | Conc             | %RSD     | Unadjusted Conc | Intensity    |
|---------------------|-------------------------------------|--------------------|------------------|----------|-----------------|--------------|
| 10/31/2017 19:32:21 | R1710018-005A                       | Mn (257.610 nm)    | 0.5264 (ppm)     | 1.28     | 0.5264 (ppm)    | 165010.8671  |
| 10/31/2017 19:32:21 | R1710018-005A                       | Mo (202.032 nm)    | 0.4720 (ppm)     | 0.38     | 0.4720 (ppm)    | 4818.3299    |
| 10/31/2017 19:32:21 | R1710018-005A                       | Na (588.995 nm)    | 122.4584 o (ppm) | 0.88     | 122.4584 (ppm)  | 5563303.9086 |
| 10/31/2017 19:32:21 | R1710018-005A                       | Ni (230.299 nm)    | 0.4870 (ppm)     | 0.59     | 0.4870 (ppm)    | 3260.0918    |
| 10/31/2017 19:32:21 | R1710018-005A                       | Pb (220.353 nm)    | 0.4938 (ppm)     | 0.53     | 0.4938 (ppm)    | 1060.1612    |
| 10/31/2017 19:32:21 | R1710018-005A                       | Sb (217.582 nm)    | 0.5014 (ppm)     | 0.82     | 0.5014 (ppm)    | 686.5416     |
| 10/31/2017 19:32:21 | R1710018-005A                       | Se (196.026 nm)    | 1.1493 o (ppm)   | 0.82     | 1.1493 (ppm)    | 985.0762     |
| 10/31/2017 19:32:21 | R1710018-005A                       | Sn (189.925 nm)    | 4.9840 (ppm)     | 0.54     | 4.9840 (ppm)    | 6035.2607    |
| 10/31/2017 19:32:21 | R1710018-005A                       | Sr (216.596 nm)    | 2.2956 (ppm)     | 0.79     | 2.2956 (ppm)    | 32594.2263   |
| 10/31/2017 19:32:21 | R1710018-005A                       | Ti (336.122 nm)    | 0.5057 (ppm)     | 1.03     | 0.5057 (ppm)    | 105335.3204  |
| 10/31/2017 19:32:21 | R1710018-005A                       | Tl (351.923 nm)    | 1.9022 (ppm)     | 0.52     | 1.9022 (ppm)    | 5232.1506    |
| 10/31/2017 19:32:21 | R1710018-005A                       | V (292.401 nm)     | 0.4905 (ppm)     | 0.45     | 0.4905 (ppm)    | 17447.7048   |
| 10/31/2017 19:32:21 | R1710018-005A                       | Y (360.074 nm)     | 0.92 (Ratio)     | 0.89     | 0.92 (Ratio)    | 787061.83    |
| 10/31/2017 19:32:21 | R1710018-005A                       | Y_R (360.074 nm)   | 0.92 (Ratio)     | 0.89     | 0.92 (Ratio)    | 787662.82    |
| 10/31/2017 19:32:21 | R1710018-005A                       | Zn (213.857 nm)    | 0.5107 (ppm)     | 1.03     | 0.5107 (ppm)    | 14259.1870   |
| 10/31/2017 19:35:41 | Continuing Calibration Verification | Ag (328.068 nm)    | 0.4973 (ppm)     | 0.24     | 0.4973 (ppm)    | 35429.1044   |
| 10/31/2017 19:35:41 | Continuing Calibration Verification | Al (394.401 nm)    | 9.6089 (ppm)     | 0.24     | 9.6089 (ppm)    | 123097.3093  |
| 10/31/2017 19:35:41 | Continuing Calibration Verification | As (188.980 nm)    | 0.9858 (ppm)     | 0.34     | 0.9858 (ppm)    | 879.7783     |
| 10/31/2017 19:35:41 | Continuing Calibration Verification | B (249.772 nm)     | 2.4676 (ppm)     | 0.16     | 2.4676 (ppm)    | 68356.0440   |
| 10/31/2017 19:35:41 | Continuing Calibration Verification | Ba (230.424 nm)    | 10.5227 (ppm)    | 0.37     | 10.5227 (ppm)   | 353766.3253  |
| 10/31/2017 19:35:41 | Continuing Calibration Verification | Be (313.107 nm)    | 0.2579 (ppm)     | 0.28     | 0.2579 (ppm)    | 380381.2132  |
| 10/31/2017 19:35:41 | Continuing Calibration Verification | Ca (227.547 nm)    | 24.4663 (ppm)    | 0.41     | 24.4663 (ppm)   | 1381.7518    |
| 10/31/2017 19:35:41 | Continuing Calibration Verification | Cd (214.439 nm)    | 0.5142 (ppm)     | 0.25     | 0.5142 (ppm)    | 11146.5718   |
| 10/31/2017 19:35:41 | Continuing Calibration Verification | Co (230.786 nm)    | 2.6538 (ppm)     | 0.12     | 2.6538 (ppm)    | 26196.5113   |
| 10/31/2017 19:35:41 | Continuing Calibration Verification | Cr (267.716 nm)    | 0.5168 (ppm)     | 0.17     | 0.5168 (ppm)    | 25586.9023   |
| 10/31/2017 19:35:41 | Continuing Calibration Verification | Cu (327.395 nm)    | 1.2157 (ppm)     | 0.32     | 1.2157 (ppm)    | 75489.3241   |
| 10/31/2017 19:35:41 | Continuing Calibration Verification | Fe (234.350 nm)    | 4.9593 (ppm)     | 0.15     | 4.9593 (ppm)    | 55403.7602   |
| 10/31/2017 19:35:41 | Continuing Calibration Verification | K (766.491 nm)     | 24.7541 (ppm)    | 0.43     | 24.7541 (ppm)   | 74681.2598   |
| 10/31/2017 19:35:41 | Continuing Calibration Verification | Mg (279.078 nm)    | 25.6570 (ppm)    | 0.24     | 25.6570 (ppm)   | 49509.3020   |
| 10/31/2017 19:35:41 | Continuing Calibration Verification | Mn (257.610 nm)    | 0.7742 (ppm)     | 0.24     | 0.7742 (ppm)    | 242664.2264  |
| 10/31/2017 19:35:41 | Continuing Calibration Verification | Mo (202.032 nm)    | 2.4499 (ppm)     | 0.18     | 2.4499 (ppm)    | 24980.3389   |
| 10/31/2017 19:35:41 | Continuing Calibration Verification | Na (588.995 nm)    | 24.8208 (ppm)    | 0.56     | 24.8208 (ppm)   | 1123259.9819 |
| 10/31/2017 19:35:41 | Continuing Calibration Verification | Ni (230.299 nm)    | 2.0868 (ppm)     | 0.25     | 2.0868 (ppm)    | 14037.3419   |
| 10/31/2017 19:35:41 | Continuing Calibration Verification | Pb (220.353 nm)    | 0.5120 (ppm)     | 0.48     | 0.5120 (ppm)    | 1098.9034    |
| 10/31/2017 19:35:41 | Continuing Calibration Verification | Sb (217.582 nm)    | 4.9868 (ppm)     | 0.28     | 4.9868 (ppm)    | 6820.4861    |
| 10/31/2017 19:35:41 | Continuing Calibration Verification | Se (196.026 nm)    | 0.5031 (ppm)     | 0.59     | 0.5031 (ppm)    | 431.6096     |
| 10/31/2017 19:35:41 | Continuing Calibration Verification | Sn (189.925 nm)    | 5.2242 (ppm)     | 0.54     | 5.2242 (ppm)    | 6326.0991    |
| 10/31/2017 19:35:41 | Continuing Calibration Verification | Sr (216.596 nm)    | 2.5983 (ppm)     | 0.16     | 2.5983 (ppm)    | 36892.2400   |
| 10/31/2017 19:35:41 | Continuing Calibration Verification | Ti (336.122 nm)    | 2.5442 (ppm)     | 0.28     | 2.5442 (ppm)    | 531842.6493  |
| 10/31/2017 19:35:41 | Continuing Calibration Verification | Tl (351.923 nm)    | 0.9995 (ppm)     | 0.60     | 0.9995 (ppm)    | 2752.6576    |
| 10/31/2017 19:35:41 | Continuing Calibration Verification | V (292.401 nm)     | 2.5620 (ppm)     | 0.11     | 2.5620 (ppm)    | 90666.9611   |
| 10/31/2017 19:35:41 | Continuing Calibration Verification | Y (360.074 nm)     | 0.93 (Ratio)     | 0.56     | 0.93 (Ratio)    | 791672.65    |
| 10/31/2017 19:35:41 | Continuing Calibration Verification | Y_R (360.074 nm)   | 0.93 (Ratio)     | 0.56     | 0.93 (Ratio)    | 792294.15    |
| 10/31/2017 19:35:41 | Continuing Calibration Verification | Zn (213.857 nm)    | 1.0282 (ppm)     | 0.17     | 1.0282 (ppm)    | 28737.1497   |
| 10/31/2017 19:39:00 | Continuing Calibration Blank        | Ag (328.068 nm)    | 0.0002 (ppm)     | 6.44     | 0.0002 (ppm)    | -85.8749     |
| 10/31/2017 19:39:00 | Continuing Calibration Blank        | Al (394.401 nm)    | 0.0050 (ppm)     | 24.35    | 0.0050 (ppm)    | 189.6474     |
| 10/31/2017 19:39:00 | Continuing Calibration Blank        | As (188.980 nm)    | 0.0001 u (ppm)   | > 100.00 | 0.0001 (ppm)    | -1.3271      |
| 10/31/2017 19:39:00 | Continuing Calibration Blank        | B (249.772 nm)     | 0.0050 (ppm)     | 20.11    | 0.0050 (ppm)    | 173.4084     |
| 10/31/2017 19:39:00 | Continuing Calibration Blank        | Ba (230.424 nm)    | 0.0065 (ppm)     | 23.67    | 0.0065 (ppm)    | 220.6292     |
| 10/31/2017 19:39:00 | Continuing Calibration Blank        | Be (313.107 nm)    | 0.0001 (ppm)     | 22.33    | 0.0001 (ppm)    | -312.4877    |
| 10/31/2017 19:39:00 | Continuing Calibration Blank        | Ca (227.547 nm)    | 0.0352 (ppm)     | 58.95    | 0.0352 (ppm)    | 6.3937       |

| Date Time           | Label                        | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity   |
|---------------------|------------------------------|--------------------|-----------------|----------|-----------------|-------------|
| 10/31/2017 19:39:00 | Continuing Calibration Blank | Cd (214.439 nm)    | 0.0003 (ppm)    | 53.10    | 0.0003 (ppm)    | 20.8956     |
| 10/31/2017 19:39:00 | Continuing Calibration Blank | Co (230.786 nm)    | 0.0018 (ppm)    | 13.21    | 0.0018 (ppm)    | 13.9613     |
| 10/31/2017 19:39:00 | Continuing Calibration Blank | Cr (267.716 nm)    | 0.0002 (ppm)    | 18.00    | 0.0002 (ppm)    | 8.4965      |
| 10/31/2017 19:39:00 | Continuing Calibration Blank | Cu (327.395 nm)    | 0.0009 (ppm)    | 19.97    | 0.0009 (ppm)    | 66.9274     |
| 10/31/2017 19:39:00 | Continuing Calibration Blank | Fe (234.350 nm)    | 0.0034 (ppm)    | 18.94    | 0.0034 (ppm)    | 50.3259     |
| 10/31/2017 19:39:00 | Continuing Calibration Blank | K (766.491 nm)     | 0.0458 (ppm)    | 23.84    | 0.0458 (ppm)    | 129.4781    |
| 10/31/2017 19:39:00 | Continuing Calibration Blank | Mg (279.078 nm)    | 0.0138 (ppm)    | 24.38    | 0.0138 (ppm)    | 25.9529     |
| 10/31/2017 19:39:00 | Continuing Calibration Blank | Mn (257.610 nm)    | 0.0046 (ppm)    | 21.53    | 0.0046 (ppm)    | 1455.5163   |
| 10/31/2017 19:39:00 | Continuing Calibration Blank | Mo (202.032 nm)    | 0.0038 (ppm)    | 16.92    | 0.0038 (ppm)    | 46.1154     |
| 10/31/2017 19:39:00 | Continuing Calibration Blank | Na (588.995 nm)    | 0.0007 u (ppm)  | > 100.00 | 0.0007 (ppm)    | -5429.2532  |
| 10/31/2017 19:39:00 | Continuing Calibration Blank | Ni (230.299 nm)    | 0.0006 (ppm)    | 32.45    | 0.0006 (ppm)    | -16.5128    |
| 10/31/2017 19:39:00 | Continuing Calibration Blank | Pb (220.353 nm)    | 0.0002 u (ppm)  | > 100.00 | 0.0002 (ppm)    | 5.3823      |
| 10/31/2017 19:39:00 | Continuing Calibration Blank | Sb (217.582 nm)    | 0.0023 (ppm)    | 80.95    | 0.0023 (ppm)    | 3.9879      |
| 10/31/2017 19:39:00 | Continuing Calibration Blank | Se (196.026 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | 0.6492      |
| 10/31/2017 19:39:00 | Continuing Calibration Blank | Sn (189.925 nm)    | 0.0033 (ppm)    | 38.33    | 0.0033 (ppm)    | 3.9230      |
| 10/31/2017 19:39:00 | Continuing Calibration Blank | Sr (216.596 nm)    | 0.0016 (ppm)    | 45.44    | 0.0016 (ppm)    | 21.5625     |
| 10/31/2017 19:39:00 | Continuing Calibration Blank | Ti (336.122 nm)    | 0.0024 (ppm)    | 12.12    | 0.0024 (ppm)    | 15.7973     |
| 10/31/2017 19:39:00 | Continuing Calibration Blank | Tl (351.923 nm)    | 0.0026 (ppm)    | 54.88    | 0.0026 (ppm)    | 14.4035     |
| 10/31/2017 19:39:00 | Continuing Calibration Blank | V (292.401 nm)     | 0.0015 (ppm)    | 27.67    | 0.0015 (ppm)    | 162.1037    |
| 10/31/2017 19:39:00 | Continuing Calibration Blank | Y (360.074 nm)     | 0.96 (Ratio)    | 0.67     | 0.96 (Ratio)    | 819851.59   |
| 10/31/2017 19:39:00 | Continuing Calibration Blank | Y_R (360.074 nm)   | 0.96 (Ratio)    | 0.67     | 0.96 (Ratio)    | 820583.06   |
| 10/31/2017 19:39:00 | Continuing Calibration Blank | Zn (213.857 nm)    | 0.0007 (ppm)    | 27.29    | 0.0007 (ppm)    | -8.4798     |
| 10/31/2017 19:42:19 | R1710018-005L                | Ag (328.068 nm)    | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | -102.7976   |
| 10/31/2017 19:42:19 | R1710018-005L                | Al (394.401 nm)    | 0.0896 (ppm)    | 1.31     | 0.0896 (ppm)    | 1272.3283   |
| 10/31/2017 19:42:19 | R1710018-005L                | As (188.980 nm)    | -0.0021 u (ppm) | 43.06    | -0.0021 (ppm)   | -3.3374     |
| 10/31/2017 19:42:19 | R1710018-005L                | B (249.772 nm)     | 0.0064 (ppm)    | 2.10     | 0.0064 (ppm)    | 211.2391    |
| 10/31/2017 19:42:19 | R1710018-005L                | Ba (230.424 nm)    | 0.0062 (ppm)    | 5.79     | 0.0062 (ppm)    | 210.7367    |
| 10/31/2017 19:42:19 | R1710018-005L                | Be (313.107 nm)    | 0.0000 (ppm)    | 6.94     | 0.0000 (ppm)    | -497.4389   |
| 10/31/2017 19:42:19 | R1710018-005L                | Cb (227.547 nm)    | 13.3739 (ppm)   | 0.92     | 13.3739 (ppm)   | 757.3053    |
| 10/31/2017 19:42:19 | R1710018-005L                | Cd (214.439 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | 13.8548     |
| 10/31/2017 19:42:19 | R1710018-005L                | Co (230.786 nm)    | 0.0002 (ppm)    | 61.26    | 0.0002 (ppm)    | -1.4377     |
| 10/31/2017 19:42:19 | R1710018-005L                | Cr (267.716 nm)    | 0.0005 (ppm)    | 2.17     | 0.0005 (ppm)    | 25.7124     |
| 10/31/2017 19:42:19 | R1710018-005L                | Cu (327.395 nm)    | 0.0002 (ppm)    | 66.24    | 0.0002 (ppm)    | 26.7100     |
| 10/31/2017 19:42:19 | R1710018-005L                | Fe (234.350 nm)    | 0.1027 (ppm)    | 0.64     | 0.1027 (ppm)    | 1158.8348   |
| 10/31/2017 19:42:19 | R1710018-005L                | K (766.491 nm)     | 0.4332 (ppm)    | 1.59     | 0.4332 (ppm)    | 1298.3784   |
| 10/31/2017 19:42:19 | R1710018-005L                | Mg (279.078 nm)    | 0.9536 (ppm)    | 0.36     | 0.9536 (ppm)    | 1839.4424   |
| 10/31/2017 19:42:19 | R1710018-005L                | Mn (257.610 nm)    | 0.0087 (ppm)    | 15.74    | 0.0087 (ppm)    | 2737.0676   |
| 10/31/2017 19:42:19 | R1710018-005L                | Mo (202.032 nm)    | 0.0008 (ppm)    | 36.41    | 0.0008 (ppm)    | 14.9363     |
| 10/31/2017 19:42:19 | R1710018-005L                | Na (588.995 nm)    | 21.2633 (ppm)   | 0.42     | 21.2633 (ppm)   | 961483.6601 |
| 10/31/2017 19:42:19 | R1710018-005L                | Ni (230.299 nm)    | -0.0013 u (ppm) | 56.37    | -0.0013 (ppm)   | -29.5512    |
| 10/31/2017 19:42:19 | R1710018-005L                | Pb (220.353 nm)    | -0.0002 u (ppm) | > 100.00 | -0.0002 (ppm)   | 4.6910      |
| 10/31/2017 19:42:19 | R1710018-005L                | Sb (217.582 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | 0.7191      |
| 10/31/2017 19:42:19 | R1710018-005L                | Se (196.026 nm)    | -0.0028 u (ppm) | > 100.00 | -0.0028 (ppm)   | -1.6485     |
| 10/31/2017 19:42:19 | R1710018-005L                | Sn (189.925 nm)    | 0.0006 (ppm)    | 82.86    | 0.0006 (ppm)    | 0.6809      |
| 10/31/2017 19:42:19 | R1710018-005L                | Sr (216.596 nm)    | 0.0531 (ppm)    | 0.82     | 0.0531 (ppm)    | 753.1050    |
| 10/31/2017 19:42:19 | R1710018-005L                | Ti (336.122 nm)    | 0.0055 (ppm)    | 5.94     | 0.0055 (ppm)    | 678.2373    |
| 10/31/2017 19:42:19 | R1710018-005L                | Tl (351.923 nm)    | 0.0026 u (ppm)  | > 100.00 | 0.0026 (ppm)    | 14.3717     |
| 10/31/2017 19:42:19 | R1710018-005L                | V (292.401 nm)     | 0.0005 (ppm)    | 28.25    | 0.0005 (ppm)    | 125.0895    |
| 10/31/2017 19:42:19 | R1710018-005L                | Y (360.074 nm)     | 0.95 (Ratio)    | 0.76     | 0.95 (Ratio)    | 813270.10   |
| 10/31/2017 19:42:19 | R1710018-005L                | Y_R (360.074 nm)   | 0.95 (Ratio)    | 0.76     | 0.95 (Ratio)    | 813984.28   |
| 10/31/2017 19:42:19 | R1710018-005L                | Zn (213.857 nm)    | 0.0028 (ppm)    | 4.19     | 0.0028 (ppm)    | 51.5792     |

| Date Time           | Label            | Element Label (nm) | Conc             | %RSD     | Unadjusted Conc | Intensity    |
|---------------------|------------------|--------------------|------------------|----------|-----------------|--------------|
| 10/31/2017 19:45:38 | R1710018-006     | Ag (328.068 nm)    | 0.0001 (ppm)     | 46.41    | 0.0001 (ppm)    | -93.1175     |
| 10/31/2017 19:45:38 | R1710018-006     | Al (394.401 nm)    | 1.2731 (ppm)     | 1.29     | 1.2731 (ppm)    | 16418.2208   |
| 10/31/2017 19:45:38 | R1710018-006     | As (188.980 nm)    | 0.0001 u (ppm)   | > 100.00 | 0.0001 (ppm)    | -1.3593      |
| 10/31/2017 19:45:38 | R1710018-006     | B (249.772 nm)     | 0.0365 (ppm)     | 0.53     | 0.0365 (ppm)    | 1044.8003    |
| 10/31/2017 19:45:38 | R1710018-006     | Ba (230.424 nm)    | 0.0339 (ppm)     | 2.10     | 0.0339 (ppm)    | 1143.0140    |
| 10/31/2017 19:45:38 | R1710018-006     | Be (313.107 nm)    | 0.0000 (ppm)     | 13.45    | 0.0000 (ppm)    | -454.2895    |
| 10/31/2017 19:45:38 | R1710018-006     | Ca (227.547 nm)    | 50.5206 (ppm)    | 1.07     | 50.5206 (ppm)   | 2848.4944    |
| 10/31/2017 19:45:38 | R1710018-006     | Cd (214.439 nm)    | 0.0000 (ppm)     | > 100.00 | 0.0000 (ppm)    | 13.9878      |
| 10/31/2017 19:45:38 | R1710018-006     | Co (230.786 nm)    | 0.0009 (ppm)     | 19.18    | 0.0009 (ppm)    | 5.2144       |
| 10/31/2017 19:45:38 | R1710018-006     | Cr (267.716 nm)    | 0.0171 (ppm)     | 1.32     | 0.0171 (ppm)    | 848.0730     |
| 10/31/2017 19:45:38 | R1710018-006     | Cu (327.395 nm)    | 0.0019 (ppm)     | 3.40     | 0.0019 (ppm)    | 127.8962     |
| 10/31/2017 19:45:38 | R1710018-006     | Fe (234.350 nm)    | 1.4269 (ppm)     | 0.97     | 1.4269 (ppm)    | 15949.4301   |
| 10/31/2017 19:45:38 | R1710018-006     | K (766.491 nm)     | 4.1354 (ppm)     | 1.05     | 4.1354 (ppm)    | 12468.8668   |
| 10/31/2017 19:45:38 | R1710018-006     | Mg (279.078 nm)    | 3.4632 (ppm)     | 1.03     | 3.4632 (ppm)    | 6682.2653    |
| 10/31/2017 19:45:38 | R1710018-006     | Mn (257.610 nm)    | 1.9014 u (ppm)   | 0.93     | 1.9014 (ppm)    | 595992.5866  |
| 10/31/2017 19:45:38 | R1710018-006     | Mo (202.032 nm)    | 0.0010 (ppm)     | 12.10    | 0.0010 (ppm)    | 17.4146      |
| 10/31/2017 19:45:38 | R1710018-006     | Na (588.995 nm)    | 127.3111 u (ppm) | 1.08     | 127.3111 (ppm)  | 5783976.1751 |
| 10/31/2017 19:45:38 | R1710018-006     | Ni (230.299 nm)    | -0.0029 u (ppm)  | 32.13    | -0.0029 (ppm)   | -39.9799     |
| 10/31/2017 19:45:38 | R1710018-006     | Pb (220.353 nm)    | -0.0009 u (ppm)  | > 100.00 | -0.0009 (ppm)   | 3.1076       |
| 10/31/2017 19:45:38 | R1710018-006     | Sb (217.582 nm)    | 0.0014 (ppm)     | 27.36    | 0.0014 (ppm)    | 2.7389       |
| 10/31/2017 19:45:38 | R1710018-006     | Se (196.026 nm)    | 0.0006 u (ppm)   | > 100.00 | 0.0006 (ppm)    | 1.2838       |
| 10/31/2017 19:45:38 | R1710018-006     | Sn (189.925 nm)    | -0.0008 u (ppm)  | > 100.00 | -0.0008 (ppm)   | -1.0826      |
| 10/31/2017 19:45:38 | R1710018-006     | Sr (216.596 nm)    | 0.2089 (ppm)     | 1.15     | 0.2089 (ppm)    | 2965.8140    |
| 10/31/2017 19:45:38 | R1710018-006     | Ti (336.122 nm)    | 0.0646 (ppm)     | 1.60     | 0.0646 (ppm)    | 13042.9769   |
| 10/31/2017 19:45:38 | R1710018-006     | Tl (351.923 nm)    | 0.0009 (ppm)     | 63.21    | 0.0009 (ppm)    | 9.7723       |
| 10/31/2017 19:45:38 | R1710018-006     | V (292.401 nm)     | 0.0024 (ppm)     | 2.26     | 0.0024 (ppm)    | 193.5185     |
| 10/31/2017 19:45:38 | R1710018-006     | Y (360.074 nm)     | 0.92 (Ratio)     | 1.18     | 0.92 (Ratio)    | 782219.61    |
| 10/31/2017 19:45:38 | R1710018-006     | Y_R (360.074 nm)   | 0.92 (Ratio)     | 1.18     | 0.92 (Ratio)    | 782861.76    |
| 10/31/2017 19:45:38 | R1710018-006     | Zn (213.857 nm)    | 0.0104 (ppm)     | 0.63     | 0.0104 (ppm)    | 265.2960     |
| 10/31/2017 19:48:57 | R1710018-007 10X | Ag (328.068 nm)    | -0.0003 u (ppm)  | 60.70    | -0.0003 (ppm)   | -123.3999    |
| 10/31/2017 19:48:57 | R1710018-007 10X | Al (394.401 nm)    | 0.0822 (ppm)     | 1.47     | 0.0822 (ppm)    | 1177.5074    |
| 10/31/2017 19:48:57 | R1710018-007 10X | As (188.980 nm)    | 0.0001 u (ppm)   | > 100.00 | 0.0001 (ppm)    | -1.3451      |
| 10/31/2017 19:48:57 | R1710018-007 10X | B (249.772 nm)     | 0.0040 (ppm)     | 4.02     | 0.0040 (ppm)    | 145.5510     |
| 10/31/2017 19:48:57 | R1710018-007 10X | Ba (230.424 nm)    | 0.0029 (ppm)     | 9.29     | 0.0029 (ppm)    | 98.8861      |
| 10/31/2017 19:48:57 | R1710018-007 10X | Be (313.107 nm)    | 0.0000 (ppm)     | > 100.00 | 0.0000 (ppm)    | -514.1625    |
| 10/31/2017 19:48:57 | R1710018-007 10X | Ca (227.547 nm)    | 4.6785 (ppm)     | 1.19     | 4.6785 (ppm)    | 267.7908     |
| 10/31/2017 19:48:57 | R1710018-007 10X | Cd (214.439 nm)    | 0.0002 (ppm)     | 31.29    | 0.0002 (ppm)    | 17.6444      |
| 10/31/2017 19:48:57 | R1710018-007 10X | Co (230.786 nm)    | 0.0004 (ppm)     | 32.20    | 0.0004 (ppm)    | 0.7592       |
| 10/31/2017 19:48:57 | R1710018-007 10X | Cr (267.716 nm)    | -0.0049 u (ppm)  | 1.98     | -0.0049 (ppm)   | -244.3254    |
| 10/31/2017 19:48:57 | R1710018-007 10X | Cu (327.395 nm)    | 0.0004 (ppm)     | 37.47    | 0.0004 (ppm)    | 36.1829      |
| 10/31/2017 19:48:57 | R1710018-007 10X | Fe (234.350 nm)    | 0.1107 (ppm)     | 0.93     | 0.1107 (ppm)    | 1248.3777    |
| 10/31/2017 19:48:57 | R1710018-007 10X | K (766.491 nm)     | 4.4829 (ppm)     | 0.44     | 4.4829 (ppm)    | 13517.4692   |
| 10/31/2017 19:48:57 | R1710018-007 10X | Mg (279.078 nm)    | 0.3451 (ppm)     | 0.08     | 0.3451 (ppm)    | 665.2541     |
| 10/31/2017 19:48:57 | R1710018-007 10X | Mn (257.610 nm)    | 20.9187 u (ppm)  | 0.33     | 20.9187 (ppm)   | 6556742.9006 |
| 10/31/2017 19:48:57 | R1710018-007 10X | Mo (202.032 nm)    | 0.0002 (ppm)     | > 100.00 | 0.0002 (ppm)    | 9.5679       |
| 10/31/2017 19:48:57 | R1710018-007 10X | Na (588.995 nm)    | 26.7195 (ppm)    | 0.68     | 26.7195 (ppm)   | 1209603.5196 |
| 10/31/2017 19:48:57 | R1710018-007 10X | Ni (230.299 nm)    | -0.0001 u (ppm)  | > 100.00 | -0.0001 (ppm)   | -21.4918     |
| 10/31/2017 19:48:57 | R1710018-007 10X | Pb (220.353 nm)    | 0.0024 (ppm)     | 34.56    | 0.0024 (ppm)    | 10.1029      |
| 10/31/2017 19:48:57 | R1710018-007 10X | Sb (217.582 nm)    | -0.0010 u (ppm)  | > 100.00 | -0.0010 (ppm)   | -0.4928      |
| 10/31/2017 19:48:57 | R1710018-007 10X | Se (196.026 nm)    | 0.0134 (ppm)     | 38.02    | 0.0134 (ppm)    | 12.2720      |
| 10/31/2017 19:48:57 | R1710018-007 10X | Sn (189.925 nm)    | 0.0007 (ppm)     | 58.62    | 0.0007 (ppm)    | 0.7315       |



| Date Time           | Label            | Element Label (nm) | Conc             | %RSD     | Unadjusted Conc | Intensity     |
|---------------------|------------------|--------------------|------------------|----------|-----------------|---------------|
| 10/31/2017 19:48:57 | R1710018-007 10X | Sr (216.596 nm)    | 0.0169 (ppm)     | 0.39     | 0.0169 (ppm)    | 239.4564      |
| 10/31/2017 19:48:57 | R1710018-007 10X | Tl (336.122 nm)    | 0.0066 (ppm)     | 4.17     | 0.0066 (ppm)    | 888.3643      |
| 10/31/2017 19:48:57 | R1710018-007 10X | Tl (351.923 nm)    | -0.0009 u (ppm)  | > 100.00 | -0.0009 (ppm)   | 4.9054        |
| 10/31/2017 19:48:57 | R1710018-007 10X | V (292.401 nm)     | 0.0005 (ppm)     | 31.91    | 0.0005 (ppm)    | 128.1983      |
| 10/31/2017 19:48:57 | R1710018-007 10X | Y (360.074 nm)     | 0.94 (Ratio)     | 0.59     | 0.94 (Ratio)    | 803222.75     |
| 10/31/2017 19:48:57 | R1710018-007 10X | Y_R (360.074 nm)   | 0.94 (Ratio)     | 0.59     | 0.94 (Ratio)    | 803919.35     |
| 10/31/2017 19:48:57 | R1710018-007 10X | Zn (213.857 nm)    | 0.0024 (ppm)     | 1.00     | 0.0024 (ppm)    | 39.1341       |
| 10/31/2017 19:52:16 | R1710018-007     | Ag (328.068 nm)    | -0.0026 u (ppm)  | 2.42     | -0.0026 (ppm)   | -292.2525     |
| 10/31/2017 19:52:16 | R1710018-007     | Al (394.401 nm)    | 0.9076 (ppm)     | 0.61     | 0.9076 (ppm)    | 11740.5850    |
| 10/31/2017 19:52:16 | R1710018-007     | As (188.980 nm)    | 0.0007 u (ppm)   | > 100.00 | 0.0007 (ppm)    | -0.8316       |
| 10/31/2017 19:52:16 | R1710018-007     | B (249.772 nm)     | 0.0349 (ppm)     | 0.98     | 0.0349 (ppm)    | 999.0354      |
| 10/31/2017 19:52:16 | R1710018-007     | Ba (230.424 nm)    | 0.0250 (ppm)     | 0.80     | 0.0250 (ppm)    | 842.0048      |
| 10/31/2017 19:52:16 | R1710018-007     | Be (313.107 nm)    | 0.0001 (ppm)     | 18.48    | 0.0001 (ppm)    | -429.9804     |
| 10/31/2017 19:52:16 | R1710018-007     | Ca (227.547 nm)    | 51.5146 (ppm)    | 0.34     | 51.5146 (ppm)   | 2904.4481     |
| 10/31/2017 19:52:16 | R1710018-007     | Cd (214.439 nm)    | 0.0003 (ppm)     | 42.02    | 0.0003 (ppm)    | 19.5999       |
| 10/31/2017 19:52:16 | R1710018-007     | Co (230.786 nm)    | 0.0007 (ppm)     | 22.35    | 0.0007 (ppm)    | 3.4948        |
| 10/31/2017 19:52:16 | R1710018-007     | Cr (267.716 nm)    | -0.0471 u (ppm)  | 0.50     | -0.0471 (ppm)   | -2330.8973    |
| 10/31/2017 19:52:16 | R1710018-007     | Cu (327.395 nm)    | 0.0031 (ppm)     | 3.70     | 0.0031 (ppm)    | 204.6183      |
| 10/31/2017 19:52:16 | R1710018-007     | Fe (234.350 nm)    | 1.0629 (ppm)     | 0.38     | 1.0629 (ppm)    | 11883.8270    |
| 10/31/2017 19:52:16 | R1710018-007     | K (766.491 nm)     | 51.0198 (ppm)    | 0.59     | 51.0198 (ppm)   | 153932.3331   |
| 10/31/2017 19:52:16 | R1710018-007     | Mg (279.078 nm)    | 3.4556 (ppm)     | 0.39     | 3.4556 (ppm)    | 6667.6287     |
| 10/31/2017 19:52:16 | R1710018-007     | Mn (257.610 nm)    | ### (ppm)        | N/A      | ### (ppm)       | ###           |
| 10/31/2017 19:52:16 | R1710018-007     | Mo (202.032 nm)    | 0.0008 (ppm)     | 25.21    | 0.0008 (ppm)    | 15.0800       |
| 10/31/2017 19:52:16 | R1710018-007     | Na (588.995 nm)    | 258.6553 o (ppm) | 0.51     | 258.6553 (ppm)  | 11756819.7269 |
| 10/31/2017 19:52:16 | R1710018-007     | Ni (230.299 nm)    | 0.0074 (ppm)     | 11.04    | 0.0074 (ppm)    | 29.5377       |
| 10/31/2017 19:52:16 | R1710018-007     | Pb (220.353 nm)    | 0.0217 (ppm)     | 9.66     | 0.0217 (ppm)    | 51.3294       |
| 10/31/2017 19:52:16 | R1710018-007     | Sb (217.582 nm)    | -0.0016 u (ppm)  | > 100.00 | -0.0016 (ppm)   | -1.3377       |
| 10/31/2017 19:52:16 | R1710018-007     | Se (196.026 nm)    | 0.1001 (ppm)     | 2.47     | 0.1001 (ppm)    | 86.5203       |
| 10/31/2017 19:52:16 | R1710018-007     | Sn (189.925 nm)    | -0.0016 u (ppm)  | 58.75    | -0.0016 (ppm)   | -1.9679       |
| 10/31/2017 19:52:16 | R1710018-007     | Sr (216.596 nm)    | 0.1657 (ppm)     | 0.29     | 0.1657 (ppm)    | 2351.4004     |
| 10/31/2017 19:52:16 | R1710018-007     | Tl (336.122 nm)    | 0.0640 (ppm)     | 2.90     | 0.0640 (ppm)    | 12903.8534    |
| 10/31/2017 19:52:16 | R1710018-007     | Tl (351.923 nm)    | -0.0123 u (ppm)  | 16.31    | -0.0123 (ppm)   | -26.5040      |
| 10/31/2017 19:52:16 | R1710018-007     | V (292.401 nm)     | 0.0028 (ppm)     | 6.05     | 0.0028 (ppm)    | 209.5073      |
| 10/31/2017 19:52:16 | R1710018-007     | Y (360.074 nm)     | 0.89 (Ratio)     | 0.70     | 0.89 (Ratio)    | 755693.85     |
| 10/31/2017 19:52:16 | R1710018-007     | Y_R (360.074 nm)   | 0.89 (Ratio)     | 0.70     | 0.89 (Ratio)    | 756271.35     |
| 10/31/2017 19:52:16 | R1710018-007     | Zn (213.857 nm)    | 0.0145 (ppm)     | 1.09     | 0.0145 (ppm)    | 379.3382      |
| 10/31/2017 19:55:36 | R1710018-008     | Ag (328.068 nm)    | 0.0000 u (ppm)   | > 100.00 | 0.0000 (ppm)    | -103.9097     |
| 10/31/2017 19:55:36 | R1710018-008     | Al (394.401 nm)    | 0.3806 (ppm)     | 0.54     | 0.3806 (ppm)    | 4996.7915     |
| 10/31/2017 19:55:36 | R1710018-008     | As (188.980 nm)    | -0.0004 u (ppm)  | > 100.00 | -0.0004 (ppm)   | -1.8133       |
| 10/31/2017 19:55:36 | R1710018-008     | B (249.772 nm)     | 0.0431 (ppm)     | 0.23     | 0.0431 (ppm)    | 1227.4694     |
| 10/31/2017 19:55:36 | R1710018-008     | Ba (230.424 nm)    | 0.0147 (ppm)     | 1.06     | 0.0147 (ppm)    | 496.2240      |
| 10/31/2017 19:55:36 | R1710018-008     | Be (313.107 nm)    | 0.0000 (ppm)     | 64.51    | 0.0000 (ppm)    | -544.2410     |
| 10/31/2017 19:55:36 | R1710018-008     | Ca (227.547 nm)    | 47.3601 (ppm)    | 0.51     | 47.3601 (ppm)   | 2670.5674     |
| 10/31/2017 19:55:36 | R1710018-008     | Cd (214.439 nm)    | 0.0000 u (ppm)   | > 100.00 | 0.0000 (ppm)    | 12.5215       |
| 10/31/2017 19:55:36 | R1710018-008     | Co (230.786 nm)    | -0.0001 u (ppm)  | > 100.00 | -0.0001 (ppm)   | -4.2237       |
| 10/31/2017 19:55:36 | R1710018-008     | Cr (267.716 nm)    | 0.0015 (ppm)     | 7.21     | 0.0015 (ppm)    | 73.2486       |
| 10/31/2017 19:55:36 | R1710018-008     | Cu (327.395 nm)    | 0.0011 (ppm)     | 9.04     | 0.0011 (ppm)    | 84.2046       |
| 10/31/2017 19:55:36 | R1710018-008     | Fe (234.350 nm)    | 0.4555 (ppm)     | 0.34     | 0.4555 (ppm)    | 5099.2171     |
| 10/31/2017 19:55:36 | R1710018-008     | K (766.491 nm)     | 15.3550 (ppm)    | 0.69     | 15.3550 (ppm)   | 46321.5782    |
| 10/31/2017 19:55:36 | R1710018-008     | Mg (279.078 nm)    | 3.0931 (ppm)     | 0.08     | 3.0931 (ppm)    | 5868.1226     |
| 10/31/2017 19:55:36 | R1710018-008     | Mn (257.610 nm)    | 6.1138 o (ppm)   | 1.47     | 6.1138 (ppm)    | 1916308.7600  |

| Date Time           | Label             | Element Label (nm) | Conc             | %RSD     | Unadjusted Conc | Intensity    |
|---------------------|-------------------|--------------------|------------------|----------|-----------------|--------------|
| 10/31/2017 19:55:36 | R1710018-008      | Mo (202.032 nm)    | 0.0000 u (ppm)   | > 100.00 | 0.0000 (ppm)    | 7.0736       |
| 10/31/2017 19:55:36 | R1710018-008      | Na (588.995 nm)    | 190.0294 o (ppm) | 0.85     | 190.0294 (ppm)  | 8636073.7216 |
| 10/31/2017 19:55:36 | R1710018-008      | Ni (230.299 nm)    | -0.0030 u (ppm)  | 9.86     | -0.0030 (ppm)   | -40.7015     |
| 10/31/2017 19:55:36 | R1710018-008      | Pb (220.353 nm)    | -0.0010 u (ppm)  | 96.10    | -0.0010 (ppm)   | 2.9436       |
| 10/31/2017 19:55:36 | R1710018-008      | Sb (217.582 nm)    | 0.0007 u (ppm)   | > 100.00 | 0.0007 (ppm)    | 1.7125       |
| 10/31/2017 19:55:36 | R1710018-008      | Se (196.026 nm)    | 0.0026 (ppm)     | 96.68    | 0.0026 (ppm)    | 3.0419       |
| 10/31/2017 19:55:36 | R1710018-008      | Sn (189.925 nm)    | -0.0004 u (ppm)  | > 100.00 | -0.0004 (ppm)   | -0.6117      |
| 10/31/2017 19:55:36 | R1710018-008      | Sr (216.596 nm)    | 0.1922 (ppm)     | 0.19     | 0.1922 (ppm)    | 2727.7871    |
| 10/31/2017 19:55:36 | R1710018-008      | Ti (336.122 nm)    | 0.0245 (ppm)     | 1.32     | 0.0245 (ppm)    | 4642.1526    |
| 10/31/2017 19:55:36 | R1710018-008      | Tl (351.923 nm)    | 0.0038 (ppm)     | 41.48    | 0.0038 (ppm)    | 17.8171      |
| 10/31/2017 19:55:36 | R1710018-008      | V (292.401 nm)     | 0.0009 (ppm)     | 25.51    | 0.0009 (ppm)    | 142.3331     |
| 10/31/2017 19:55:36 | R1710018-008      | Y (360.074 nm)     | 0.91 (Ratio)     | 0.59     | 0.91 (Ratio)    | 775081.70    |
| 10/31/2017 19:55:36 | R1710018-008      | Y_R (360.074 nm)   | 0.91 (Ratio)     | 0.59     | 0.91 (Ratio)    | 775634.76    |
| 10/31/2017 19:55:36 | R1710018-008      | Zn (213.857 nm)    | 0.0078 (ppm)     | 0.92     | 0.0078 (ppm)    | 192.6117     |
| 10/31/2017 19:58:56 | R1710018-009 100X | Ag (328.068 nm)    | -0.0005 u (ppm)  | 11.54    | -0.0005 (ppm)   | -141.1225    |
| 10/31/2017 19:58:56 | R1710018-009 100X | Al (394.401 nm)    | 0.0072 (ppm)     | 3.52     | 0.0072 (ppm)    | 218.0475     |
| 10/31/2017 19:58:56 | R1710018-009 100X | As (188.980 nm)    | 0.0008 u (ppm)   | > 100.00 | 0.0008 (ppm)    | -0.7501      |
| 10/31/2017 19:58:56 | R1710018-009 100X | B (249.772 nm)     | -0.0007 u (ppm)  | 9.15     | -0.0007 (ppm)   | 13.8463      |
| 10/31/2017 19:58:56 | R1710018-009 100X | Ba (230.424 nm)    | 0.0003 (ppm)     | 51.93    | 0.0003 (ppm)    | 13.1632      |
| 10/31/2017 19:58:56 | R1710018-009 100X | Be (313.107 nm)    | 0.0000 (ppm)     | > 100.00 | 0.0000 (ppm)    | -523.0618    |
| 10/31/2017 19:58:56 | R1710018-009 100X | Ca (227.547 nm)    | 1.7243 (ppm)     | 3.81     | 1.7243 (ppm)    | 101.4842     |
| 10/31/2017 19:58:56 | R1710018-009 100X | Cd (214.439 nm)    | 0.0002 (ppm)     | 27.82    | 0.0002 (ppm)    | 17.0110      |
| 10/31/2017 19:58:56 | R1710018-009 100X | Co (230.786 nm)    | 0.0003 (ppm)     | > 100.00 | 0.0003 (ppm)    | -0.6118      |
| 10/31/2017 19:58:56 | R1710018-009 100X | Cr (267.716 nm)    | -0.0119 u (ppm)  | 4.90     | -0.0119 (ppm)   | -589.7616    |
| 10/31/2017 19:58:56 | R1710018-009 100X | Cu (327.395 nm)    | 0.0002 (ppm)     | 68.91    | 0.0002 (ppm)    | 26.5285      |
| 10/31/2017 19:58:56 | R1710018-009 100X | Fe (234.350 nm)    | 0.0060 (ppm)     | 11.09    | 0.0060 (ppm)    | 78.3894      |
| 10/31/2017 19:58:56 | R1710018-009 100X | K (766.491 nm)     | 0.2515 (ppm)     | 7.01     | 0.2515 (ppm)    | 750.0273     |
| 10/31/2017 19:58:56 | R1710018-009 100X | Mg (279.078 nm)    | 0.1934 (ppm)     | 0.56     | 0.1934 (ppm)    | 372.5869     |
| 10/31/2017 19:58:56 | R1710018-009 100X | Mn (257.610 nm)    | 30.7917 o (ppm)  | 4.90     | 30.7917 (ppm)   | 9651314.0921 |
| 10/31/2017 19:58:56 | R1710018-009 100X | Mo (202.032 nm)    | 0.0002 (ppm)     | 49.13    | 0.0002 (ppm)    | 9.0983       |
| 10/31/2017 19:58:56 | R1710018-009 100X | Na (588.995 nm)    | 20.5114 (ppm)    | 1.17     | 20.5114 (ppm)   | 927289.9992  |
| 10/31/2017 19:58:56 | R1710018-009 100X | Ni (230.299 nm)    | 0.0001 u (ppm)   | > 100.00 | 0.0001 (ppm)    | -20.1240     |
| 10/31/2017 19:58:56 | R1710018-009 100X | Pb (220.353 nm)    | 0.0039 (ppm)     | 39.40    | 0.0039 (ppm)    | 13.3014      |
| 10/31/2017 19:58:56 | R1710018-009 100X | Sb (217.582 nm)    | -0.0013 u (ppm)  | > 100.00 | -0.0013 (ppm)   | -0.9398      |
| 10/31/2017 19:58:56 | R1710018-009 100X | Se (196.026 nm)    | 0.0166 (ppm)     | 28.88    | 0.0166 (ppm)    | 15.0300      |
| 10/31/2017 19:58:56 | R1710018-009 100X | Sn (189.925 nm)    | -0.0002 u (ppm)  | > 100.00 | -0.0002 (ppm)   | -0.3165      |
| 10/31/2017 19:58:56 | R1710018-009 100X | Sr (216.596 nm)    | 0.0072 (ppm)     | 4.63     | 0.0072 (ppm)    | 100.9378     |
| 10/31/2017 19:58:56 | R1710018-009 100X | Ti (336.122 nm)    | 0.0000 (ppm)     | 74.97    | 0.0000 (ppm)    | -471.4767    |
| 10/31/2017 19:58:56 | R1710018-009 100X | Tl (351.923 nm)    | -0.0011 u (ppm)  | > 100.00 | -0.0011 (ppm)   | 4.3280       |
| 10/31/2017 19:58:56 | R1710018-009 100X | V (292.401 nm)     | 0.0003 (ppm)     | 67.60    | 0.0003 (ppm)    | 120.7898     |
| 10/31/2017 19:58:56 | R1710018-009 100X | Y (360.074 nm)     | 0.96 (Ratio)     | 0.82     | 0.96 (Ratio)    | 818622.52    |
| 10/31/2017 19:58:56 | R1710018-009 100X | Y_R (360.074 nm)   | 0.96 (Ratio)     | 0.82     | 0.96 (Ratio)    | 819299.02    |
| 10/31/2017 19:58:56 | R1710018-009 100X | Zn (213.857 nm)    | 0.0029 (ppm)     | 3.30     | 0.0029 (ppm)    | 53.5280      |
| 10/31/2017 20:02:15 | R1710018-010      | Ag (328.068 nm)    | 0.0004 (ppm)     | 11.98    | 0.0004 (ppm)    | -76.4044     |
| 10/31/2017 20:02:15 | R1710018-010      | Al (394.401 nm)    | 0.9236 (ppm)     | 0.65     | 0.9236 (ppm)    | 11945.8186   |
| 10/31/2017 20:02:15 | R1710018-010      | As (188.980 nm)    | -0.0031 u (ppm)  | 59.59    | -0.0031 (ppm)   | -4.1902      |
| 10/31/2017 20:02:15 | R1710018-010      | B (249.772 nm)     | 0.0480 (ppm)     | 0.78     | 0.0480 (ppm)    | 1363.8902    |
| 10/31/2017 20:02:15 | R1710018-010      | Ba (230.424 nm)    | 0.0396 (ppm)     | 0.72     | 0.0396 (ppm)    | 1334.6818    |
| 10/31/2017 20:02:15 | R1710018-010      | Be (313.107 nm)    | 0.0000 (ppm)     | 19.73    | 0.0000 (ppm)    | -469.2863    |
| 10/31/2017 20:02:15 | R1710018-010      | Ca (227.547 nm)    | 105.2005 o (ppm) | 0.40     | 105.2005 (ppm)  | 5926.7203    |
| 10/31/2017 20:02:15 | R1710018-010      | Cd (214.439 nm)    | 0.0000 u (ppm)   | > 100.00 | 0.0000 (ppm)    | 12.5795      |

| Date Time           | Label            | Element Label (nm) | Conc             | %RSD     | Unadjusted Conc | Intensity    |
|---------------------|------------------|--------------------|------------------|----------|-----------------|--------------|
| 10/31/2017 20:02:15 | R1710018-010     | Co (230.786 nm)    | 0.0004 (ppm)     | 90.62    | 0.0004 (ppm)    | 0.2805       |
| 10/31/2017 20:02:15 | R1710018-010     | Cr (267.716 nm)    | 0.0262 (ppm)     | 0.75     | 0.0262 (ppm)    | 1297.8806    |
| 10/31/2017 20:02:15 | R1710018-010     | Cu (327.395 nm)    | 0.0016 (ppm)     | 1.26     | 0.0016 (ppm)    | 110.2335     |
| 10/31/2017 20:02:15 | R1710018-010     | Fe (234.350 nm)    | 1.0295 (ppm)     | 0.42     | 1.0295 (ppm)    | 11511.0794   |
| 10/31/2017 20:02:15 | R1710018-010     | K (766.491 nm)     | 15.6026 (ppm)    | 0.49     | 15.6026 (ppm)   | 47068.7663   |
| 10/31/2017 20:02:15 | R1710018-010     | Mg (279.078 nm)    | 7.5779 (ppm)     | 0.48     | 7.5779 (ppm)    | 14622.2411   |
| 10/31/2017 20:02:15 | R1710018-010     | Mn (257.610 nm)    | 4.4464 o (ppm)   | 0.20     | 4.4464 (ppm)    | 1393692.4611 |
| 10/31/2017 20:02:15 | R1710018-010     | Mo (202.032 nm)    | 0.0008 (ppm)     | 13.28    | 0.0008 (ppm)    | 14.7532      |
| 10/31/2017 20:02:15 | R1710018-010     | Na (588.995 nm)    | 119.8654 o (ppm) | 0.59     | 119.8654 (ppm)  | 5445386.8533 |
| 10/31/2017 20:02:15 | R1710018-010     | Ni (230.299 nm)    | 0.0055 (ppm)     | 16.40    | 0.0055 (ppm)    | 16.2380      |
| 10/31/2017 20:02:15 | R1710018-010     | Pb (220.353 nm)    | 0.0002 u (ppm)   | > 100.00 | 0.0002 (ppm)    | 5.3899       |
| 10/31/2017 20:02:15 | R1710018-010     | Sb (217.582 nm)    | -0.0050 u (ppm)  | 43.44    | -0.0050 (ppm)   | -6.0671      |
| 10/31/2017 20:02:15 | R1710018-010     | Se (196.026 nm)    | 0.0018 u (ppm)   | > 100.00 | 0.0018 (ppm)    | 2.3165       |
| 10/31/2017 20:02:15 | R1710018-010     | Sn (189.925 nm)    | -0.0015 u (ppm)  | > 100.00 | -0.0015 (ppm)   | -1.9166      |
| 10/31/2017 20:02:15 | R1710018-010     | Sr (216.596 nm)    | 0.3250 (ppm)     | 0.37     | 0.3250 (ppm)    | 4613.3570    |
| 10/31/2017 20:02:15 | R1710018-010     | Ti (336.122 nm)    | 0.0524 (ppm)     | 0.65     | 0.0524 (ppm)    | 10486.7564   |
| 10/31/2017 20:02:15 | R1710018-010     | Tl (351.923 nm)    | 0.0011 u (ppm)   | > 100.00 | 0.0011 (ppm)    | 10.2427      |
| 10/31/2017 20:02:15 | R1710018-010     | V (292.401 nm)     | 0.0017 (ppm)     | 12.12    | 0.0017 (ppm)    | 168.1583     |
| 10/31/2017 20:02:15 | R1710018-010     | Y (360.074 nm)     | 0.93 (Ratio)     | 0.80     | 0.93 (Ratio)    | 790812.14    |
| 10/31/2017 20:02:15 | R1710018-010     | Y_R (360.074 nm)   | 0.93 (Ratio)     | 0.80     | 0.93 (Ratio)    | 791385.52    |
| 10/31/2017 20:02:15 | R1710018-010     | Zn (213.857 nm)    | 0.0100 (ppm)     | 0.33     | 0.0100 (ppm)    | 254.2343     |
| 10/31/2017 20:05:34 | R1710018-011     | Ag (328.068 nm)    | 0.0000 u (ppm)   | > 100.00 | 0.0000 (ppm)    | -102.8897    |
| 10/31/2017 20:05:34 | R1710018-011     | Al (394.401 nm)    | 0.6133 (ppm)     | 1.09     | 0.6133 (ppm)    | 7974.1145    |
| 10/31/2017 20:05:34 | R1710018-011     | As (188.980 nm)    | -0.0010 u (ppm)  | > 100.00 | -0.0010 (ppm)   | -2.3297      |
| 10/31/2017 20:05:34 | R1710018-011     | B (249.772 nm)     | 0.0279 (ppm)     | 0.65     | 0.0279 (ppm)    | 805.2663     |
| 10/31/2017 20:05:34 | R1710018-011     | Ba (230.424 nm)    | 0.0279 (ppm)     | 0.36     | 0.0279 (ppm)    | 940.0157     |
| 10/31/2017 20:05:34 | R1710018-011     | Be (313.107 nm)    | 0.0000 (ppm)     | 36.62    | 0.0000 (ppm)    | -488.3166    |
| 10/31/2017 20:05:34 | R1710018-011     | Ce (227.547 nm)    | 79.1357 o (ppm)  | 0.96     | 79.1357 (ppm)   | 4459.3911    |
| 10/31/2017 20:05:34 | R1710018-011     | Cd (214.439 nm)    | -0.0001 u (ppm)  | > 100.00 | -0.0001 (ppm)   | 11.7795      |
| 10/31/2017 20:05:34 | R1710018-011     | Co (230.786 nm)    | 0.0002 u (ppm)   | > 100.00 | 0.0002 (ppm)    | -1.1044      |
| 10/31/2017 20:05:34 | R1710018-011     | Cr (267.716 nm)    | 0.0066 (ppm)     | 1.97     | 0.0066 (ppm)    | 324.2809     |
| 10/31/2017 20:05:34 | R1710018-011     | Cu (327.395 nm)    | 0.0013 (ppm)     | 11.01    | 0.0013 (ppm)    | 91.5757      |
| 10/31/2017 20:05:34 | R1710018-011     | Fe (234.350 nm)    | 0.6983 (ppm)     | 1.03     | 0.6983 (ppm)    | 7811.0444    |
| 10/31/2017 20:05:34 | R1710018-011     | K (766.491 nm)     | 3.4758 (ppm)     | 1.19     | 3.4758 (ppm)    | 10478.7943   |
| 10/31/2017 20:05:34 | R1710018-011     | Mg (279.078 nm)    | 5.3908 (ppm)     | 0.93     | 5.3908 (ppm)    | 10401.9406   |
| 10/31/2017 20:05:34 | R1710018-011     | Mn (257.610 nm)    | 0.0845 (ppm)     | 18.20    | 0.0845 (ppm)    | 26494.6737   |
| 10/31/2017 20:05:34 | R1710018-011     | Mo (202.032 nm)    | 0.0003 (ppm)     | 56.75    | 0.0003 (ppm)    | 10.4338      |
| 10/31/2017 20:05:34 | R1710018-011     | Na (588.995 nm)    | 76.6618 o (ppm)  | 1.10     | 76.6618 (ppm)   | 3480714.3393 |
| 10/31/2017 20:05:34 | R1710018-011     | Ni (230.299 nm)    | -0.0047 u (ppm)  | 15.75    | -0.0047 (ppm)   | -52.3265     |
| 10/31/2017 20:05:34 | R1710018-011     | Pb (220.353 nm)    | -0.0006 u (ppm)  | > 100.00 | -0.0006 (ppm)   | 3.6716       |
| 10/31/2017 20:05:34 | R1710018-011     | Sb (217.582 nm)    | -0.0022 u (ppm)  | 77.62    | -0.0022 (ppm)   | -2.2158      |
| 10/31/2017 20:05:34 | R1710018-011     | Se (196.026 nm)    | -0.0019 u (ppm)  | > 100.00 | -0.0019 (ppm)   | -0.8306      |
| 10/31/2017 20:05:34 | R1710018-011     | Sn (189.925 nm)    | -0.0012 u (ppm)  | 53.77    | -0.0012 (ppm)   | -1.5683      |
| 10/31/2017 20:05:34 | R1710018-011     | Sr (216.596 nm)    | 0.2397 (ppm)     | 0.86     | 0.2397 (ppm)    | 3402.6246    |
| 10/31/2017 20:05:34 | R1710018-011     | Ti (336.122 nm)    | 0.0357 (ppm)     | 0.92     | 0.0357 (ppm)    | 6979.9776    |
| 10/31/2017 20:05:34 | R1710018-011     | Tl (351.923 nm)    | 0.0002 u (ppm)   | > 100.00 | 0.0002 (ppm)    | 7.8863       |
| 10/31/2017 20:05:34 | R1710018-011     | V (292.401 nm)     | 0.0013 (ppm)     | 13.71    | 0.0013 (ppm)    | 154.2869     |
| 10/31/2017 20:05:34 | R1710018-011     | Y (360.074 nm)     | 0.93 (Ratio)     | 1.22     | 0.93 (Ratio)    | 797449.90    |
| 10/31/2017 20:05:34 | R1710018-011     | Y_R (360.074 nm)   | 0.93 (Ratio)     | 1.22     | 0.93 (Ratio)    | 798053.76    |
| 10/31/2017 20:05:34 | R1710018-011     | Zn (213.857 nm)    | 0.0095 (ppm)     | 1.90     | 0.0095 (ppm)    | 238.8402     |
| 10/31/2017 20:08:53 | R1710191-001 10X | Ag (328.068 nm)    | 0.0000 (ppm)     | > 100.00 | 0.0000 (ppm)    | -100.3195    |

| Date Time           | Label                               | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity    |
|---------------------|-------------------------------------|--------------------|-----------------|----------|-----------------|--------------|
| 10/31/2017 20:08:53 | R1710191-001 10X                    | Al (394.401 nm)    | 0.0430 (ppm)    | 1.30     | 0.0430 (ppm)    | 675.6894     |
| 10/31/2017 20:08:53 | R1710191-001 10X                    | As (188.980 nm)    | 0.0023 (ppm)    | 25.06    | 0.0023 (ppm)    | 0.6036       |
| 10/31/2017 20:08:53 | R1710191-001 10X                    | B (249.772 nm)     | 0.0081 (ppm)    | 1.66     | 0.0081 (ppm)    | 258.5428     |
| 10/31/2017 20:08:53 | R1710191-001 10X                    | Ba (230.424 nm)    | 0.0062 (ppm)    | 1.33     | 0.0062 (ppm)    | 210.6291     |
| 10/31/2017 20:08:53 | R1710191-001 10X                    | Be (313.107 nm)    | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | -519.1140    |
| 10/31/2017 20:08:53 | R1710191-001 10X                    | Ca (227.547 nm)    | 23.8293 (ppm)   | 0.71     | 23.8293 (ppm)   | 1345.8960    |
| 10/31/2017 20:08:53 | R1710191-001 10X                    | Cd (214.439 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | 13.6225      |
| 10/31/2017 20:08:53 | R1710191-001 10X                    | Co (230.786 nm)    | 0.0001 (ppm)    | > 100.00 | 0.0001 (ppm)    | -2.8944      |
| 10/31/2017 20:08:53 | R1710191-001 10X                    | Cr (267.716 nm)    | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | 0.5736       |
| 10/31/2017 20:08:53 | R1710191-001 10X                    | Cu (327.395 nm)    | 0.0005 (ppm)    | 16.57    | 0.0005 (ppm)    | 41.7129      |
| 10/31/2017 20:08:53 | R1710191-001 10X                    | Fe (234.350 nm)    | 3.0306 (ppm)    | 0.38     | 3.0306 (ppm)    | 33861.0062   |
| 10/31/2017 20:08:53 | R1710191-001 10X                    | K (766.491 nm)     | 0.2182 (ppm)    | 2.18     | 0.2182 (ppm)    | 649.6642     |
| 10/31/2017 20:08:53 | R1710191-001 10X                    | Mg (279.078 nm)    | 16.9654 (ppm)   | 0.46     | 16.9654 (ppm)   | 32737.2700   |
| 10/31/2017 20:08:53 | R1710191-001 10X                    | Mn (257.610 nm)    | 0.0446 (ppm)    | 3.47     | 0.0446 (ppm)    | 13972.8791   |
| 10/31/2017 20:08:53 | R1710191-001 10X                    | Mo (202.032 nm)    | 0.0001 u (ppm)  | > 100.00 | 0.0001 (ppm)    | 7.9288       |
| 10/31/2017 20:08:53 | R1710191-001 10X                    | Na (588.995 nm)    | 25.5623 (ppm)   | 0.50     | 25.5623 (ppm)   | 1156977.4356 |
| 10/31/2017 20:08:53 | R1710191-001 10X                    | Ni (230.299 nm)    | -0.0008 u (ppm) | 41.20    | -0.0008 (ppm)   | -26.2576     |
| 10/31/2017 20:08:53 | R1710191-001 10X                    | Pb (220.353 nm)    | -0.0006 u (ppm) | > 100.00 | -0.0006 (ppm)   | 3.7523       |
| 10/31/2017 20:08:53 | R1710191-001 10X                    | Sb (217.582 nm)    | -0.0015 u (ppm) | 74.93    | -0.0015 (ppm)   | -1.2280      |
| 10/31/2017 20:08:53 | R1710191-001 10X                    | Se (196.026 nm)    | -0.0006 u (ppm) | > 100.00 | -0.0006 (ppm)   | 0.2884       |
| 10/31/2017 20:08:53 | R1710191-001 10X                    | Sn (189.925 nm)    | -0.0007 u (ppm) | > 100.00 | -0.0007 (ppm)   | -0.9759      |
| 10/31/2017 20:08:53 | R1710191-001 10X                    | Sr (216.596 nm)    | 0.1124 (ppm)    | 0.36     | 0.1124 (ppm)    | 1595.7568    |
| 10/31/2017 20:08:53 | R1710191-001 10X                    | Ti (336.122 nm)    | 0.0010 (ppm)    | 17.38    | 0.0010 (ppm)    | -264.3647    |
| 10/31/2017 20:08:53 | R1710191-001 10X                    | Tl (351.923 nm)    | 0.0001 u (ppm)  | > 100.00 | 0.0001 (ppm)    | 7.4460       |
| 10/31/2017 20:08:53 | R1710191-001 10X                    | V (292.401 nm)     | 0.0006 (ppm)    | 6.07     | 0.0006 (ppm)    | 131.5824     |
| 10/31/2017 20:08:53 | R1710191-001 10X                    | Y (360.074 nm)     | 0.96 (Ratio)    | 0.87     | 0.96 (Ratio)    | 814849.72    |
| 10/31/2017 20:08:53 | R1710191-001 10X                    | Y_R (360.074 nm)   | 0.95 (Ratio)    | 0.87     | 0.95 (Ratio)    | 815500.10    |
| 10/31/2017 20:08:53 | R1710191-001 10X                    | Zn (213.857 nm)    | 0.0033 (ppm)    | 1.21     | 0.0033 (ppm)    | 64.8762      |
| 10/31/2017 20:12:12 | Continuing Calibration Verification | Ag (328.068 nm)    | 0.4965 (ppm)    | 0.84     | 0.4965 (ppm)    | 35370.1770   |
| 10/31/2017 20:12:12 | Continuing Calibration Verification | Al (394.401 nm)    | 9.5741 (ppm)    | 1.02     | 9.5741 (ppm)    | 122652.0977  |
| 10/31/2017 20:12:12 | Continuing Calibration Verification | As (188.980 nm)    | 0.9870 (ppm)    | 1.48     | 0.9870 (ppm)    | 880.8090     |
| 10/31/2017 20:12:12 | Continuing Calibration Verification | B (249.772 nm)     | 2.4592 (ppm)    | 0.78     | 2.4592 (ppm)    | 68122.3839   |
| 10/31/2017 20:12:12 | Continuing Calibration Verification | Ba (230.424 nm)    | 10.4928 (ppm)   | 0.88     | 10.4928 (ppm)   | 352759.9544  |
| 10/31/2017 20:12:12 | Continuing Calibration Verification | Be (313.107 nm)    | 0.2576 (ppm)    | 0.92     | 0.2576 (ppm)    | 379949.9152  |
| 10/31/2017 20:12:12 | Continuing Calibration Verification | Ca (227.547 nm)    | 24.3030 (ppm)   | 1.35     | 24.3030 (ppm)   | 1372.5611    |
| 10/31/2017 20:12:12 | Continuing Calibration Verification | Cd (214.439 nm)    | 0.5143 (ppm)    | 0.75     | 0.5143 (ppm)    | 11146.9802   |
| 10/31/2017 20:12:12 | Continuing Calibration Verification | Co (230.786 nm)    | 2.6515 (ppm)    | 0.84     | 2.6515 (ppm)    | 26173.8966   |
| 10/31/2017 20:12:12 | Continuing Calibration Verification | Cr (267.716 nm)    | 0.5166 (ppm)    | 0.84     | 0.5166 (ppm)    | 25576.2663   |
| 10/31/2017 20:12:12 | Continuing Calibration Verification | Cu (327.395 nm)    | 1.2094 (ppm)    | 1.05     | 1.2094 (ppm)    | 75098.7586   |
| 10/31/2017 20:12:12 | Continuing Calibration Verification | Fe (234.350 nm)    | 4.9560 (ppm)    | 0.90     | 4.9560 (ppm)    | 55366.8505   |
| 10/31/2017 20:12:12 | Continuing Calibration Verification | K (766.491 nm)     | 24.5984 (ppm)   | 1.04     | 24.5984 (ppm)   | 74211.5352   |
| 10/31/2017 20:12:12 | Continuing Calibration Verification | Mg (279.078 nm)    | 25.6797 (ppm)   | 0.93     | 25.6797 (ppm)   | 49553.0490   |
| 10/31/2017 20:12:12 | Continuing Calibration Verification | Mn (257.610 nm)    | 0.7823 (ppm)    | 0.51     | 0.7823 (ppm)    | 245193.8814  |
| 10/31/2017 20:12:12 | Continuing Calibration Verification | Mo (202.032 nm)    | 2.4441 (ppm)    | 0.81     | 2.4441 (ppm)    | 24921.0618   |
| 10/31/2017 20:12:12 | Continuing Calibration Verification | Na (588.995 nm)    | 24.6845 (ppm)   | 1.48     | 24.6845 (ppm)   | 1117060.3224 |
| 10/31/2017 20:12:12 | Continuing Calibration Verification | Ni (230.299 nm)    | 2.0857 (ppm)    | 0.86     | 2.0857 (ppm)    | 14029.7108   |
| 10/31/2017 20:12:12 | Continuing Calibration Verification | Pb (220.353 nm)    | 0.5137 (ppm)    | 0.81     | 0.5137 (ppm)    | 1102.7066    |
| 10/31/2017 20:12:12 | Continuing Calibration Verification | Sb (217.582 nm)    | 4.9747 (ppm)    | 1.06     | 4.9747 (ppm)    | 6804.0293    |
| 10/31/2017 20:12:12 | Continuing Calibration Verification | Se (196.026 nm)    | 0.4940 (ppm)    | 1.47     | 0.4940 (ppm)    | 423.8664     |
| 10/31/2017 20:12:12 | Continuing Calibration Verification | Sn (189.925 nm)    | 5.2413 (ppm)    | 1.10     | 5.2413 (ppm)    | 6346.7918    |
| 10/31/2017 20:12:12 | Continuing Calibration Verification | Sr (216.596 nm)    | 2.5978 (ppm)    | 0.70     | 2.5978 (ppm)    | 36885.0748   |

| Date Time           | Label                               | Element Label (nm) | Conc           | %RSD     | Unadjusted Conc | Intensity    |
|---------------------|-------------------------------------|--------------------|----------------|----------|-----------------|--------------|
| 10/31/2017 20:12:12 | Continuing Calibration Verification | Ti (336.122 nm)    | 2.5335 (ppm)   | 0.97     | 2.5335 (ppm)    | 529617.9525  |
| 10/31/2017 20:12:12 | Continuing Calibration Verification | Ti (351.923 nm)    | 0.9896 (ppm)   | 0.76     | 0.9896 (ppm)    | 2725.4719    |
| 10/31/2017 20:12:12 | Continuing Calibration Verification | V (292.401 nm)     | 2.5600 (ppm)   | 0.86     | 2.5600 (ppm)    | 90595.8802   |
| 10/31/2017 20:12:12 | Continuing Calibration Verification | Y (360.074 nm)     | 0.93 (Ratio)   | 1.21     | 0.93 (Ratio)    | 794892.80    |
| 10/31/2017 20:12:12 | Continuing Calibration Verification | Y_R (360.074 nm)   | 0.93 (Ratio)   | 1.21     | 0.93 (Ratio)    | 795517.80    |
| 10/31/2017 20:12:12 | Continuing Calibration Verification | Zn (213.857 nm)    | 1.0277 (ppm)   | 0.87     | 1.0277 (ppm)    | 28724.2478   |
| 10/31/2017 20:15:31 | Continuing Calibration Blank        | Ag (328.068 nm)    | 0.0003 (ppm)   | 58.93    | 0.0003 (ppm)    | -80.9980     |
| 10/31/2017 20:15:31 | Continuing Calibration Blank        | Al (394.401 nm)    | 0.0071 (ppm)   | 50.98    | 0.0071 (ppm)    | 216.7144     |
| 10/31/2017 20:15:31 | Continuing Calibration Blank        | As (188.980 nm)    | 0.0022 (ppm)   | 64.49    | 0.0022 (ppm)    | 0.5011       |
| 10/31/2017 20:15:31 | Continuing Calibration Blank        | B (249.772 nm)     | 0.0050 (ppm)   | 28.97    | 0.0050 (ppm)    | 170.8299     |
| 10/31/2017 20:15:31 | Continuing Calibration Blank        | Ba (230.424 nm)    | 0.0102 (ppm)   | 53.95    | 0.0102 (ppm)    | 345.3217     |
| 10/31/2017 20:15:31 | Continuing Calibration Blank        | Be (313.107 nm)    | 0.0002 (ppm)   | 37.86    | 0.0002 (ppm)    | -217.0024    |
| 10/31/2017 20:15:31 | Continuing Calibration Blank        | Ca (227.547 nm)    | 0.0269 u (ppm) | 92.46    | 0.0269 (ppm)    | 5.9298       |
| 10/31/2017 20:15:31 | Continuing Calibration Blank        | Cd (214.439 nm)    | 0.0005 (ppm)   | 66.64    | 0.0005 (ppm)    | 23.7875      |
| 10/31/2017 20:15:31 | Continuing Calibration Blank        | Co (230.786 nm)    | 0.0023 (ppm)   | 46.25    | 0.0023 (ppm)    | 19.4356      |
| 10/31/2017 20:15:31 | Continuing Calibration Blank        | Cr (267.716 nm)    | 0.0004 (ppm)   | 35.09    | 0.0004 (ppm)    | 18.0126      |
| 10/31/2017 20:15:31 | Continuing Calibration Blank        | Cu (327.395 nm)    | 0.0010 (ppm)   | 28.76    | 0.0010 (ppm)    | 77.7914      |
| 10/31/2017 20:15:31 | Continuing Calibration Blank        | Fe (234.350 nm)    | 0.0051 (ppm)   | 38.11    | 0.0051 (ppm)    | 68.6600      |
| 10/31/2017 20:15:31 | Continuing Calibration Blank        | K (766.491 nm)     | 0.0529 (ppm)   | 38.35    | 0.0529 (ppm)    | 150.8339     |
| 10/31/2017 20:15:31 | Continuing Calibration Blank        | Mg (279.078 nm)    | 0.0189 (ppm)   | 37.98    | 0.0189 (ppm)    | 35.7444      |
| 10/31/2017 20:15:31 | Continuing Calibration Blank        | Mn (257.610 nm)    | 0.0123 Z (ppm) | 24.04    | 0.0123 (ppm)    | 3857.9815 Z  |
| 10/31/2017 20:15:31 | Continuing Calibration Blank        | Mo (202.032 nm)    | 0.0051 (ppm)   | 11.23    | 0.0051 (ppm)    | 59.0540      |
| 10/31/2017 20:15:31 | Continuing Calibration Blank        | Na (588.995 nm)    | 0.0065 (ppm)   | > 100.00 | 0.0065 (ppm)    | -5164.8787   |
| 10/31/2017 20:15:31 | Continuing Calibration Blank        | Ni (230.299 nm)    | 0.0013 (ppm)   | 55.47    | 0.0013 (ppm)    | -12.0268     |
| 10/31/2017 20:15:31 | Continuing Calibration Blank        | Pb (220.353 nm)    | 0.0007 (ppm)   | 65.59    | 0.0007 (ppm)    | 6.5516       |
| 10/31/2017 20:15:31 | Continuing Calibration Blank        | Sb (217.582 nm)    | 0.0042 (ppm)   | 8.77     | 0.0042 (ppm)    | 6.5783       |
| 10/31/2017 20:15:31 | Continuing Calibration Blank        | Se (196.026 nm)    | 0.0027 (ppm)   | > 100.00 | 0.0027 (ppm)    | 3.1166       |
| 10/31/2017 20:15:31 | Continuing Calibration Blank        | Sn (189.925 nm)    | 0.0049 (ppm)   | 51.91    | 0.0049 (ppm)    | 5.9143       |
| 10/31/2017 20:15:31 | Continuing Calibration Blank        | Sr (216.596 nm)    | 0.0020 (ppm)   | 42.56    | 0.0020 (ppm)    | 28.2879      |
| 10/31/2017 20:15:31 | Continuing Calibration Blank        | Ti (336.122 nm)    | 0.0029 (ppm)   | 26.00    | 0.0029 (ppm)    | 132.9634     |
| 10/31/2017 20:15:31 | Continuing Calibration Blank        | Ti (351.923 nm)    | 0.0029 (ppm)   | 20.80    | 0.0029 (ppm)    | 15.3435      |
| 10/31/2017 20:15:31 | Continuing Calibration Blank        | V (292.401 nm)     | 0.0023 (ppm)   | 31.22    | 0.0023 (ppm)    | 189.8247     |
| 10/31/2017 20:15:31 | Continuing Calibration Blank        | Y (360.074 nm)     | 0.97 (Ratio)   | 0.67     | 0.97 (Ratio)    | 828308.59    |
| 10/31/2017 20:15:31 | Continuing Calibration Blank        | Y_R (360.074 nm)   | 0.97 (Ratio)   | 0.67     | 0.97 (Ratio)    | 828961.47    |
| 10/31/2017 20:15:31 | Continuing Calibration Blank        | Zn (213.857 nm)    | 0.0009 (ppm)   | 41.96    | 0.0009 (ppm)    | -2.7875      |
| 10/31/2017 20:18:49 | Contract Required Detection Limit   | Ag (328.068 nm)    | 0.0098 (ppm)   | 0.55     | 0.0098 (ppm)    | 598.4355     |
| 10/31/2017 20:18:49 | Contract Required Detection Limit   | Al (394.401 nm)    | 0.1790 (ppm)   | 0.70     | 0.1790 (ppm)    | 2416.8386    |
| 10/31/2017 20:18:49 | Contract Required Detection Limit   | As (188.980 nm)    | 0.0201 (ppm)   | 9.83     | 0.0201 (ppm)    | 16.5205      |
| 10/31/2017 20:18:49 | Contract Required Detection Limit   | B (249.772 nm)     | 0.1947 (ppm)   | 0.32     | 0.1947 (ppm)    | 5424.7914    |
| 10/31/2017 20:18:49 | Contract Required Detection Limit   | Ba (230.424 nm)    | 0.2189 (ppm)   | 0.86     | 0.2189 (ppm)    | 7362.7465    |
| 10/31/2017 20:18:49 | Contract Required Detection Limit   | Be (313.107 nm)    | 0.0050 (ppm)   | 0.64     | 0.0050 (ppm)    | 6892.5234    |
| 10/31/2017 20:18:49 | Contract Required Detection Limit   | Ca (227.547 nm)    | 1.0330 (ppm)   | 3.48     | 1.0330 (ppm)    | 62.5699      |
| 10/31/2017 20:18:49 | Contract Required Detection Limit   | Cd (214.439 nm)    | 0.0106 (ppm)   | 0.80     | 0.0106 (ppm)    | 242.5472     |
| 10/31/2017 20:18:49 | Contract Required Detection Limit   | Co (230.786 nm)    | 0.0535 (ppm)   | 0.82     | 0.0535 (ppm)    | 524.3943     |
| 10/31/2017 20:18:49 | Contract Required Detection Limit   | Cr (267.716 nm)    | 0.0106 (ppm)   | 0.33     | 0.0106 (ppm)    | 523.4210     |
| 10/31/2017 20:18:49 | Contract Required Detection Limit   | Cu (327.395 nm)    | 0.0248 (ppm)   | 0.91     | 0.0248 (ppm)    | 1552.8030    |
| 10/31/2017 20:18:49 | Contract Required Detection Limit   | Fe (234.350 nm)    | 0.1065 (ppm)   | 0.74     | 0.1065 (ppm)    | 1200.9327    |
| 10/31/2017 20:18:49 | Contract Required Detection Limit   | K (766.491 nm)     | 0.9516 (ppm)   | 1.04     | 0.9516 (ppm)    | 2862.3101    |
| 10/31/2017 20:18:49 | Contract Required Detection Limit   | Mg (279.078 nm)    | 1.0250 (ppm)   | 0.61     | 1.0250 (ppm)    | 1977.1851    |
| 10/31/2017 20:18:49 | Contract Required Detection Limit   | Mn (257.610 nm)    | 0.0452 R (ppm) | 20.70    | 0.0452 (ppm)    | 14157.2681 R |
| 10/31/2017 20:18:49 | Contract Required Detection Limit   | Mo (202.032 nm)    | 0.0272 (ppm)   | 2.06     | 0.0272 (ppm)    | 284.5398     |

| Date Time           | Label                             | Element Label (nm) | Conc             | %RSD     | Unadjusted Conc | Intensity    |
|---------------------|-----------------------------------|--------------------|------------------|----------|-----------------|--------------|
| 10/31/2017 20:18:49 | Contract Required Detection Limit | Na (588.995 nm)    | 1.0006 (ppm)     | 0.74     | 1.0006 (ppm)    | 40043.5303   |
| 10/31/2017 20:18:49 | Contract Required Detection Limit | Ni (230.299 nm)    | 0.0415 (ppm)     | 1.07     | 0.0415 (ppm)    | 259.0881     |
| 10/31/2017 20:18:49 | Contract Required Detection Limit | Pb (220.353 nm)    | 0.0107 (ppm)     | 8.68     | 0.0107 (ppm)    | 27.9283      |
| 10/31/2017 20:18:49 | Contract Required Detection Limit | Sb (217.582 nm)    | 0.0594 (ppm)     | 2.58     | 0.0594 (ppm)    | 81.9809      |
| 10/31/2017 20:18:49 | Contract Required Detection Limit | Se (196.026 nm)    | 0.0091 (ppm)     | 7.54     | 0.0091 (ppm)    | 8.5277       |
| 10/31/2017 20:18:49 | Contract Required Detection Limit | Sn (189.925 nm)    | 0.5235 (ppm)     | 0.77     | 0.5235 (ppm)    | 633.8823     |
| 10/31/2017 20:18:49 | Contract Required Detection Limit | Sr (216.596 nm)    | 0.1048 (ppm)     | 0.99     | 0.1048 (ppm)    | 1487.1763    |
| 10/31/2017 20:18:49 | Contract Required Detection Limit | Ti (336.122 nm)    | 0.0521 (ppm)     | 0.45     | 0.0521 (ppm)    | 10415.2135   |
| 10/31/2017 20:18:49 | Contract Required Detection Limit | Tl (351.923 nm)    | 0.0210 (ppm)     | 8.94     | 0.0210 (ppm)    | 64.9649      |
| 10/31/2017 20:18:49 | Contract Required Detection Limit | V (292.401 nm)     | 0.0513 (ppm)     | 0.73     | 0.0513 (ppm)    | 1921.0741    |
| 10/31/2017 20:18:49 | Contract Required Detection Limit | Y (360.074 nm)     | 0.97 (Ratio)     | 0.74     | 0.97 (Ratio)    | 829905.16    |
| 10/31/2017 20:18:49 | Contract Required Detection Limit | Y_R (360.074 nm)   | 0.97 (Ratio)     | 0.74     | 0.97 (Ratio)    | 830575.81    |
| 10/31/2017 20:18:49 | Contract Required Detection Limit | Zn (213.857 nm)    | 0.0204 (ppm)     | 0.55     | 0.0204 (ppm)    | 543.9606     |
| 10/31/2017 20:22:08 | Interference Check Solution A     | Ag (328.068 nm)    | 0.0001 u (ppm)   | > 100.00 | 0.0001 (ppm)    | -95.9914     |
| 10/31/2017 20:22:08 | Interference Check Solution A     | Al (394.401 nm)    | 270.6386 o (ppm) | 0.43     | 270.6386 (ppm)  | 3463676.5141 |
| 10/31/2017 20:22:08 | Interference Check Solution A     | As (188.980 nm)    | 0.0024 u (ppm)   | > 100.00 | 0.0024 (ppm)    | 0.7008       |
| 10/31/2017 20:22:08 | Interference Check Solution A     | B (249.772 nm)     | 0.0420 (ppm)     | 0.51     | 0.0420 (ppm)    | 1197.5580    |
| 10/31/2017 20:22:08 | Interference Check Solution A     | Ba (230.424 nm)    | 0.0016 (ppm)     | 33.15    | 0.0016 (ppm)    | 55.8047      |
| 10/31/2017 20:22:08 | Interference Check Solution A     | Be (313.107 nm)    | 0.0000 (ppm)     | 16.35    | 0.0000 (ppm)    | -573.4312    |
| 10/31/2017 20:22:08 | Interference Check Solution A     | Ca (227.547 nm)    | 274.5214 o (ppm) | 0.28     | 274.5214 (ppm)  | 15458.7098   |
| 10/31/2017 20:22:08 | Interference Check Solution A     | Cd (214.439 nm)    | -0.0008 u (ppm)  | 22.51    | -0.0008 (ppm)   | -3.2874      |
| 10/31/2017 20:22:08 | Interference Check Solution A     | Co (230.786 nm)    | -0.0018 u (ppm)  | 22.48    | -0.0018 (ppm)   | -20.8783     |
| 10/31/2017 20:22:08 | Interference Check Solution A     | Cr (267.716 nm)    | 0.0001 (ppm)     | > 100.00 | 0.0001 (ppm)    | 3.1850       |
| 10/31/2017 20:22:08 | Interference Check Solution A     | Cu (327.395 nm)    | 0.0007 (ppm)     | 2.47     | 0.0007 (ppm)    | 58.6152      |
| 10/31/2017 20:22:08 | Interference Check Solution A     | Fe (234.350 nm)    | 92.9028 o (ppm)  | 0.17     | 92.9028 (ppm)   | 1037666.3794 |
| 10/31/2017 20:22:08 | Interference Check Solution A     | K (766.491 nm)     | 0.0507 (ppm)     | 32.21    | 0.0507 (ppm)    | 144.1202     |
| 10/31/2017 20:22:08 | Interference Check Solution A     | Mg (279.078 nm)    | 277.0276 o (ppm) | 0.11     | 277.0276 (ppm)  | 534574.9402  |
| 10/31/2017 20:22:08 | Interference Check Solution A     | Mn (257.610 nm)    | 0.0292 K (ppm)   | 27.34    | 0.0292 (ppm)    | 9171.0466 K  |
| 10/31/2017 20:22:08 | Interference Check Solution A     | Mo (202.032 nm)    | 0.0013 (ppm)     | 30.19    | 0.0013 (ppm)    | 20.0769      |
| 10/31/2017 20:22:08 | Interference Check Solution A     | Na (588.995 nm)    | -0.0104 u (ppm)  | 18.58    | -0.0104 (ppm)   | -5935.1480   |
| 10/31/2017 20:22:08 | Interference Check Solution A     | Ni (230.299 nm)    | -0.0026 u (ppm)  | 42.83    | -0.0026 (ppm)   | -37.7956     |
| 10/31/2017 20:22:08 | Interference Check Solution A     | Pb (220.353 nm)    | -0.0010 u (ppm)  | 97.72    | -0.0010 (ppm)   | 2.8677       |
| 10/31/2017 20:22:08 | Interference Check Solution A     | Sb (217.582 nm)    | -0.0003 u (ppm)  | > 100.00 | -0.0003 (ppm)   | 0.4212       |
| 10/31/2017 20:22:08 | Interference Check Solution A     | Se (196.026 nm)    | 0.0000 u (ppm)   | > 100.00 | 0.0000 (ppm)    | 0.7679       |
| 10/31/2017 20:22:08 | Interference Check Solution A     | Sn (189.925 nm)    | 0.0000 u (ppm)   | > 100.00 | 0.0000 (ppm)    | -0.1091      |
| 10/31/2017 20:22:08 | Interference Check Solution A     | Sr (216.596 nm)    | 0.0204 (ppm)     | 3.28     | 0.0204 (ppm)    | 288.6534     |
| 10/31/2017 20:22:08 | Interference Check Solution A     | Ti (336.122 nm)    | 0.0019 (ppm)     | 3.37     | 0.0019 (ppm)    | -88.1516     |
| 10/31/2017 20:22:08 | Interference Check Solution A     | Tl (351.923 nm)    | 0.0059 (ppm)     | 29.74    | 0.0059 (ppm)    | 23.5630      |
| 10/31/2017 20:22:08 | Interference Check Solution A     | V (292.401 nm)     | 0.0036 K (ppm)   | 11.25    | 0.0036 (ppm)    | 236.8040 K   |
| 10/31/2017 20:22:08 | Interference Check Solution A     | Y (360.074 nm)     | 0.85 (Ratio)     | 0.59     | 0.85 (Ratio)    | 724269.55    |
| 10/31/2017 20:22:08 | Interference Check Solution A     | Y_R (360.074 nm)   | 0.85 (Ratio)     | 0.58     | 0.85 (Ratio)    | 724789.96    |
| 10/31/2017 20:22:08 | Interference Check Solution A     | Zn (213.857 nm)    | 0.0117 K (ppm)   | 0.70     | 0.0117 (ppm)    | 299.8441 K   |
| 10/31/2017 20:25:27 | Interference Check Solution AB    | Ag (328.068 nm)    | 0.2125 (ppm)     | 0.60     | 0.2125 (ppm)    | 15078.4388   |
| 10/31/2017 20:25:27 | Interference Check Solution AB    | Al (394.401 nm)    | 259.7608 o (ppm) | 0.86     | 259.7608 (ppm)  | 3324466.7608 |
| 10/31/2017 20:25:27 | Interference Check Solution AB    | As (188.980 nm)    | 0.0969 (ppm)     | 3.42     | 0.0969 (ppm)    | 85.1962      |
| 10/31/2017 20:25:27 | Interference Check Solution AB    | B (249.772 nm)     | 0.0400 (ppm)     | 0.91     | 0.0400 (ppm)    | 1142.1001    |
| 10/31/2017 20:25:27 | Interference Check Solution AB    | Ba (230.424 nm)    | 0.5230 (ppm)     | 0.55     | 0.5230 (ppm)    | 17584.5490   |
| 10/31/2017 20:25:27 | Interference Check Solution AB    | Be (313.107 nm)    | 0.5020 (ppm)     | 0.45     | 0.5020 (ppm)    | 741065.6733  |
| 10/31/2017 20:25:27 | Interference Check Solution AB    | Ca (227.547 nm)    | 261.1138 o (ppm) | 0.73     | 261.1138 (ppm)  | 14703.9216   |
| 10/31/2017 20:25:27 | Interference Check Solution AB    | Cd (214.439 nm)    | 0.9641 (ppm)     | 0.65     | 0.9641 (ppm)    | 20885.3847   |
| 10/31/2017 20:25:27 | Interference Check Solution AB    | Co (230.786 nm)    | 0.4952 (ppm)     | 0.79     | 0.4952 (ppm)    | 4885.3380    |

| Date Time           | Label                          | Element Label (nm) | Conc              | %RSD  | Unadjusted Conc | Intensity     |
|---------------------|--------------------------------|--------------------|-------------------|-------|-----------------|---------------|
| 10/31/2017 20:25:27 | Interference Check Solution AB | Cr (267.716 nm)    | 0.4918 (ppm)      | 0.58  | 0.4918 (ppm)    | 24350.4639    |
| 10/31/2017 20:25:27 | Interference Check Solution AB | Cu (327.395 nm)    | 0.5168 (ppm)      | 0.67  | 0.5168 (ppm)    | 32095.7005    |
| 10/31/2017 20:25:27 | Interference Check Solution AB | Fe (234.350 nm)    | 88.8542 o (ppm)   | 0.58  | 88.8542 (ppm)   | 992445.9625   |
| 10/31/2017 20:25:27 | Interference Check Solution AB | K (766.491 nm)     | 0.0105 (ppm)      | 26.00 | 0.0105 (ppm)    | 22.8763       |
| 10/31/2017 20:25:27 | Interference Check Solution AB | Mg (279.078 nm)    | 264.6518 o (ppm)  | 0.66  | 264.6518 (ppm)  | 510693.5792   |
| 10/31/2017 20:25:27 | Interference Check Solution AB | Mn (257.610 nm)    | 0.5429 (ppm)      | 2.33  | 0.5429 (ppm)    | 170179.3329   |
| 10/31/2017 20:25:27 | Interference Check Solution AB | Mo (202.032 nm)    | 0.0009 (ppm)      | 95.77 | 0.0009 (ppm)    | 16.6442       |
| 10/31/2017 20:25:27 | Interference Check Solution AB | Na (588.995 nm)    | 0.0020 (ppm)      | 54.95 | 0.0020 (ppm)    | -5371.2422    |
| 10/31/2017 20:25:27 | Interference Check Solution AB | Ni (230.299 nm)    | 0.9528 (ppm)      | 0.62  | 0.9528 (ppm)    | 6397.9228     |
| 10/31/2017 20:25:27 | Interference Check Solution AB | Pb (220.353 nm)    | 0.0483 (ppm)      | 1.95  | 0.0483 (ppm)    | 108.3434      |
| 10/31/2017 20:25:27 | Interference Check Solution AB | Sb (217.582 nm)    | 0.6107 (ppm)      | 0.39  | 0.6107 (ppm)    | 836.0358      |
| 10/31/2017 20:25:27 | Interference Check Solution AB | Se (196.026 nm)    | 0.0539 (ppm)      | 8.26  | 0.0539 (ppm)    | 46.9179       |
| 10/31/2017 20:25:27 | Interference Check Solution AB | Sn (189.925 nm)    | -0.0023 u (ppm)   | 54.74 | -0.0023 (ppm)   | -2.8412       |
| 10/31/2017 20:25:27 | Interference Check Solution AB | Sr (216.596 nm)    | 0.0192 (ppm)      | 3.23  | 0.0192 (ppm)    | 271.9328      |
| 10/31/2017 20:25:27 | Interference Check Solution AB | Ti (336.122 nm)    | 0.0015 (ppm)      | 5.05  | 0.0015 (ppm)    | -162.2573     |
| 10/31/2017 20:25:27 | Interference Check Solution AB | Tl (351.923 nm)    | 0.1163 (ppm)      | 4.62  | 0.1163 (ppm)    | 326.6424      |
| 10/31/2017 20:25:27 | Interference Check Solution AB | V (292.401 nm)     | 0.5042 (ppm)      | 0.52  | 0.5042 (ppm)    | 17930.7749    |
| 10/31/2017 20:25:27 | Interference Check Solution AB | Y (360.074 nm)     | 0.89 (Ratio)      | 1.25  | 0.89 (Ratio)    | 756465.11     |
| 10/31/2017 20:25:27 | Interference Check Solution AB | Y_R (360.074 nm)   | 0.89 (Ratio)      | 1.25  | 0.89 (Ratio)    | 756999.25     |
| 10/31/2017 20:25:27 | Interference Check Solution AB | Zn (213.857 nm)    | 1.0259 (ppm)      | 0.58  | 1.0259 (ppm)    | 28674.7082    |
| 10/31/2017 20:28:47 | HLCCV2                         | Ag (328.068 nm)    | 2.1467 o (ppm)    | 0.11  | 2.1467 (ppm)    | 153273.8855   |
| 10/31/2017 20:28:47 | HLCCV2                         | Al (394.401 nm)    | 526.9446 o (ppm)  | 0.08  | 526.9446 (ppm)  | 6743804.4055  |
| 10/31/2017 20:28:47 | HLCCV2                         | As (188.980 nm)    | 4.0108 o (ppm)    | 0.10  | 4.0108 (ppm)    | 3583.8557     |
| 10/31/2017 20:28:47 | HLCCV2                         | B (249.772 nm)     | 10.3188 o (ppm)   | 0.12  | 10.3188 (ppm)   | 285731.8500   |
| 10/31/2017 20:28:47 | HLCCV2                         | Ba (230.424 nm)    | 37.6462 o (ppm)   | 0.69  | 37.6462 (ppm)   | 1265630.1420  |
| 10/31/2017 20:28:47 | HLCCV2                         | Be (313.107 nm)    | 0.9692 o (ppm)    | 0.15  | 0.9692 (ppm)    | 1431228.9332  |
| 10/31/2017 20:28:47 | HLCCV2                         | Ca (227.547 nm)    | 272.7681 o (ppm)  | 0.26  | 272.7681 (ppm)  | 15360.0066    |
| 10/31/2017 20:28:47 | HLCCV2                         | Cd (214.439 nm)    | 1.8517 o (ppm)    | 0.06  | 1.8517 (ppm)    | 40102.0918    |
| 10/31/2017 20:28:47 | HLCCV2                         | Co (230.786 nm)    | 9.2209 o (ppm)    | 0.42  | 9.2209 (ppm)    | 91032.0218    |
| 10/31/2017 20:28:47 | HLCCV2                         | Cr (267.716 nm)    | 9.4288 o (ppm)    | 0.18  | 9.4288 (ppm)    | 466856.1579   |
| 10/31/2017 20:28:47 | HLCCV2                         | Cu (327.395 nm)    | 5.3832 o (ppm)    | 0.11  | 5.3832 (ppm)    | 334228.1772   |
| 10/31/2017 20:28:47 | HLCCV2                         | Fe (234.350 nm)    | 45.9582 o (ppm)   | 0.19  | 45.9582 (ppm)   | 513330.1928   |
| 10/31/2017 20:28:47 | HLCCV2                         | K (766.491 nm)     | 168.9733 Qo (ppm) | 0.09  | 168.9733 (ppm)  | 509831.7563 Q |
| 10/31/2017 20:28:47 | HLCCV2                         | Mg (279.078 nm)    | 512.5433 o (ppm)  | 0.18  | 512.5433 (ppm)  | 989045.9788   |
| 10/31/2017 20:28:47 | HLCCV2                         | Mn (257.610 nm)    | 9.3689 o (ppm)    | 0.27  | 9.3689 (ppm)    | 2936580.3133  |
| 10/31/2017 20:28:47 | HLCCV2                         | Mo (202.032 nm)    | 9.4969 o (ppm)    | 0.21  | 9.4969 (ppm)    | 96814.6018    |
| 10/31/2017 20:28:47 | HLCCV2                         | Na (588.995 nm)    | 155.5645 o (ppm)  | 0.36  | 155.5645 (ppm)  | 7068794.1525  |
| 10/31/2017 20:28:47 | HLCCV2                         | Ni (230.299 nm)    | 7.2891 o (ppm)    | 0.09  | 7.2891 (ppm)    | 49083.5837    |
| 10/31/2017 20:28:47 | HLCCV2                         | Pb (220.353 nm)    | 9.3620 o (ppm)    | 0.04  | 9.3620 (ppm)    | 20007.5140    |
| 10/31/2017 20:28:47 | HLCCV2                         | Sb (217.582 nm)    | 0.0315 (ppm)      | 15.29 | 0.0315 (ppm)    | 43.8709       |
| 10/31/2017 20:28:47 | HLCCV2                         | Se (196.026 nm)    | 2.0457 o (ppm)    | 0.34  | 2.0457 (ppm)    | 1752.7625     |
| 10/31/2017 20:28:47 | HLCCV2                         | Sn (189.925 nm)    | -0.0178 u (ppm)   | 22.93 | -0.0178 (ppm)   | -21.6465      |
| 10/31/2017 20:28:47 | HLCCV2                         | Sr (216.596 nm)    | 9.4888 o (ppm)    | 1.16  | 9.4888 (ppm)    | 134727.2121   |
| 10/31/2017 20:28:47 | HLCCV2                         | Ti (336.122 nm)    | 9.8626 o (ppm)    | 0.13  | 9.8626 (ppm)    | 2063118.4669  |
| 10/31/2017 20:28:47 | HLCCV2                         | Tl (351.923 nm)    | 4.4118 Qo (ppm)   | 0.09  | 4.4118 (ppm)    | 12125.3005 Q  |
| 10/31/2017 20:28:47 | HLCCV2                         | V (292.401 nm)     | 9.7042 o (ppm)    | 0.17  | 9.7042 (ppm)    | 343121.3193   |
| 10/31/2017 20:28:47 | HLCCV2                         | Y (360.074 nm)     | 0.85 (Ratio)      | 0.51  | 0.85 (Ratio)    | 721708.11     |
| 10/31/2017 20:28:47 | HLCCV2                         | Y_R (360.074 nm)   | 0.85 (Ratio)      | 0.51  | 0.85 (Ratio)    | 722180.40     |
| 10/31/2017 20:28:47 | HLCCV2                         | Zn (213.857 nm)    | 4.0229 o (ppm)    | 0.30  | 4.0229 (ppm)    | 112516.7549   |
| 10/31/2017 20:32:07 | HLCCV3                         | Ag (328.068 nm)    | 0.0013 (ppm)      | 28.84 | 0.0013 (ppm)    | -10.4414      |
| 10/31/2017 20:32:07 | HLCCV3                         | Al (394.401 nm)    | 0.2746 (ppm)      | 31.06 | 0.2746 (ppm)    | 3640.6904     |

| Date Time           | Label  | Element Label (nm) | Conc             | %RSD     | Unadjusted Conc | Intensity    |
|---------------------|--------|--------------------|------------------|----------|-----------------|--------------|
| 10/31/2017 20:32:07 | HLCCV3 | As (188.980 nm)    | 0.0066 (ppm)     | 50.15    | 0.0066 (ppm)    | 4.3995       |
| 10/31/2017 20:32:07 | HLCCV3 | B (249.772 nm)     | 0.0331 (ppm)     | 11.59    | 0.0331 (ppm)    | 949.6214     |
| 10/31/2017 20:32:07 | HLCCV3 | Ba (230.424 nm)    | 0.0227 (ppm)     | 28.89    | 0.0227 (ppm)    | 765.3076     |
| 10/31/2017 20:32:07 | HLCCV3 | Be (313.107 nm)    | 0.0005 (ppm)     | 31.36    | 0.0005 (ppm)    | 238.4766     |
| 10/31/2017 20:32:07 | HLCCV3 | Ca (227.547 nm)    | 197.6661 o (ppm) | 0.49     | 197.6661 (ppm)  | 11132.1071   |
| 10/31/2017 20:32:07 | HLCCV3 | Cd (214.439 nm)    | 0.0019 (ppm)     | 23.72    | 0.0019 (ppm)    | 53.9145      |
| 10/31/2017 20:32:07 | HLCCV3 | Co (230.786 nm)    | 0.0048 (ppm)     | 40.71    | 0.0048 (ppm)    | 43.4436      |
| 10/31/2017 20:32:07 | HLCCV3 | Cr (267.716 nm)    | 0.0050 (ppm)     | 32.16    | 0.0050 (ppm)    | 247.6807     |
| 10/31/2017 20:32:07 | HLCCV3 | Cu (327.395 nm)    | 4.0058 o (ppm)   | 1.32     | 4.0058 (ppm)    | 248711.8248  |
| 10/31/2017 20:32:07 | HLCCV3 | Fe (234.350 nm)    | 37.6045 o (ppm)  | 0.19     | 37.6045 (ppm)   | 420026.3091  |
| 10/31/2017 20:32:07 | HLCCV3 | K (766.491 nm)     | 97.5486 o (ppm)  | 0.52     | 97.5486 (ppm)   | 294323.1415  |
| 10/31/2017 20:32:07 | HLCCV3 | Mg (279.078 nm)    | 0.2636 (ppm)     | 32.11    | 0.2636 (ppm)    | 508.0373     |
| 10/31/2017 20:32:07 | HLCCV3 | Mn (257.610 nm)    | 0.0498 (ppm)     | 27.27    | 0.0498 (ppm)    | 15607.0299   |
| 10/31/2017 20:32:07 | HLCCV3 | Mo (202.032 nm)    | 0.0130 (ppm)     | 12.22    | 0.0130 (ppm)    | 139.7566     |
| 10/31/2017 20:32:07 | HLCCV3 | Na (588.995 nm)    | 0.1019 (ppm)     | 28.28    | 0.1019 (ppm)    | -825.3820    |
| 10/31/2017 20:32:07 | HLCCV3 | Ni (230.299 nm)    | -0.0253 u (ppm)  | 4.06     | -0.0253 (ppm)   | -191.3112    |
| 10/31/2017 20:32:07 | HLCCV3 | Pb (220.353 nm)    | 0.0052 (ppm)     | 36.85    | 0.0052 (ppm)    | 16.2382      |
| 10/31/2017 20:32:07 | HLCCV3 | Sb (217.582 nm)    | -0.0002 u (ppm)  | > 100.00 | -0.0002 (ppm)   | 0.5509       |
| 10/31/2017 20:32:07 | HLCCV3 | Se (196.026 nm)    | 0.0002 u (ppm)   | > 100.00 | 0.0002 (ppm)    | 0.9734       |
| 10/31/2017 20:32:07 | HLCCV3 | Sn (189.925 nm)    | -0.0020 u (ppm)  | 47.32    | -0.0020 (ppm)   | -2.5432      |
| 10/31/2017 20:32:07 | HLCCV3 | Sr (216.596 nm)    | 0.0109 (ppm)     | 16.27    | 0.0109 (ppm)    | 153.5020     |
| 10/31/2017 20:32:07 | HLCCV3 | Ti (336.122 nm)    | 0.0085 (ppm)     | 19.60    | 0.0085 (ppm)    | 1287.9222    |
| 10/31/2017 20:32:07 | HLCCV3 | Tl (351.923 nm)    | 2.9312 o (ppm)   | 0.35     | 2.9312 (ppm)    | 8058.4398    |
| 10/31/2017 20:32:07 | HLCCV3 | V (292.401 nm)     | 0.0069 (ppm)     | 24.09    | 0.0069 (ppm)    | 352.0777     |
| 10/31/2017 20:32:07 | HLCCV3 | Y (360.074 nm)     | 0.93 (Ratio)     | 0.59     | 0.93 (Ratio)    | 791422.57    |
| 10/31/2017 20:32:07 | HLCCV3 | Y_R (360.074 nm)   | 0.93 (Ratio)     | 0.59     | 0.93 (Ratio)    | 792003.32    |
| 10/31/2017 20:32:07 | HLCCV3 | Zn (213.857 nm)    | 0.0084 (ppm)     | 8.46     | 0.0084 (ppm)    | 208.6938     |
| 10/31/2017 20:35:27 | HLCCV1 | Ag (328.068 nm)    | 0.9930 (ppm)     | 0.25     | 0.9930 (ppm)    | 70842.4057   |
| 10/31/2017 20:35:27 | HLCCV1 | Al (394.401 nm)    | 19.9965 (ppm)    | 0.57     | 19.9965 (ppm)   | 256035.2281  |
| 10/31/2017 20:35:27 | HLCCV1 | As (188.980 nm)    | 1.9859 (ppm)     | 0.42     | 1.9859 (ppm)    | 1773.7982    |
| 10/31/2017 20:35:27 | HLCCV1 | B (249.772 nm)     | 4.9600 (ppm)     | 0.27     | 4.9600 (ppm)    | 137362.7244  |
| 10/31/2017 20:35:27 | HLCCV1 | Ba (230.424 nm)    | 19.8828 (ppm)    | 1.03     | 19.8828 (ppm)   | 668443.4623  |
| 10/31/2017 20:35:27 | HLCCV1 | Be (313.107 nm)    | 0.4977 (ppm)     | 0.28     | 0.4977 (ppm)    | 734699.3500  |
| 10/31/2017 20:35:27 | HLCCV1 | Ca (227.547 nm)    | 49.3713 (ppm)    | 0.48     | 49.3713 (ppm)   | 2783.7918    |
| 10/31/2017 20:35:27 | HLCCV1 | Cd (214.439 nm)    | 1.0012 (ppm)     | 0.46     | 1.0012 (ppm)    | 21688.1045   |
| 10/31/2017 20:35:27 | HLCCV1 | Co (230.786 nm)    | 4.9744 (ppm)     | 0.20     | 4.9744 (ppm)    | 49107.6871   |
| 10/31/2017 20:35:27 | HLCCV1 | Cr (267.716 nm)    | 1.0060 (ppm)     | 0.31     | 1.0060 (ppm)    | 49811.8543   |
| 10/31/2017 20:35:27 | HLCCV1 | Cu (327.395 nm)    | 2.4558 (ppm)     | 0.37     | 2.4558 (ppm)    | 152481.9563  |
| 10/31/2017 20:35:27 | HLCCV1 | Fe (234.350 nm)    | 10.0256 (ppm)    | 0.42     | 10.0256 (ppm)   | 111989.8472  |
| 10/31/2017 20:35:27 | HLCCV1 | K (766.491 nm)     | 49.2397 (ppm)    | 0.56     | 49.2397 (ppm)   | 148561.4111  |
| 10/31/2017 20:35:27 | HLCCV1 | Mg (279.078 nm)    | 50.2414 (ppm)    | 0.27     | 50.2414 (ppm)   | 96949.4301   |
| 10/31/2017 20:35:27 | HLCCV1 | Mn (257.610 nm)    | 1.5172 (ppm)     | 0.24     | 1.5172 (ppm)    | 475557.6015  |
| 10/31/2017 20:35:27 | HLCCV1 | Mo (202.032 nm)    | 4.9895 (ppm)     | 0.18     | 4.9895 (ppm)    | 50868.5661   |
| 10/31/2017 20:35:27 | HLCCV1 | Na (588.995 nm)    | 48.8960 (ppm)    | 0.61     | 48.8960 (ppm)   | 2218073.3720 |
| 10/31/2017 20:35:27 | HLCCV1 | Ni (230.299 nm)    | 3.9845 (ppm)     | 0.21     | 3.9845 (ppm)    | 26821.9194   |
| 10/31/2017 20:35:27 | HLCCV1 | Pb (220.353 nm)    | 1.0020 (ppm)     | 0.32     | 1.0020 (ppm)    | 2145.8367    |
| 10/31/2017 20:35:27 | HLCCV1 | Sb (217.582 nm)    | 9.8860 (ppm)     | 0.47     | 9.8860 (ppm)    | 13520.4825   |
| 10/31/2017 20:35:27 | HLCCV1 | Se (196.026 nm)    | 1.0003 (ppm)     | 0.23     | 1.0003 (ppm)    | 857.4270     |
| 10/31/2017 20:35:27 | HLCCV1 | Sn (189.925 nm)    | 10.0399 (ppm)    | 0.44     | 10.0399 (ppm)   | 12157.6618   |
| 10/31/2017 20:35:27 | HLCCV1 | Sr (216.596 nm)    | 5.0327 (ppm)     | 0.42     | 5.0327 (ppm)    | 71456.7679   |
| 10/31/2017 20:35:27 | HLCCV1 | Ti (336.122 nm)    | 4.9474 (ppm)     | 0.28     | 4.9474 (ppm)    | 1034678.1554 |



| Date Time           | Label                                | Element Label (nm) | Conc           | %RSD     | Unadjusted Conc | Intensity    |
|---------------------|--------------------------------------|--------------------|----------------|----------|-----------------|--------------|
| 10/31/2017 20:35:27 | HLCCV1                               | Tl (351.923 nm)    | 1.9784 (ppm)   | 0.51     | 1.9784 (ppm)    | 5441.5123    |
| 10/31/2017 20:35:27 | HLCCV1                               | V (292.401 nm)     | 4.9725 (ppm)   | 0.27     | 4.9725 (ppm)    | 175869.5867  |
| 10/31/2017 20:35:27 | HLCCV1                               | Y (360.074 nm)     | 0.93 (Ratio)   | 0.65     | 0.93 (Ratio)    | 796002.29    |
| 10/31/2017 20:35:27 | HLCCV1                               | Y_R (360.074 nm)   | 0.93 (Ratio)   | 0.65     | 0.93 (Ratio)    | 796601.67    |
| 10/31/2017 20:35:27 | HLCCV1                               | Zn (213.857 nm)    | 2.0043 (ppm)   | 0.11     | 2.0043 (ppm)    | 56044.4154   |
| 10/31/2017 20:38:46 | Continuing Calibration Verification1 | Ag (328.068 nm)    | 0.4877 (ppm)   | 0.32     | 0.4877 (ppm)    | 34738.9785   |
| 10/31/2017 20:38:46 | Continuing Calibration Verification1 | Al (394.401 nm)    | 9.4423 (ppm)   | 0.99     | 9.4423 (ppm)    | 120965.0971  |
| 10/31/2017 20:38:46 | Continuing Calibration Verification1 | As (188.980 nm)    | 0.9642 (ppm)   | 0.59     | 0.9642 (ppm)    | 860.4925     |
| 10/31/2017 20:38:46 | Continuing Calibration Verification1 | B (249.772 nm)     | 2.4257 (ppm)   | 0.47     | 2.4257 (ppm)    | 67195.9205   |
| 10/31/2017 20:38:46 | Continuing Calibration Verification1 | Ba (230.424 nm)    | 10.3039 (ppm)  | 0.64     | 10.3039 (ppm)   | 346409.6801  |
| 10/31/2017 20:38:46 | Continuing Calibration Verification1 | Be (313.107 nm)    | 0.2524 (ppm)   | 0.55     | 0.2524 (ppm)    | 372271.0969  |
| 10/31/2017 20:38:46 | Continuing Calibration Verification1 | Ca (227.547 nm)    | 24.0162 (ppm)  | 0.70     | 24.0162 (ppm)   | 1356.4132    |
| 10/31/2017 20:38:46 | Continuing Calibration Verification1 | Cd (214.439 nm)    | 0.5054 (ppm)   | 0.40     | 0.5054 (ppm)    | 10956.1635   |
| 10/31/2017 20:38:46 | Continuing Calibration Verification1 | Co (230.786 nm)    | 2.6000 (ppm)   | 0.31     | 2.6000 (ppm)    | 25666.1322   |
| 10/31/2017 20:38:46 | Continuing Calibration Verification1 | Cr (267.716 nm)    | 0.5080 (ppm)   | 0.61     | 0.5080 (ppm)    | 25151.0330   |
| 10/31/2017 20:38:46 | Continuing Calibration Verification1 | Cu (327.395 nm)    | 1.1868 (ppm)   | 0.53     | 1.1868 (ppm)    | 73695.8667   |
| 10/31/2017 20:38:46 | Continuing Calibration Verification1 | Fe (234.350 nm)    | 4.8676 (ppm)   | 0.49     | 4.8676 (ppm)    | 54378.9669   |
| 10/31/2017 20:38:46 | Continuing Calibration Verification1 | K (766.491 nm)     | 24.2176 (ppm)  | 0.77     | 24.2176 (ppm)   | 73062.5527   |
| 10/31/2017 20:38:46 | Continuing Calibration Verification1 | Mg (279.078 nm)    | 25.2549 (ppm)  | 0.57     | 25.2549 (ppm)   | 48733.2327   |
| 10/31/2017 20:38:46 | Continuing Calibration Verification1 | Mn (257.610 nm)    | 0.7651 (ppm)   | 0.26     | 0.7651 (ppm)    | 239815.7115  |
| 10/31/2017 20:38:46 | Continuing Calibration Verification1 | Mo (202.032 nm)    | 2.4099 (ppm)   | 0.37     | 2.4099 (ppm)    | 24572.9240   |
| 10/31/2017 20:38:46 | Continuing Calibration Verification1 | Na (588.995 nm)    | 24.2496 (ppm)  | 0.79     | 24.2496 (ppm)   | 1097285.7165 |
| 10/31/2017 20:38:46 | Continuing Calibration Verification1 | Ni (230.299 nm)    | 2.0448 (ppm)   | 0.54     | 2.0448 (ppm)    | 13754.4386   |
| 10/31/2017 20:38:46 | Continuing Calibration Verification1 | Pb (220.353 nm)    | 0.5041 (ppm)   | 0.82     | 0.5041 (ppm)    | 1082.1417    |
| 10/31/2017 20:38:46 | Continuing Calibration Verification1 | Sb (217.582 nm)    | 4.8728 (ppm)   | 0.31     | 4.8728 (ppm)    | 6664.6133    |
| 10/31/2017 20:38:46 | Continuing Calibration Verification1 | Se (196.026 nm)    | 0.4867 (ppm)   | 2.12     | 0.4867 (ppm)    | 417.5883     |
| 10/31/2017 20:38:46 | Continuing Calibration Verification1 | Sn (189.925 nm)    | 5.1234 (ppm)   | 0.81     | 5.1234 (ppm)    | 6204.0187    |
| 10/31/2017 20:38:46 | Continuing Calibration Verification1 | Sr (216.596 nm)    | 2.5494 (ppm)   | 0.71     | 2.5494 (ppm)    | 36197.5701   |
| 10/31/2017 20:38:46 | Continuing Calibration Verification1 | Ti (335.122 nm)    | 2.4911 (ppm)   | 0.39     | 2.4911 (ppm)    | 520739.5706  |
| 10/31/2017 20:38:46 | Continuing Calibration Verification1 | Tl (351.923 nm)    | 0.9822 (ppm)   | 0.41     | 0.9822 (ppm)    | 2705.2159    |
| 10/31/2017 20:38:46 | Continuing Calibration Verification1 | V (292.401 nm)     | 2.5127 (ppm)   | 0.55     | 2.5127 (ppm)    | 88923.2372   |
| 10/31/2017 20:38:46 | Continuing Calibration Verification1 | Y (360.074 nm)     | 0.95 (Ratio)   | 0.83     | 0.95 (Ratio)    | 813319.44    |
| 10/31/2017 20:38:46 | Continuing Calibration Verification1 | Y_R (360.074 nm)   | 0.95 (Ratio)   | 0.83     | 0.95 (Ratio)    | 813928.00    |
| 10/31/2017 20:38:46 | Continuing Calibration Verification1 | Zn (213.857 nm)    | 1.0085 (ppm)   | 0.46     | 1.0085 (ppm)    | 28187.7394   |
| 10/31/2017 20:42:05 | Continuing Calibration Blank1        | Ag (328.068 nm)    | 0.0004 (ppm)   | 75.23    | 0.0004 (ppm)    | -73.9794     |
| 10/31/2017 20:42:05 | Continuing Calibration Blank1        | Al (394.401 nm)    | 0.0310 (ppm)   | 62.46    | 0.0310 (ppm)    | 522.9358     |
| 10/31/2017 20:42:05 | Continuing Calibration Blank1        | As (188.980 nm)    | 0.0007 u (ppm) | > 100.00 | 0.0007 (ppm)    | -0.8245      |
| 10/31/2017 20:42:05 | Continuing Calibration Blank1        | B (249.772 nm)     | 0.0079 (ppm)   | 29.05    | 0.0079 (ppm)    | 253.1116     |
| 10/31/2017 20:42:05 | Continuing Calibration Blank1        | Ba (230.424 nm)    | 0.0124 (ppm)   | 85.56    | 0.0124 (ppm)    | 419.2025     |
| 10/31/2017 20:42:05 | Continuing Calibration Blank1        | Be (313.107 nm)    | 0.0002 (ppm)   | 62.43    | 0.0002 (ppm)    | -167.5850    |
| 10/31/2017 20:42:05 | Continuing Calibration Blank1        | Ca (227.547 nm)    | 0.0546 (ppm)   | 73.91    | 0.0546 (ppm)    | 7.4904       |
| 10/31/2017 20:42:05 | Continuing Calibration Blank1        | Cd (214.439 nm)    | 0.0004 (ppm)   | 61.66    | 0.0004 (ppm)    | 22.9895      |
| 10/31/2017 20:42:05 | Continuing Calibration Blank1        | Co (230.786 nm)    | 0.0025 (ppm)   | 61.72    | 0.0025 (ppm)    | 20.6960      |
| 10/31/2017 20:42:05 | Continuing Calibration Blank1        | Cr (267.716 nm)    | 0.0009 (ppm)   | 56.86    | 0.0009 (ppm)    | 45.2576      |
| 10/31/2017 20:42:05 | Continuing Calibration Blank1        | Cu (327.395 nm)    | 0.0013 (ppm)   | 61.85    | 0.0013 (ppm)    | 93.6866      |
| 10/31/2017 20:42:05 | Continuing Calibration Blank1        | Fe (234.350 nm)    | 0.0079 (ppm)   | 59.13    | 0.0079 (ppm)    | 100.0000     |
| 10/31/2017 20:42:05 | Continuing Calibration Blank1        | K (766.491 nm)     | 0.0731 (ppm)   | 32.94    | 0.0731 (ppm)    | 211.7320     |
| 10/31/2017 20:42:05 | Continuing Calibration Blank1        | Mg (279.078 nm)    | 0.0434 (ppm)   | 62.33    | 0.0434 (ppm)    | 83.1454      |
| 10/31/2017 20:42:05 | Continuing Calibration Blank1        | Mn (257.610 nm)    | 0.0104 Z (ppm) | 17.61    | 0.0104 (ppm)    | 3269.0643 Z  |
| 10/31/2017 20:42:05 | Continuing Calibration Blank1        | Mo (202.032 nm)    | 0.0061 (ppm)   | 23.91    | 0.0061 (ppm)    | 69.4213      |
| 10/31/2017 20:42:05 | Continuing Calibration Blank1        | Na (588.995 nm)    | 0.0084 u (ppm) | > 100.00 | 0.0084 (ppm)    | -5078.6025   |

| Date Time           | Label                         | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity  |
|---------------------|-------------------------------|--------------------|-----------------|----------|-----------------|------------|
| 10/31/2017 20:42:05 | Continuing Calibration Blank1 | Ni (230.299 nm)    | 0.0017 (ppm)    | 75.93    | 0.0017 (ppm)    | -9.1368    |
| 10/31/2017 20:42:05 | Continuing Calibration Blank1 | Pb (220.353 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | 4.7382     |
| 10/31/2017 20:42:05 | Continuing Calibration Blank1 | Sb (217.582 nm)    | 0.0057 (ppm)    | 28.71    | 0.0057 (ppm)    | 8.6246     |
| 10/31/2017 20:42:05 | Continuing Calibration Blank1 | Se (196.026 nm)    | 0.0009 u (ppm)  | > 100.00 | 0.0009 (ppm)    | 1.5120     |
| 10/31/2017 20:42:05 | Continuing Calibration Blank1 | Sn (189.925 nm)    | 0.0034 (ppm)    | 58.49    | 0.0034 (ppm)    | 4.0973     |
| 10/31/2017 20:42:05 | Continuing Calibration Blank1 | Sr (216.596 nm)    | 0.0021 (ppm)    | 80.48    | 0.0021 (ppm)    | 29.5004    |
| 10/31/2017 20:42:05 | Continuing Calibration Blank1 | Ti (336.122 nm)    | 0.0035 (ppm)    | 41.04    | 0.0035 (ppm)    | 257.5431   |
| 10/31/2017 20:42:05 | Continuing Calibration Blank1 | Ti (351.923 nm)    | 0.0038 (ppm)    | 63.16    | 0.0038 (ppm)    | 17.7660    |
| 10/31/2017 20:42:05 | Continuing Calibration Blank1 | V (292.401 nm)     | 0.0025 (ppm)    | 63.53    | 0.0025 (ppm)    | 198.0222   |
| 10/31/2017 20:42:05 | Continuing Calibration Blank1 | Y (360.074 nm)     | 0.99 (Ratio)    | 0.91     | 0.99 (Ratio)    | 843340.38  |
| 10/31/2017 20:42:05 | Continuing Calibration Blank1 | Y_R (360.074 nm)   | 0.99 (Ratio)    | 0.91     | 0.99 (Ratio)    | 844058.60  |
| 10/31/2017 20:42:05 | Continuing Calibration Blank1 | Zn (213.857 nm)    | 0.0010 (ppm)    | 58.05    | 0.0010 (ppm)    | 0.4781     |
| 10/31/2017 20:45:24 | PBW-301957                    | Ag (328.068 nm)    | 0.0001 (ppm)    | 74.34    | 0.0001 (ppm)    | -83.2209   |
| 10/31/2017 20:45:24 | PBW-301957                    | Al (394.401 nm)    | 0.0073 (ppm)    | 27.90    | 0.0073 (ppm)    | 219.2134   |
| 10/31/2017 20:45:24 | PBW-301957                    | As (188.980 nm)    | 0.0011 u (ppm)  | > 100.00 | 0.0011 (ppm)    | -0.4902    |
| 10/31/2017 20:45:24 | PBW-301957                    | B (249.772 nm)     | 0.0036 (ppm)    | 4.00     | 0.0036 (ppm)    | 133.7033   |
| 10/31/2017 20:45:24 | PBW-301957                    | Ba (230.424 nm)    | 0.0012 (ppm)    | 25.66    | 0.0012 (ppm)    | 41.4811    |
| 10/31/2017 20:45:24 | PBW-301957                    | Be (313.107 nm)    | 0.0000 (ppm)    | 7.76     | 0.0000 (ppm)    | -482.5856  |
| 10/31/2017 20:45:24 | PBW-301957                    | Ca (227.547 nm)    | -0.0066 u (ppm) | > 100.00 | -0.0066 (ppm)   | 4.0407     |
| 10/31/2017 20:45:24 | PBW-301957                    | Cd (214.439 nm)    | -0.0001 u (ppm) | 70.78    | -0.0001 (ppm)   | 11.1968    |
| 10/31/2017 20:45:24 | PBW-301957                    | Co (230.786 nm)    | 0.0004 (ppm)    | 94.73    | 0.0004 (ppm)    | -0.0961    |
| 10/31/2017 20:45:24 | PBW-301957                    | Cr (267.716 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | 0.7697     |
| 10/31/2017 20:45:24 | PBW-301957                    | Cu (327.395 nm)    | 0.0002 (ppm)    | 58.16    | 0.0002 (ppm)    | 24.0054    |
| 10/31/2017 20:45:24 | PBW-301957                    | Fe (234.350 nm)    | 0.0017 (ppm)    | 26.00    | 0.0017 (ppm)    | 30.4906    |
| 10/31/2017 20:45:24 | PBW-301957                    | K (766.491 nm)     | 0.0313 (ppm)    | 19.70    | 0.0313 (ppm)    | 85.7031    |
| 10/31/2017 20:45:24 | PBW-301957                    | Mg (279.078 nm)    | 0.0062 (ppm)    | 33.32    | 0.0062 (ppm)    | 11.2253    |
| 10/31/2017 20:45:24 | PBW-301957                    | Mn (257.610 nm)    | 0.0175 (ppm)    | 33.13    | 0.0175 (ppm)    | 5494.2344  |
| 10/31/2017 20:45:24 | PBW-301957                    | Mo (202.032 nm)    | 0.0016 (ppm)    | 8.88     | 0.0016 (ppm)    | 23.1613    |
| 10/31/2017 20:45:24 | PBW-301957                    | Nb (588.995 nm)    | -0.0146 u (ppm) | 6.67     | -0.0146 (ppm)   | -6122.2274 |
| 10/31/2017 20:45:24 | PBW-301957                    | Ni (230.299 nm)    | 0.0008 (ppm)    | 42.69    | 0.0008 (ppm)    | -15.5038   |
| 10/31/2017 20:45:24 | PBW-301957                    | Pb (220.353 nm)    | -0.0019 u (ppm) | 62.75    | -0.0019 (ppm)   | 1.0562     |
| 10/31/2017 20:45:24 | PBW-301957                    | Sb (217.582 nm)    | 0.0010 (ppm)    | > 100.00 | 0.0010 (ppm)    | 2.1233     |
| 10/31/2017 20:45:24 | PBW-301957                    | Se (196.026 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | 0.7001     |
| 10/31/2017 20:45:24 | PBW-301957                    | Sn (189.925 nm)    | -0.0004 u (ppm) | > 100.00 | -0.0004 (ppm)   | -0.5590    |
| 10/31/2017 20:45:24 | PBW-301957                    | Sr (216.596 nm)    | 0.0003 (ppm)    | 72.14    | 0.0003 (ppm)    | 3.5526     |
| 10/31/2017 20:45:24 | PBW-301957                    | Ti (336.122 nm)    | 0.0011 (ppm)    | 7.66     | 0.0011 (ppm)    | -242.8831  |
| 10/31/2017 20:45:24 | PBW-301957                    | Ti (351.923 nm)    | 0.0021 u (ppm)  | > 100.00 | 0.0021 (ppm)    | 13.1583    |
| 10/31/2017 20:45:24 | PBW-301957                    | V (292.401 nm)     | 0.0004 (ppm)    | 23.45    | 0.0004 (ppm)    | 123.6896   |
| 10/31/2017 20:45:24 | PBW-301957                    | Y (360.074 nm)     | 0.99 (Ratio)    | 1.12     | 0.99 (Ratio)    | 841687.66  |
| 10/31/2017 20:45:24 | PBW-301957                    | Y_R (360.074 nm)   | 0.99 (Ratio)    | 1.12     | 0.99 (Ratio)    | 842426.96  |
| 10/31/2017 20:45:24 | PBW-301957                    | Zn (213.857 nm)    | 0.0016 (ppm)    | 4.27     | 0.0016 (ppm)    | 19.3718    |
| 10/31/2017 20:48:43 | LCSW-301957                   | Ag (328.068 nm)    | 0.0494 (ppm)    | 0.50     | 0.0494 (ppm)    | 3425.1462  |
| 10/31/2017 20:48:43 | LCSW-301957                   | Al (394.401 nm)    | 1.8380 (ppm)    | 0.54     | 1.8380 (ppm)    | 23647.9803 |
| 10/31/2017 20:48:43 | LCSW-301957                   | As (188.980 nm)    | 0.0388 (ppm)    | 13.48    | 0.0388 (ppm)    | 33.2470    |
| 10/31/2017 20:48:43 | LCSW-301957                   | B (249.772 nm)     | 0.9655 (ppm)    | 0.32     | 0.9655 (ppm)    | 26765.6210 |
| 10/31/2017 20:48:43 | LCSW-301957                   | Ba (230.424 nm)    | 2.0791 (ppm)    | 0.36     | 2.0791 (ppm)    | 69899.2544 |
| 10/31/2017 20:48:43 | LCSW-301957                   | Be (313.107 nm)    | 0.0503 (ppm)    | 0.46     | 0.0503 (ppm)    | 73849.1674 |
| 10/31/2017 20:48:43 | LCSW-301957                   | Ca (227.547 nm)    | 1.8789 (ppm)    | 2.08     | 1.8799 (ppm)    | 110.2421   |
| 10/31/2017 20:48:43 | LCSW-301957                   | Cd (214.439 nm)    | 0.0526 (ppm)    | 0.72     | 0.0526 (ppm)    | 1152.6491  |
| 10/31/2017 20:48:43 | LCSW-301957                   | Co (230.786 nm)    | 0.5164 (ppm)    | 0.41     | 0.5164 (ppm)    | 5094.6452  |
| 10/31/2017 20:48:43 | LCSW-301957                   | Cr (267.716 nm)    | 0.2003 (ppm)    | 0.41     | 0.2003 (ppm)    | 9914.2774  |

| Date Time           | Label        | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity   |
|---------------------|--------------|--------------------|-----------------|----------|-----------------|-------------|
| 10/31/2017 20:48:43 | LCSW-301957  | Cu (327.395 nm)    | 0.2386 (ppm)    | 0.82     | 0.2386 (ppm)    | 14826.3751  |
| 10/31/2017 20:48:43 | LCSW-301957  | Fe (234.350 nm)    | 0.9852 (ppm)    | 0.46     | 0.9852 (ppm)    | 11015.8610  |
| 10/31/2017 20:48:43 | LCSW-301957  | K (766.491 nm)     | 18.6732 (ppm)   | 0.46     | 18.6732 (ppm)   | 56333.5444  |
| 10/31/2017 20:48:43 | LCSW-301957  | Mg (279.078 nm)    | 2.0186 (ppm)    | 0.59     | 2.0186 (ppm)    | 3894.5243   |
| 10/31/2017 20:48:43 | LCSW-301957  | Mn (257.610 nm)    | 0.5101 (ppm)    | 0.41     | 0.5101 (ppm)    | 159876.5364 |
| 10/31/2017 20:48:43 | LCSW-301957  | Mo (202.032 nm)    | 0.4802 (ppm)    | 0.53     | 0.4802 (ppm)    | 4901.5867   |
| 10/31/2017 20:48:43 | LCSW-301957  | Na (588.895 nm)    | 18.9749 (ppm)   | 0.45     | 18.9749 (ppm)   | 857416.6448 |
| 10/31/2017 20:48:43 | LCSW-301957  | Ni (230.299 nm)    | 0.5160 (ppm)    | 0.61     | 0.5160 (ppm)    | 3455.4457   |
| 10/31/2017 20:48:43 | LCSW-301957  | Pb (220.353 nm)    | 0.5216 (ppm)    | 0.19     | 0.5216 (ppm)    | 1119.5444   |
| 10/31/2017 20:48:43 | LCSW-301957  | Sb (217.582 nm)    | 0.4973 (ppm)    | 0.18     | 0.4973 (ppm)    | 680.9283    |
| 10/31/2017 20:48:43 | LCSW-301957  | Se (196.026 nm)    | 1.0607 (ppm)    | 0.50     | 1.0607 (ppm)    | 809.1893    |
| 10/31/2017 20:48:43 | LCSW-301957  | Sn (189.925 nm)    | 5.1136 (ppm)    | 0.41     | 5.1136 (ppm)    | 6192.1581   |
| 10/31/2017 20:48:43 | LCSW-301957  | Sr (216.596 nm)    | 2.0693 (ppm)    | 0.29     | 2.0693 (ppm)    | 29380.4772  |
| 10/31/2017 20:48:43 | LCSW-301957  | Ti (336.122 nm)    | 0.4880 (ppm)    | 0.39     | 0.4880 (ppm)    | 101633.9403 |
| 10/31/2017 20:48:43 | LCSW-301957  | Tl (351.923 nm)    | 1.8496 (ppm)    | 0.27     | 1.8496 (ppm)    | 5087.7503   |
| 10/31/2017 20:48:43 | LCSW-301957  | V (292.401 nm)     | 0.4982 (ppm)    | 0.34     | 0.4982 (ppm)    | 17720.4672  |
| 10/31/2017 20:48:43 | LCSW-301957  | Y (360.074 nm)     | 0.97 (Ratio)    | 0.80     | 0.97 (Ratio)    | 825769.38   |
| 10/31/2017 20:48:43 | LCSW-301957  | Y_R (360.074 nm)   | 0.97 (Ratio)    | 0.80     | 0.97 (Ratio)    | 826408.70   |
| 10/31/2017 20:48:43 | LCSW-301957  | Zn (213.857 nm)    | 0.5122 (ppm)    | 0.41     | 0.5122 (ppm)    | 14302.7801  |
| 10/31/2017 20:52:03 | R1710031-019 | Ag (328.068 nm)    | 0.0000 (ppm)    | 86.99    | 0.0000 (ppm)    | -100.1102   |
| 10/31/2017 20:52:03 | R1710031-019 | Al (394.401 nm)    | 0.0553 (ppm)    | 8.65     | 0.0553 (ppm)    | 833.1352    |
| 10/31/2017 20:52:03 | R1710031-019 | As (188.980 nm)    | -0.0007 u (ppm) | > 100.00 | -0.0007 (ppm)   | -2.0707     |
| 10/31/2017 20:52:03 | R1710031-019 | B (249.772 nm)     | 0.0046 (ppm)    | 17.98    | 0.0046 (ppm)    | 160.0583    |
| 10/31/2017 20:52:03 | R1710031-019 | Ba (230.424 nm)    | 0.0046 (ppm)    | 27.83    | 0.0046 (ppm)    | 157.1780    |
| 10/31/2017 20:52:03 | R1710031-019 | Be (313.107 nm)    | 0.0001 (ppm)    | 29.43    | 0.0001 (ppm)    | -399.0197   |
| 10/31/2017 20:52:03 | R1710031-019 | Cd (227.547 nm)    | 0.2339 (ppm)    | 7.38     | 0.2339 (ppm)    | 17.5805     |
| 10/31/2017 20:52:03 | R1710031-019 | Cd (214.439 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | 13.3889     |
| 10/31/2017 20:52:03 | R1710031-019 | Co (230.786 nm)    | 0.0011 (ppm)    | 33.80    | 0.0011 (ppm)    | 7.1136      |
| 10/31/2017 20:52:03 | R1710031-019 | Cr (267.716 nm)    | 0.0008 (ppm)    | 31.48    | 0.0008 (ppm)    | 37.5153     |
| 10/31/2017 20:52:03 | R1710031-019 | Cu (327.395 nm)    | 0.0010 (ppm)    | 13.35    | 0.0010 (ppm)    | 74.7271     |
| 10/31/2017 20:52:03 | R1710031-019 | Fe (234.350 nm)    | 0.0084 (ppm)    | 12.69    | 0.0084 (ppm)    | 105.5553    |
| 10/31/2017 20:52:03 | R1710031-019 | K (766.491 nm)     | 0.0885 (ppm)    | 7.84     | 0.0885 (ppm)    | 258.0643    |
| 10/31/2017 20:52:03 | R1710031-019 | Mg (279.078 nm)    | 0.0340 (ppm)    | 13.06    | 0.0340 (ppm)    | 65.0132     |
| 10/31/2017 20:52:03 | R1710031-019 | Mn (257.610 nm)    | 0.0203 (ppm)    | 31.33    | 0.0203 (ppm)    | 6361.4694   |
| 10/31/2017 20:52:03 | R1710031-019 | Mo (202.032 nm)    | 0.0026 (ppm)    | 4.77     | 0.0026 (ppm)    | 33.9608     |
| 10/31/2017 20:52:03 | R1710031-019 | Na (588.895 nm)    | 0.5781 (ppm)    | 2.47     | 0.5781 (ppm)    | 20828.8924  |
| 10/31/2017 20:52:03 | R1710031-019 | Ni (230.299 nm)    | 0.0002 (ppm)    | 44.22    | 0.0002 (ppm)    | -19.1181    |
| 10/31/2017 20:52:03 | R1710031-019 | Pb (220.353 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | 4.9027      |
| 10/31/2017 20:52:03 | R1710031-019 | Sb (217.582 nm)    | 0.0017 (ppm)    | 72.92    | 0.0017 (ppm)    | 3.1516      |
| 10/31/2017 20:52:03 | R1710031-019 | Se (196.026 nm)    | 0.0032 u (ppm)  | > 100.00 | 0.0032 (ppm)    | 3.5021      |
| 10/31/2017 20:52:03 | R1710031-019 | Sn (189.925 nm)    | 0.0057 (ppm)    | 45.23    | 0.0057 (ppm)    | 6.8057      |
| 10/31/2017 20:52:03 | R1710031-019 | Sr (216.596 nm)    | 0.0034 (ppm)    | 38.42    | 0.0034 (ppm)    | 47.1077     |
| 10/31/2017 20:52:03 | R1710031-019 | Ti (336.122 nm)    | 0.0020 (ppm)    | 14.49    | 0.0020 (ppm)    | -72.2044    |
| 10/31/2017 20:52:03 | R1710031-019 | Tl (351.923 nm)    | 0.0050 (ppm)    | 56.98    | 0.0050 (ppm)    | 21.1701     |
| 10/31/2017 20:52:03 | R1710031-019 | V (292.401 nm)     | 0.0009 (ppm)    | 39.68    | 0.0009 (ppm)    | 142.0869    |
| 10/31/2017 20:52:03 | R1710031-019 | Y (360.074 nm)     | 0.99 (Ratio)    | 0.64     | 0.99 (Ratio)    | 844546.73   |
| 10/31/2017 20:52:03 | R1710031-019 | Y_R (360.074 nm)   | 0.99 (Ratio)    | 0.64     | 0.99 (Ratio)    | 845252.39   |
| 10/31/2017 20:52:03 | R1710031-019 | Zn (213.857 nm)    | 0.0025 (ppm)    | 10.32    | 0.0025 (ppm)    | 42.5681     |
| 10/31/2017 20:55:21 | R1710033-001 | Ag (328.068 nm)    | 0.0002 (ppm)    | 71.64    | 0.0002 (ppm)    | -89.4044    |
| 10/31/2017 20:55:21 | R1710033-001 | Al (394.401 nm)    | 0.0744 (ppm)    | 4.25     | 0.0744 (ppm)    | 1078.5679   |
| 10/31/2017 20:55:21 | R1710033-001 | As (188.980 nm)    | -0.0009 u (ppm) | > 100.00 | -0.0009 (ppm)   | -2.3007     |

| Date Time           | Label        | Element Label (nm) | Conc             | %RSD     | Unadjusted Conc | Intensity    |
|---------------------|--------------|--------------------|------------------|----------|-----------------|--------------|
| 10/31/2017 20:55:21 | R1710033-001 | B (249.772 nm)     | 0.1311 (ppm)     | 0.12     | 0.1311 (ppm)    | 3664.8916    |
| 10/31/2017 20:55:21 | R1710033-001 | Ba (230.424 nm)    | 0.1171 (ppm)     | 0.18     | 0.1171 (ppm)    | 3939.7172    |
| 10/31/2017 20:55:21 | R1710033-001 | Be (313.107 nm)    | 0.0000 (ppm)     | > 100.00 | 0.0000 (ppm)    | -535.8727    |
| 10/31/2017 20:55:21 | R1710033-001 | Ca (227.547 nm)    | 715.5956 o (ppm) | 0.17     | 715.5956 (ppm)  | 40289.1564   |
| 10/31/2017 20:55:21 | R1710033-001 | Cd (214.439 nm)    | 0.0006 (ppm)     | 26.83    | 0.0006 (ppm)    | 26.5658      |
| 10/31/2017 20:55:21 | R1710033-001 | Co (230.786 nm)    | 0.0014 (ppm)     | 12.63    | 0.0014 (ppm)    | 10.2128      |
| 10/31/2017 20:55:21 | R1710033-001 | Cr (267.716 nm)    | 0.0005 (ppm)     | 14.33    | 0.0005 (ppm)    | 21.5297      |
| 10/31/2017 20:55:21 | R1710033-001 | Cu (327.395 nm)    | 0.0003 (ppm)     | 46.89    | 0.0003 (ppm)    | 32.3498      |
| 10/31/2017 20:55:21 | R1710033-001 | Fe (234.350 nm)    | 39.0583 o (ppm)  | 0.37     | 39.0583 (ppm)   | 436263.8479  |
| 10/31/2017 20:55:21 | R1710033-001 | K (766.491 nm)     | 437.0180 o (ppm) | 0.28     | 437.0180 (ppm)  | 1318598.9929 |
| 10/31/2017 20:55:21 | R1710033-001 | Mg (279.078 nm)    | 230.3163 o (ppm) | 0.33     | 230.3163 (ppm)  | 444437.0086  |
| 10/31/2017 20:55:21 | R1710033-001 | Mn (257.610 nm)    | 0.3990 (ppm)     | 3.59     | 0.3990 (ppm)    | 125071.6965  |
| 10/31/2017 20:55:21 | R1710033-001 | Mo (202.032 nm)    | 0.0013 (ppm)     | 35.58    | 0.0013 (ppm)    | 20.1983      |
| 10/31/2017 20:55:21 | R1710033-001 | Na (588.995 nm)    | #### (ppm)       | N/A      | #### (ppm)      | ####         |
| 10/31/2017 20:55:21 | R1710033-001 | Ni (230.299 nm)    | -0.0170 u (ppm)  | 2.58     | -0.0170 (ppm)   | -134.8542    |
| 10/31/2017 20:55:21 | R1710033-001 | Pb (220.353 nm)    | -0.0024 u (ppm)  | > 100.00 | -0.0024 (ppm)   | 0.0078       |
| 10/31/2017 20:55:21 | R1710033-001 | Sb (217.582 nm)    | -0.0020 u (ppm)  | > 100.00 | -0.0020 (ppm)   | -1.9703      |
| 10/31/2017 20:55:21 | R1710033-001 | Se (196.026 nm)    | 0.0006 u (ppm)   | > 100.00 | 0.0006 (ppm)    | 1.3008       |
| 10/31/2017 20:55:21 | R1710033-001 | Sn (189.925 nm)    | -0.0024 u (ppm)  | 90.47    | -0.0024 (ppm)   | -2.9757      |
| 10/31/2017 20:55:21 | R1710033-001 | Sr (216.596 nm)    | 6.0411 o (ppm)   | 0.20     | 6.0411 (ppm)    | 85775.3335   |
| 10/31/2017 20:55:21 | R1710033-001 | Ti (336.122 nm)    | 0.0056 (ppm)     | 1.54     | 0.0056 (ppm)    | 693.0547     |
| 10/31/2017 20:55:21 | R1710033-001 | Tl (351.923 nm)    | 0.0184 (ppm)     | 15.95    | 0.0184 (ppm)    | 57.9532      |
| 10/31/2017 20:55:21 | R1710033-001 | V (292.401 nm)     | 0.0033 (ppm)     | 2.25     | 0.0033 (ppm)    | 224.5007     |
| 10/31/2017 20:55:21 | R1710033-001 | Y (360.074 nm)     | 0.78 (Ratio)     | 0.99     | 0.78 (Ratio)    | 668485.33    |
| 10/31/2017 20:55:21 | R1710033-001 | Y_R (360.074 nm)   | 0.78 (Ratio)     | 0.99     | 0.78 (Ratio)    | 668903.81    |
| 10/31/2017 20:55:21 | R1710033-001 | Zn (213.857 nm)    | 0.0080 (ppm)     | 0.94     | 0.0080 (ppm)    | 198.4250     |
| 10/31/2017 20:58:40 | R1710033-002 | Ag (328.068 nm)    | 0.0001 u (ppm)   | > 100.00 | 0.0001 (ppm)    | -95.0667     |
| 10/31/2017 20:58:40 | R1710033-002 | Al (394.401 nm)    | 0.0351 (ppm)     | 2.37     | 0.0351 (ppm)    | 575.3616     |
| 10/31/2017 20:58:40 | R1710033-002 | As (188.980 nm)    | -0.0010 u (ppm)  | > 100.00 | -0.0010 (ppm)   | -2.3830      |
| 10/31/2017 20:58:40 | R1710033-002 | B (249.772 nm)     | 0.5422 (ppm)     | 0.23     | 0.5422 (ppm)    | 15045.8289   |
| 10/31/2017 20:58:40 | R1710033-002 | Ba (230.424 nm)    | 0.8922 (ppm)     | 0.11     | 0.8922 (ppm)    | 29995.7566   |
| 10/31/2017 20:58:40 | R1710033-002 | Be (313.107 nm)    | 0.0000 (ppm)     | > 100.00 | 0.0000 (ppm)    | -525.1076    |
| 10/31/2017 20:58:40 | R1710033-002 | Ca (227.547 nm)    | 106.9025 o (ppm) | 0.70     | 106.9025 (ppm)  | 6022.5326    |
| 10/31/2017 20:58:40 | R1710033-002 | Cd (214.439 nm)    | 0.0005 (ppm)     | 27.48    | 0.0005 (ppm)    | 23.6998      |
| 10/31/2017 20:58:40 | R1710033-002 | Co (230.786 nm)    | -0.0003 u (ppm)  | 53.49    | -0.0003 (ppm)   | -6.4982      |
| 10/31/2017 20:58:40 | R1710033-002 | Cr (267.716 nm)    | 0.0038 (ppm)     | 2.78     | 0.0038 (ppm)    | 186.2232     |
| 10/31/2017 20:58:40 | R1710033-002 | Cu (327.395 nm)    | 0.0005 (ppm)     | 3.09     | 0.0005 (ppm)    | 43.9220      |
| 10/31/2017 20:58:40 | R1710033-002 | Fe (234.350 nm)    | 40.0363 o (ppm)  | 0.31     | 40.0363 (ppm)   | 447187.1922  |
| 10/31/2017 20:58:40 | R1710033-002 | K (766.491 nm)     | 23.2439 (ppm)    | 1.11     | 23.2439 (ppm)   | 70124.6744   |
| 10/31/2017 20:58:40 | R1710033-002 | Mg (279.078 nm)    | 44.6038 (ppm)    | 0.39     | 44.6038 (ppm)   | 86070.6142   |
| 10/31/2017 20:58:40 | R1710033-002 | Mn (257.610 nm)    | 0.2305 (ppm)     | 6.08     | 0.2305 (ppm)    | 72247.3769   |
| 10/31/2017 20:58:40 | R1710033-002 | Mo (202.032 nm)    | 0.0011 (ppm)     | 18.11    | 0.0011 (ppm)    | 18.0982      |
| 10/31/2017 20:58:40 | R1710033-002 | Na (588.995 nm)    | 30.1686 (ppm)    | 1.65     | 30.1686 (ppm)   | 1366447.8214 |
| 10/31/2017 20:58:40 | R1710033-002 | Ni (230.299 nm)    | -0.0145 u (ppm)  | 12.24    | -0.0145 (ppm)   | -118.4769    |
| 10/31/2017 20:58:40 | R1710033-002 | Pb (220.353 nm)    | -0.0009 u (ppm)  | > 100.00 | -0.0009 (ppm)   | 3.1323       |
| 10/31/2017 20:58:40 | R1710033-002 | Sb (217.582 nm)    | -0.0006 u (ppm)  | > 100.00 | -0.0006 (ppm)   | 0.0436       |
| 10/31/2017 20:58:40 | R1710033-002 | Se (196.026 nm)    | -0.0018 u (ppm)  | > 100.00 | -0.0018 (ppm)   | -0.7720      |
| 10/31/2017 20:58:40 | R1710033-002 | Sn (189.925 nm)    | -0.0006 u (ppm)  | > 100.00 | -0.0006 (ppm)   | -0.7562      |
| 10/31/2017 20:58:40 | R1710033-002 | Sr (216.596 nm)    | 1.0308 (ppm)     | 0.29     | 1.0308 (ppm)    | 14635.9206   |
| 10/31/2017 20:58:40 | R1710033-002 | Ti (336.122 nm)    | 0.0016 (ppm)     | 0.98     | 0.0016 (ppm)    | -139.6310    |
| 10/31/2017 20:58:40 | R1710033-002 | Tl (351.923 nm)    | 0.0023 u (ppm)   | 98.66    | 0.0023 (ppm)    | 13.6928      |

| Date Time           | Label        | Element Label (nm) | Conc             | %RSD     | Unadjusted Conc | Intensity     |
|---------------------|--------------|--------------------|------------------|----------|-----------------|---------------|
| 10/31/2017 20:58:40 | R1710033-002 | V (292.401 nm)     | 0.0020 (ppm)     | 11.74    | 0.0020 (ppm)    | 180.7738      |
| 10/31/2017 20:58:40 | R1710033-002 | Y (360.074 nm)     | 0.93 (Ratio)     | 0.79     | 0.93 (Ratio)    | 793843.69     |
| 10/31/2017 20:58:40 | R1710033-002 | Y_R (360.074 nm)   | 0.93 (Ratio)     | 0.79     | 0.93 (Ratio)    | 794435.64     |
| 10/31/2017 20:58:40 | R1710033-002 | Zn (213.857 nm)    | 0.0087 (ppm)     | 0.83     | 0.0087 (ppm)    | 216.3245      |
| 10/31/2017 21:02:00 | R1710033-003 | Ag (328.068 nm)    | 0.0001 (ppm)     | > 100.00 | 0.0001 (ppm)    | -98.6743      |
| 10/31/2017 21:02:00 | R1710033-003 | Al (394.401 nm)    | 1.5484 (ppm)     | 0.61     | 1.5484 (ppm)    | 19941.9720    |
| 10/31/2017 21:02:00 | R1710033-003 | As (188.980 nm)    | -0.0012 u (ppm)  | 88.64    | -0.0012 (ppm)   | -2.5057       |
| 10/31/2017 21:02:00 | R1710033-003 | B (249.772 nm)     | 1.3996 (ppm)     | 0.49     | 1.3996 (ppm)    | 38784.2596    |
| 10/31/2017 21:02:00 | R1710033-003 | Ba (230.424 nm)    | 0.7365 (ppm)     | 1.32     | 0.7365 (ppm)    | 24762.6227    |
| 10/31/2017 21:02:00 | R1710033-003 | Be (313.107 nm)    | 0.0001 (ppm)     | 5.01     | 0.0001 (ppm)    | -419.1020     |
| 10/31/2017 21:02:00 | R1710033-003 | Ca (227.547 nm)    | 144.3443 o (ppm) | 0.52     | 144.3443 (ppm)  | 8130.3360     |
| 10/31/2017 21:02:00 | R1710033-003 | Cd (214.439 nm)    | 0.0001 (ppm)     | 74.28    | 0.0001 (ppm)    | 14.9951       |
| 10/31/2017 21:02:00 | R1710033-003 | Co (230.786 nm)    | 0.0015 (ppm)     | 10.91    | 0.0015 (ppm)    | 11.4283       |
| 10/31/2017 21:02:00 | R1710033-003 | Cr (267.716 nm)    | 0.0048 (ppm)     | 1.25     | 0.0048 (ppm)    | 237.4561      |
| 10/31/2017 21:02:00 | R1710033-003 | Cu (327.395 nm)    | 0.0019 (ppm)     | 7.21     | 0.0019 (ppm)    | 132.3179      |
| 10/31/2017 21:02:00 | R1710033-003 | Fe (234.350 nm)    | 5.6604 (ppm)     | 0.53     | 5.6604 (ppm)    | 63233.8366    |
| 10/31/2017 21:02:00 | R1710033-003 | K (766.491 nm)     | 170.8181 o (ppm) | 0.55     | 170.8181 (ppm)  | 515398.0951   |
| 10/31/2017 21:02:00 | R1710033-003 | Mg (279.078 nm)    | 51.0589 (ppm)    | 0.49     | 51.0589 (ppm)   | 98526.9632    |
| 10/31/2017 21:02:00 | R1710033-003 | Mn (257.610 nm)    | 0.2479 (ppm)     | 6.53     | 0.2479 (ppm)    | 77696.2881    |
| 10/31/2017 21:02:00 | R1710033-003 | Mo (202.032 nm)    | 0.0003 u (ppm)   | > 100.00 | 0.0003 (ppm)    | 10.5189       |
| 10/31/2017 21:02:00 | R1710033-003 | Na (588.995 nm)    | 461.2627 o (ppm) | 0.59     | 461.2627 (ppm)  | 20970337.0096 |
| 10/31/2017 21:02:00 | R1710033-003 | Ni (230.299 nm)    | -0.0086 u (ppm)  | 19.01    | -0.0086 (ppm)   | -78.5511      |
| 10/31/2017 21:02:00 | R1710033-003 | Pb (220.353 nm)    | -0.0013 u (ppm)  | > 100.00 | -0.0013 (ppm)   | 2.2175        |
| 10/31/2017 21:02:00 | R1710033-003 | Sb (217.582 nm)    | -0.0010 u (ppm)  | > 100.00 | -0.0010 (ppm)   | -0.5219       |
| 10/31/2017 21:02:00 | R1710033-003 | Se (196.026 nm)    | 0.0004 u (ppm)   | > 100.00 | 0.0004 (ppm)    | 1.0785        |
| 10/31/2017 21:02:00 | R1710033-003 | Sn (189.925 nm)    | -0.0020 u (ppm)  | 57.57    | -0.0020 (ppm)   | -2.4514       |
| 10/31/2017 21:02:00 | R1710033-003 | Sr (216.596 nm)    | 1.5975 (ppm)     | 1.07     | 1.5975 (ppm)    | 22680.9960    |
| 10/31/2017 21:02:00 | R1710033-003 | Ti (336.122 nm)    | 0.0617 (ppm)     | 2.26     | 0.0617 (ppm)    | 12434.7230    |
| 10/31/2017 21:02:00 | R1710033-003 | Tl (351.923 nm)    | 0.0033 (ppm)     | 96.56    | 0.0033 (ppm)    | 16.3119       |
| 10/31/2017 21:02:00 | R1710033-003 | V (292.401 nm)     | 0.0089 (ppm)     | 2.04     | 0.0089 (ppm)    | 422.8895      |
| 10/31/2017 21:02:00 | R1710033-003 | Y (360.074 nm)     | 0.87 (Ratio)     | 0.71     | 0.87 (Ratio)    | 746106.38     |
| 10/31/2017 21:02:00 | R1710033-003 | Y_R (360.074 nm)   | 0.87 (Ratio)     | 0.71     | 0.87 (Ratio)    | 746555.71     |
| 10/31/2017 21:02:00 | R1710033-003 | Zn (213.857 nm)    | 0.0165 (ppm)     | 1.00     | 0.0165 (ppm)    | 433.5249      |
| 10/31/2017 21:05:19 | R1710033-004 | Ag (328.068 nm)    | 0.0002 (ppm)     | 59.46    | 0.0002 (ppm)    | -91.1382      |
| 10/31/2017 21:05:19 | R1710033-004 | Al (394.401 nm)    | 0.0525 (ppm)     | 1.43     | 0.0525 (ppm)    | 797.9220      |
| 10/31/2017 21:05:19 | R1710033-004 | As (188.980 nm)    | 0.0008 u (ppm)   | > 100.00 | 0.0008 (ppm)    | -0.7701       |
| 10/31/2017 21:05:19 | R1710033-004 | B (249.772 nm)     | 0.0962 (ppm)     | 0.76     | 0.0962 (ppm)    | 2697.5357     |
| 10/31/2017 21:05:19 | R1710033-004 | Ba (230.424 nm)    | 0.0221 (ppm)     | 1.33     | 0.0221 (ppm)    | 746.2357      |
| 10/31/2017 21:05:19 | R1710033-004 | Be (313.107 nm)    | 0.0000 (ppm)     | 24.58    | 0.0000 (ppm)    | -542.2210     |
| 10/31/2017 21:05:19 | R1710033-004 | Ca (227.547 nm)    | 132.7602 o (ppm) | 0.68     | 132.7602 (ppm)  | 7478.2026     |
| 10/31/2017 21:05:19 | R1710033-004 | Cd (214.439 nm)    | 0.0000 u (ppm)   | > 100.00 | 0.0000 (ppm)    | 13.4022       |
| 10/31/2017 21:05:19 | R1710033-004 | Co (230.786 nm)    | 0.0010 (ppm)     | 23.44    | 0.0010 (ppm)    | 6.1329        |
| 10/31/2017 21:05:19 | R1710033-004 | Cr (267.716 nm)    | 0.4576 (ppm)     | 0.55     | 0.4576 (ppm)    | 22658.2746    |
| 10/31/2017 21:05:19 | R1710033-004 | Cu (327.395 nm)    | 0.0057 (ppm)     | 1.76     | 0.0057 (ppm)    | 367.5135      |
| 10/31/2017 21:05:19 | R1710033-004 | Fe (234.350 nm)    | 1.5071 (ppm)     | 0.60     | 1.5071 (ppm)    | 16845.0415    |
| 10/31/2017 21:05:19 | R1710033-004 | K (766.491 nm)     | 0.9987 (ppm)     | 5.64     | 0.9987 (ppm)    | 3004.6686     |
| 10/31/2017 21:05:19 | R1710033-004 | Mg (279.078 nm)    | 59.2148 o (ppm)  | 0.52     | 59.2148 (ppm)   | 114265.2544   |
| 10/31/2017 21:05:19 | R1710033-004 | Mn (257.610 nm)    | 0.0701 (ppm)     | 8.42     | 0.0701 (ppm)    | 21962.6636    |
| 10/31/2017 21:05:19 | R1710033-004 | Mo (202.032 nm)    | 0.0037 (ppm)     | 3.90     | 0.0037 (ppm)    | 45.1407       |
| 10/31/2017 21:05:19 | R1710033-004 | Na (588.995 nm)    | 179.1359 o (ppm) | 0.57     | 179.1359 (ppm)  | 8140698.3270  |
| 10/31/2017 21:05:19 | R1710033-004 | Ni (230.299 nm)    | 0.2558 (ppm)     | 1.09     | 0.2558 (ppm)    | 1702.6189     |

| Date Time           | Label         | Element Label (nm) | Conc             | %RSD     | Unadjusted Conc | Intensity    |
|---------------------|---------------|--------------------|------------------|----------|-----------------|--------------|
| 10/31/2017 21:05:19 | R1710033-004  | Pb (220.353 nm)    | -0.0021 u (ppm)  | 78.81    | -0.0021 (ppm)   | 0.5025       |
| 10/31/2017 21:05:19 | R1710033-004  | Sb (217.582 nm)    | -0.0011 u (ppm)  | > 100.00 | -0.0011 (ppm)   | -0.7143      |
| 10/31/2017 21:05:19 | R1710033-004  | Se (196.026 nm)    | -0.0025 u (ppm)  | > 100.00 | -0.0025 (ppm)   | -1.3983      |
| 10/31/2017 21:05:19 | R1710033-004  | Sn (189.925 nm)    | -0.0024 u (ppm)  | 75.87    | -0.0024 (ppm)   | -2.9970      |
| 10/31/2017 21:05:19 | R1710033-004  | Sr (216.596 nm)    | 0.3025 (ppm)     | 0.57     | 0.3025 (ppm)    | 4293.9069    |
| 10/31/2017 21:05:19 | R1710033-004  | Ti (336.122 nm)    | 0.0018 (ppm)     | 4.13     | 0.0018 (ppm)    | -105.7494    |
| 10/31/2017 21:05:19 | R1710033-004  | Ti (351.923 nm)    | 0.0043 (ppm)     | 64.04    | 0.0043 (ppm)    | 19.2081      |
| 10/31/2017 21:05:19 | R1710033-004  | V (292.401 nm)     | 0.0029 (ppm)     | 7.03     | 0.0029 (ppm)    | 210.6977     |
| 10/31/2017 21:05:19 | R1710033-004  | Y (360.074 nm)     | 0.92 (Ratio)     | 0.71     | 0.92 (Ratio)    | 788032.27    |
| 10/31/2017 21:05:19 | R1710033-004  | Y_R (360.074 nm)   | 0.92 (Ratio)     | 0.71     | 0.92 (Ratio)    | 788522.15    |
| 10/31/2017 21:05:19 | R1710033-004  | Zn (213.857 nm)    | 0.0057 (ppm)     | 0.46     | 0.0057 (ppm)    | 132.4961     |
| 10/31/2017 21:08:38 | R1710033-005  | Ag (328.068 nm)    | 0.0001 (ppm)     | 91.89    | 0.0001 (ppm)    | -93.6923     |
| 10/31/2017 21:08:38 | R1710033-005  | Al (394.401 nm)    | 0.0365 (ppm)     | 3.97     | 0.0365 (ppm)    | 592.6182     |
| 10/31/2017 21:08:38 | R1710033-005  | As (188.980 nm)    | 0.0036 u (ppm)   | > 100.00 | 0.0036 (ppm)    | 1.7625       |
| 10/31/2017 21:08:38 | R1710033-005  | B (249.772 nm)     | 0.2224 (ppm)     | 0.33     | 0.2224 (ppm)    | 6190.2583    |
| 10/31/2017 21:08:38 | R1710033-005  | Ba (230.424 nm)    | 0.1720 (ppm)     | 0.78     | 0.1720 (ppm)    | 5783.8232    |
| 10/31/2017 21:08:38 | R1710033-005  | Be (313.107 nm)    | 0.0000 (ppm)     | 15.21    | 0.0000 (ppm)    | -543.4340    |
| 10/31/2017 21:08:38 | R1710033-005  | Ca (227.547 nm)    | 163.0403 o (ppm) | 0.79     | 163.0403 (ppm)  | 9182.8334    |
| 10/31/2017 21:08:38 | R1710033-005  | Cd (214.439 nm)    | 0.0007 (ppm)     | 10.96    | 0.0007 (ppm)    | 29.1569      |
| 10/31/2017 21:08:38 | R1710033-005  | Co (230.786 nm)    | 0.0017 (ppm)     | 11.79    | 0.0017 (ppm)    | 12.8008      |
| 10/31/2017 21:08:38 | R1710033-005  | Cr (267.716 nm)    | 0.0010 (ppm)     | 38.60    | 0.0010 (ppm)    | 50.6384      |
| 10/31/2017 21:08:38 | R1710033-005  | Cu (327.395 nm)    | 0.0009 (ppm)     | 6.81     | 0.0009 (ppm)    | 69.3484      |
| 10/31/2017 21:08:38 | R1710033-005  | Fe (234.350 nm)    | 21.7284 o (ppm)  | 0.47     | 21.7284 (ppm)   | 242701.4803  |
| 10/31/2017 21:08:38 | R1710033-005  | K (766.491 nm)     | 11.8091 (ppm)    | 0.84     | 11.8091 (ppm)   | 35622.4600   |
| 10/31/2017 21:08:38 | R1710033-005  | Mg (279.078 nm)    | 81.8652 o (ppm)  | 0.46     | 81.8652 (ppm)   | 157973.3300  |
| 10/31/2017 21:08:38 | R1710033-005  | Mn (257.610 nm)    | 0.5652 (ppm)     | 0.71     | 0.5652 (ppm)    | 177166.9547  |
| 10/31/2017 21:08:38 | R1710033-005  | Mo (202.032 nm)    | 0.0050 (ppm)     | 4.59     | 0.0050 (ppm)    | 58.4254      |
| 10/31/2017 21:08:38 | R1710033-005  | Na (588.995 nm)    | 78.2701 o (ppm)  | 1.03     | 78.2701 (ppm)   | 3553849.5814 |
| 10/31/2017 21:08:38 | R1710033-005  | Ni (230.299 nm)    | 0.0164 (ppm)     | 6.73     | 0.0164 (ppm)    | 89.7365      |
| 10/31/2017 21:08:38 | R1710033-005  | Pb (220.353 nm)    | -0.0012 u (ppm)  | 35.43    | -0.0012 (ppm)   | 2.5410       |
| 10/31/2017 21:08:38 | R1710033-005  | Sb (217.582 nm)    | -0.0050 u (ppm)  | 67.76    | -0.0050 (ppm)   | -6.0356      |
| 10/31/2017 21:08:38 | R1710033-005  | Se (196.026 nm)    | -0.0007 u (ppm)  | > 100.00 | -0.0007 (ppm)   | 0.1960       |
| 10/31/2017 21:08:38 | R1710033-005  | Sn (189.925 nm)    | -0.0029 u (ppm)  | > 100.00 | -0.0029 (ppm)   | -3.5830      |
| 10/31/2017 21:08:38 | R1710033-005  | Sr (216.596 nm)    | 1.2978 (ppm)     | 0.76     | 1.2978 (ppm)    | 18426.4469   |
| 10/31/2017 21:08:38 | R1710033-005  | Ti (336.122 nm)    | 0.0016 (ppm)     | 3.30     | 0.0016 (ppm)    | -156.5290    |
| 10/31/2017 21:08:38 | R1710033-005  | Ti (351.923 nm)    | 0.0037 (ppm)     | 85.64    | 0.0037 (ppm)    | 17.4373      |
| 10/31/2017 21:08:38 | R1710033-005  | V (292.401 nm)     | 0.0012 (ppm)     | 7.28     | 0.0012 (ppm)    | 152.9285     |
| 10/31/2017 21:08:38 | R1710033-005  | Y (360.074 nm)     | 0.93 (Ratio)     | 0.96     | 0.93 (Ratio)    | 789614.14    |
| 10/31/2017 21:08:38 | R1710033-005  | Y_R (360.074 nm)   | 0.92 (Ratio)     | 0.96     | 0.92 (Ratio)    | 790079.64    |
| 10/31/2017 21:08:38 | R1710033-005  | Zn (213.857 nm)    | 0.3674 (ppm)     | 1.10     | 0.3674 (ppm)    | 10250.4737   |
| 10/31/2017 21:11:58 | R1710033-005S | Ag (328.068 nm)    | 0.0509 (ppm)     | 0.56     | 0.0509 (ppm)    | 3529.7192    |
| 10/31/2017 21:11:58 | R1710033-005S | Al (394.401 nm)    | 2.0496 (ppm)     | 0.57     | 2.0496 (ppm)    | 26356.4487   |
| 10/31/2017 21:11:58 | R1710033-005S | As (188.980 nm)    | 0.0450 (ppm)     | 11.44    | 0.0450 (ppm)    | 38.8006      |
| 10/31/2017 21:11:58 | R1710033-005S | B (249.772 nm)     | 1.2222 (ppm)     | 0.31     | 1.2222 (ppm)    | 33872.3669   |
| 10/31/2017 21:11:58 | R1710033-005S | Ba (230.424 nm)    | 2.1851 (ppm)     | 0.26     | 2.1851 (ppm)    | 73462.6923   |
| 10/31/2017 21:11:58 | R1710033-005S | Be (313.107 nm)    | 0.0497 (ppm)     | 0.38     | 0.0497 (ppm)    | 72964.0597   |
| 10/31/2017 21:11:58 | R1710033-005S | Ca (227.547 nm)    | 164.1595 o (ppm) | 0.57     | 164.1595 (ppm)  | 9245.8414    |
| 10/31/2017 21:11:58 | R1710033-005S | Cd (214.439 nm)    | 0.0500 (ppm)     | 0.63     | 0.0500 (ppm)    | 1095.9438    |
| 10/31/2017 21:11:58 | R1710033-005S | Co (230.786 nm)    | 0.4918 (ppm)     | 0.32     | 0.4918 (ppm)    | 4851.6093    |
| 10/31/2017 21:11:58 | R1710033-005S | Cr (267.716 nm)    | 0.1963 (ppm)     | 0.32     | 0.1963 (ppm)    | 9717.1010    |
| 10/31/2017 21:11:58 | R1710033-005S | Cu (327.395 nm)    | 0.2452 (ppm)     | 0.56     | 0.2452 (ppm)    | 15238.5499   |

| Date Time           | Label                                 | Element Label (nm) | Conc             | %RSD  | Unadjusted Conc | Intensity    |
|---------------------|---------------------------------------|--------------------|------------------|-------|-----------------|--------------|
| 10/31/2017 21:11:58 | R1710033-005S                         | Fe (234.350 nm)    | 22.4529 o (ppm)  | 0.39  | 22.4529 (ppm)   | 250793.5268  |
| 10/31/2017 21:11:58 | R1710033-005S                         | K (766.491 nm)     | 32.6271 (ppm)    | 0.73  | 32.6271 (ppm)   | 98436.3562   |
| 10/31/2017 21:11:58 | R1710033-005S                         | Mg (279.078 nm)    | 83.1284 o (ppm)  | 0.34  | 83.1284 (ppm)   | 160410.9624  |
| 10/31/2017 21:11:58 | R1710033-005S                         | Mn (257.610 nm)    | 1.0405 (ppm)     | 0.14  | 1.0405 (ppm)    | 326145.9286  |
| 10/31/2017 21:11:58 | R1710033-005S                         | Mo (202.032 nm)    | 0.4840 (ppm)     | 0.42  | 0.4840 (ppm)    | 4940.5247    |
| 10/31/2017 21:11:58 | R1710033-005S                         | Na (588.995 nm)    | 95.1745 o (ppm)  | 1.05  | 95.1745 (ppm)   | 4322573.1264 |
| 10/31/2017 21:11:58 | R1710033-005S                         | Ni (230.299 nm)    | 0.5031 (ppm)     | 0.28  | 0.5031 (ppm)    | 3368.4314    |
| 10/31/2017 21:11:58 | R1710033-005S                         | Pb (220.353 nm)    | 0.4941 (ppm)     | 0.46  | 0.4941 (ppm)    | 1060.6348    |
| 10/31/2017 21:11:58 | R1710033-005S                         | Sb (217.582 nm)    | 0.5190 (ppm)     | 0.50  | 0.5190 (ppm)    | 710.5300     |
| 10/31/2017 21:11:58 | R1710033-005S                         | Se (196.026 nm)    | 1.1168 o (ppm)   | 0.84  | 1.1168 (ppm)    | 957.2444     |
| 10/31/2017 21:11:58 | R1710033-005S                         | Sn (189.925 nm)    | 5.0912 (ppm)     | 0.60  | 5.0912 (ppm)    | 6165.1307    |
| 10/31/2017 21:11:58 | R1710033-005S                         | Sr (216.596 nm)    | 3.2550 (ppm)     | 0.25  | 3.2550 (ppm)    | 46216.5070   |
| 10/31/2017 21:11:58 | R1710033-005S                         | Ti (336.122 nm)    | 0.4917 (ppm)     | 0.46  | 0.4917 (ppm)    | 102399.9665  |
| 10/31/2017 21:11:58 | R1710033-005S                         | Tl (351.923 nm)    | 2.0055 (ppm)     | 0.47  | 2.0055 (ppm)    | 5515.9502    |
| 10/31/2017 21:11:58 | R1710033-005S                         | V (292.401 nm)     | 0.5004 (ppm)     | 0.45  | 0.5004 (ppm)    | 17795.2703   |
| 10/31/2017 21:11:58 | R1710033-005S                         | Y (360.074 nm)     | 0.92 (Ratio)     | 0.80  | 0.92 (Ratio)    | 785601.61    |
| 10/31/2017 21:11:58 | R1710033-005S                         | Y_R (360.074 nm)   | 0.92 (Ratio)     | 0.80  | 0.92 (Ratio)    | 786025.34    |
| 10/31/2017 21:11:58 | R1710033-005S                         | Zn (213.857 nm)    | 0.8714 (ppm)     | 0.19  | 0.8714 (ppm)    | 24352.2531   |
| 10/31/2017 21:15:17 | R1710033-005SD                        | Ag (328.068 nm)    | 0.0513 (ppm)     | 0.21  | 0.0513 (ppm)    | 3562.5862    |
| 10/31/2017 21:15:17 | R1710033-005SD                        | Al (394.401 nm)    | 2.0690 (ppm)     | 0.50  | 2.0690 (ppm)    | 26604.1495   |
| 10/31/2017 21:15:17 | R1710033-005SD                        | As (188.980 nm)    | 0.0430 (ppm)     | 14.43 | 0.0430 (ppm)    | 37.0224      |
| 10/31/2017 21:15:17 | R1710033-005SD                        | B (249.772 nm)     | 1.2317 (ppm)     | 0.33  | 1.2317 (ppm)    | 34135.8195   |
| 10/31/2017 21:15:17 | R1710033-005SD                        | Ba (230.424 nm)    | 2.2012 (ppm)     | 0.47  | 2.2012 (ppm)    | 74002.8792   |
| 10/31/2017 21:15:17 | R1710033-005SD                        | Be (313.107 nm)    | 0.0501 (ppm)     | 0.42  | 0.0501 (ppm)    | 73458.3831   |
| 10/31/2017 21:15:17 | R1710033-005SD                        | Ca (227.547 nm)    | 164.5045 o (ppm) | 0.42  | 164.5045 (ppm)  | 9265.2602    |
| 10/31/2017 21:15:17 | R1710033-005SD                        | Cd (214.439 nm)    | 0.0503 (ppm)     | 0.88  | 0.0503 (ppm)    | 1102.3981    |
| 10/31/2017 21:15:17 | R1710033-005SD                        | Co (230.786 nm)    | 0.4941 (ppm)     | 0.61  | 0.4941 (ppm)    | 4874.6749    |
| 10/31/2017 21:15:17 | R1710033-005SD                        | Cr (267.716 nm)    | 0.1978 (ppm)     | 0.39  | 0.1978 (ppm)    | 9794.9995    |
| 10/31/2017 21:15:17 | R1710033-005SD                        | Cu (327.395 nm)    | 0.2472 (ppm)     | 0.74  | 0.2472 (ppm)    | 15362.4731   |
| 10/31/2017 21:15:17 | R1710033-005SD                        | Fe (234.350 nm)    | 22.4837 o (ppm)  | 0.39  | 22.4837 (ppm)   | 251137.9608  |
| 10/31/2017 21:15:17 | R1710033-005SD                        | K (766.491 nm)     | 32.8433 (ppm)    | 0.50  | 32.8433 (ppm)   | 99088.8918   |
| 10/31/2017 21:15:17 | R1710033-005SD                        | Mg (279.078 nm)    | 83.2493 o (ppm)  | 0.39  | 83.2493 (ppm)   | 160644.2549  |
| 10/31/2017 21:15:17 | R1710033-005SD                        | Mn (257.610 nm)    | 1.0444 (ppm)     | 0.32  | 1.0444 (ppm)    | 327349.2417  |
| 10/31/2017 21:15:17 | R1710033-005SD                        | Mo (202.032 nm)    | 0.4875 (ppm)     | 0.35  | 0.4875 (ppm)    | 4976.1129    |
| 10/31/2017 21:15:17 | R1710033-005SD                        | Na (588.995 nm)    | 95.5799 o (ppm)  | 0.50  | 95.5799 (ppm)   | 4341008.2987 |
| 10/31/2017 21:15:17 | R1710033-005SD                        | Ni (230.299 nm)    | 0.5062 (ppm)     | 0.49  | 0.5062 (ppm)    | 3389.1789    |
| 10/31/2017 21:15:17 | R1710033-005SD                        | Pb (220.353 nm)    | 0.4985 (ppm)     | 0.72  | 0.4985 (ppm)    | 1070.0831    |
| 10/31/2017 21:15:17 | R1710033-005SD                        | Sb (217.582 nm)    | 0.5189 (ppm)     | 0.56  | 0.5189 (ppm)    | 710.4691     |
| 10/31/2017 21:15:17 | R1710033-005SD                        | Se (196.026 nm)    | 1.1185 o (ppm)   | 0.61  | 1.1185 (ppm)    | 958.6425     |
| 10/31/2017 21:15:17 | R1710033-005SD                        | Sn (189.925 nm)    | 5.0924 (ppm)     | 0.36  | 5.0924 (ppm)    | 6166.5703    |
| 10/31/2017 21:15:17 | R1710033-005SD                        | Sr (216.596 nm)    | 3.2842 (ppm)     | 0.07  | 3.2842 (ppm)    | 46630.8968   |
| 10/31/2017 21:15:17 | R1710033-005SD                        | Ti (336.122 nm)    | 0.4942 (ppm)     | 0.43  | 0.4942 (ppm)    | 102920.0137  |
| 10/31/2017 21:15:17 | R1710033-005SD                        | Tl (351.923 nm)    | 2.0217 (ppm)     | 0.60  | 2.0217 (ppm)    | 5560.2328    |
| 10/31/2017 21:15:17 | R1710033-005SD                        | V (292.401 nm)     | 0.5051 (ppm)     | 0.27  | 0.5051 (ppm)    | 17960.9408   |
| 10/31/2017 21:15:17 | R1710033-005SD                        | Y (360.074 nm)     | 0.92 (Ratio)     | 0.73  | 0.92 (Ratio)    | 788702.74    |
| 10/31/2017 21:15:17 | R1710033-005SD                        | Y_R (360.074 nm)   | 0.92 (Ratio)     | 0.73  | 0.92 (Ratio)    | 789138.74    |
| 10/31/2017 21:15:17 | R1710033-005SD                        | Zn (213.857 nm)    | 0.8762 (ppm)     | 0.23  | 0.8762 (ppm)    | 24486.1576   |
| 10/31/2017 21:18:35 | Continuing Calibration Verification 1 | Ag (328.068 nm)    | 0.4816 (ppm)     | 0.20  | 0.4816 (ppm)    | 34309.6448   |
| 10/31/2017 21:18:35 | Continuing Calibration Verification 1 | Al (394.401 nm)    | 9.2844 (ppm)     | 0.28  | 9.2844 (ppm)    | 118944.9587  |
| 10/31/2017 21:18:35 | Continuing Calibration Verification 1 | As (188.980 nm)    | 0.9493 (ppm)     | 0.39  | 0.9493 (ppm)    | 847.1609     |
| 10/31/2017 21:18:35 | Continuing Calibration Verification 1 | B (249.772 nm)     | 2.3861 (ppm)     | 0.22  | 2.3861 (ppm)    | 66097.1338   |

| Date Time           | Label                                 | Element Label (nm) | Conc           | %RSD     | Unadjusted Conc | Intensity    |
|---------------------|---------------------------------------|--------------------|----------------|----------|-----------------|--------------|
| 10/31/2017 21:18:35 | Continuing Calibration Verification 1 | Ba (230.424 nm)    | 10.1637 (ppm)  | 0.14     | 10.1637 (ppm)   | 341696.0435  |
| 10/31/2017 21:18:35 | Continuing Calibration Verification 1 | Be (313.107 nm)    | 0.2489 (ppm)   | 0.19     | 0.2489 (ppm)    | 367133.1583  |
| 10/31/2017 21:18:35 | Continuing Calibration Verification 1 | Ca (227.547 nm)    | 23.7747 (ppm)  | 0.84     | 23.7747 (ppm)   | 1342.8184    |
| 10/31/2017 21:18:35 | Continuing Calibration Verification 1 | Cd (214.439 nm)    | 0.4959 (ppm)   | 0.24     | 0.4959 (ppm)    | 10748.6133   |
| 10/31/2017 21:18:35 | Continuing Calibration Verification 1 | Co (230.786 nm)    | 2.5608 (ppm)   | 0.24     | 2.5608 (ppm)    | 25278.5202   |
| 10/31/2017 21:18:35 | Continuing Calibration Verification 1 | Cr (267.716 nm)    | 0.4999 (ppm)   | 0.26     | 0.4999 (ppm)    | 24752.2893   |
| 10/31/2017 21:18:35 | Continuing Calibration Verification 1 | Cu (327.395 nm)    | 1.1719 (ppm)   | 0.29     | 1.1719 (ppm)    | 72772.2386   |
| 10/31/2017 21:18:35 | Continuing Calibration Verification 1 | Fe (234.350 nm)    | 4.8035 (ppm)   | 0.31     | 4.8035 (ppm)    | 53663.2832   |
| 10/31/2017 21:18:35 | Continuing Calibration Verification 1 | K (766.491 nm)     | 24.0748 (ppm)  | 0.45     | 24.0748 (ppm)   | 72631.8023   |
| 10/31/2017 21:18:35 | Continuing Calibration Verification 1 | Mg (279.078 nm)    | 24.8829 (ppm)  | 0.30     | 24.8829 (ppm)   | 48015.4977   |
| 10/31/2017 21:18:35 | Continuing Calibration Verification 1 | Mn (257.610 nm)    | 0.7519 (ppm)   | 0.16     | 0.7519 (ppm)    | 235665.1001  |
| 10/31/2017 21:18:35 | Continuing Calibration Verification 1 | Mo (202.032 nm)    | 2.3705 (ppm)   | 0.16     | 2.3705 (ppm)    | 24171.5103   |
| 10/31/2017 21:18:35 | Continuing Calibration Verification 1 | Na (588.995 nm)    | 24.1191 (ppm)  | 0.56     | 24.1191 (ppm)   | 1091350.7415 |
| 10/31/2017 21:18:35 | Continuing Calibration Verification 1 | Ni (230.299 nm)    | 2.0118 (ppm)   | 0.25     | 2.0118 (ppm)    | 13531.8886   |
| 10/31/2017 21:18:35 | Continuing Calibration Verification 1 | Pb (220.353 nm)    | 0.4960 (ppm)   | 0.51     | 0.4960 (ppm)    | 1064.8879    |
| 10/31/2017 21:18:35 | Continuing Calibration Verification 1 | Sb (217.582 nm)    | 4.8242 (ppm)   | 0.42     | 4.8242 (ppm)    | 6598.2047    |
| 10/31/2017 21:18:35 | Continuing Calibration Verification 1 | Se (196.026 nm)    | 0.4860 (ppm)   | 1.24     | 0.4860 (ppm)    | 416.9555     |
| 10/31/2017 21:18:35 | Continuing Calibration Verification 1 | Sn (189.925 nm)    | 5.0614 (ppm)   | 0.12     | 5.0614 (ppm)    | 6129.0435    |
| 10/31/2017 21:18:35 | Continuing Calibration Verification 1 | Sr (216.596 nm)    | 2.5169 (ppm)   | 0.22     | 2.5169 (ppm)    | 35736.3275   |
| 10/31/2017 21:18:35 | Continuing Calibration Verification 1 | Ti (336.122 nm)    | 2.4563 (ppm)   | 0.23     | 2.4563 (ppm)    | 513456.6329  |
| 10/31/2017 21:18:35 | Continuing Calibration Verification 1 | Tl (351.923 nm)    | 0.9693 (ppm)   | 0.21     | 0.9693 (ppm)    | 2669.6616    |
| 10/31/2017 21:18:35 | Continuing Calibration Verification 1 | V (292.401 nm)     | 2.4777 (ppm)   | 0.14     | 2.4777 (ppm)    | 87688.4218   |
| 10/31/2017 21:18:35 | Continuing Calibration Verification 1 | Y (360.074 nm)     | 0.96 (Ratio)   | 0.61     | 0.96 (Ratio)    | 822388.80    |
| 10/31/2017 21:18:35 | Continuing Calibration Verification 1 | Y_R (360.074 nm)   | 0.96 (Ratio)   | 0.61     | 0.96 (Ratio)    | 822886.66    |
| 10/31/2017 21:18:35 | Continuing Calibration Verification 1 | Zn (213.857 nm)    | 0.9952 (ppm)   | 0.19     | 0.9952 (ppm)    | 27815.8240   |
| 10/31/2017 21:21:55 | Continuing Calibration Blank 1        | Ag (328.068 nm)    | 0.0003 (ppm)   | 23.85    | 0.0003 (ppm)    | -82.7718     |
| 10/31/2017 21:21:55 | Continuing Calibration Blank 1        | Al (394.401 nm)    | 0.0065 (ppm)   | 24.41    | 0.0065 (ppm)    | 208.7060     |
| 10/31/2017 21:21:55 | Continuing Calibration Blank 1        | As (188.980 nm)    | 0.0021 u (ppm) | > 100.00 | 0.0021 (ppm)    | 0.4585       |
| 10/31/2017 21:21:55 | Continuing Calibration Blank 1        | B (249.772 nm)     | 0.0060 (ppm)   | 16.54    | 0.0060 (ppm)    | 200.2693     |
| 10/31/2017 21:21:55 | Continuing Calibration Blank 1        | Ba (230.424 nm)    | 0.0098 (ppm)   | 21.05    | 0.0098 (ppm)    | 332.6055     |
| 10/31/2017 21:21:55 | Continuing Calibration Blank 1        | Be (313.107 nm)    | 0.0002 (ppm)   | 15.19    | 0.0002 (ppm)    | -185.9442    |
| 10/31/2017 21:21:55 | Continuing Calibration Blank 1        | Ca (227.547 nm)    | 0.0101 u (ppm) | > 100.00 | 0.0101 (ppm)    | 4.9842       |
| 10/31/2017 21:21:55 | Continuing Calibration Blank 1        | Cd (214.439 nm)    | 0.0005 (ppm)   | 30.25    | 0.0005 (ppm)    | 23.5540      |
| 10/31/2017 21:21:55 | Continuing Calibration Blank 1        | Co (230.786 nm)    | 0.0023 (ppm)   | 24.08    | 0.0023 (ppm)    | 18.9683      |
| 10/31/2017 21:21:55 | Continuing Calibration Blank 1        | Cr (267.716 nm)    | 0.0004 (ppm)   | 35.96    | 0.0004 (ppm)    | 19.0874      |
| 10/31/2017 21:21:55 | Continuing Calibration Blank 1        | Cu (327.395 nm)    | 0.0011 (ppm)   | 27.19    | 0.0011 (ppm)    | 78.6692      |
| 10/31/2017 21:21:55 | Continuing Calibration Blank 1        | Fe (234.350 nm)    | 0.0055 (ppm)   | 16.47    | 0.0055 (ppm)    | 73.7318      |
| 10/31/2017 21:21:55 | Continuing Calibration Blank 1        | K (766.491 nm)     | 0.0635 (ppm)   | 16.33    | 0.0635 (ppm)    | 182.6188     |
| 10/31/2017 21:21:55 | Continuing Calibration Blank 1        | Mg (279.078 nm)    | 0.0206 (ppm)   | 21.53    | 0.0206 (ppm)    | 39.0315      |
| 10/31/2017 21:21:55 | Continuing Calibration Blank 1        | Mn (257.610 nm)    | 0.0076 (ppm)   | 25.31    | 0.0076 (ppm)    | 2393.2695    |
| 10/31/2017 21:21:55 | Continuing Calibration Blank 1        | Mo (202.032 nm)    | 0.0049 (ppm)   | 5.83     | 0.0049 (ppm)    | 56.8722      |
| 10/31/2017 21:21:55 | Continuing Calibration Blank 1        | Na (588.995 nm)    | 0.0163 (ppm)   | 26.08    | 0.0163 (ppm)    | -4720.1836   |
| 10/31/2017 21:21:55 | Continuing Calibration Blank 1        | Ni (230.299 nm)    | 0.0016 (ppm)   | 54.08    | 0.0016 (ppm)    | -9.8957      |
| 10/31/2017 21:21:55 | Continuing Calibration Blank 1        | Pb (220.353 nm)    | 0.0008 (ppm)   | 49.12    | 0.0008 (ppm)    | 6.7789       |
| 10/31/2017 21:21:55 | Continuing Calibration Blank 1        | Sb (217.582 nm)    | 0.0053 (ppm)   | 14.78    | 0.0053 (ppm)    | 8.0623       |
| 10/31/2017 21:21:55 | Continuing Calibration Blank 1        | Se (196.026 nm)    | 0.0024 u (ppm) | > 100.00 | 0.0024 (ppm)    | 2.8605       |
| 10/31/2017 21:21:55 | Continuing Calibration Blank 1        | Sn (189.925 nm)    | 0.0047 (ppm)   | 19.52    | 0.0047 (ppm)    | 5.6500       |
| 10/31/2017 21:21:55 | Continuing Calibration Blank 1        | Sr (216.596 nm)    | 0.0021 (ppm)   | 19.13    | 0.0021 (ppm)    | 29.7185      |
| 10/31/2017 21:21:55 | Continuing Calibration Blank 1        | Ti (336.122 nm)    | 0.0031 (ppm)   | 13.67    | 0.0031 (ppm)    | 158.3222     |
| 10/31/2017 21:21:55 | Continuing Calibration Blank 1        | Tl (351.923 nm)    | 0.0036 (ppm)   | 9.40     | 0.0036 (ppm)    | 17.0996      |
| 10/31/2017 21:21:55 | Continuing Calibration Blank 1        | V (292.401 nm)     | 0.0022 (ppm)   | 19.75    | 0.0022 (ppm)    | 188.2088     |



| Date Time           | Label                         | Element Label (nm) | Conc             | %RSD  | Unadjusted Conc | Intensity    |
|---------------------|-------------------------------|--------------------|------------------|-------|-----------------|--------------|
| 10/31/2017 21:21:55 | Continuing Calibration Blank1 | Y (360.074 nm)     | 1.01 (Ratio)     | 0.72  | 1.01 (Ratio)    | 858939.65    |
| 10/31/2017 21:21:55 | Continuing Calibration Blank1 | Y_R (360.074 nm)   | 1.01 (Ratio)     | 0.72  | 1.01 (Ratio)    | 859502.57    |
| 10/31/2017 21:21:55 | Continuing Calibration Blank1 | Zn (213.857 nm)    | 0.0009 (ppm)     | 21.01 | 0.0009 (ppm)    | -1.8433      |
| 10/31/2017 21:25:14 | R1710033-005A                 | Ag (328.068 nm)    | 0.0493 (ppm)     | 0.61  | 0.0493 (ppm)    | 3417.5680    |
| 10/31/2017 21:25:14 | R1710033-005A                 | Al (394.401 nm)    | 2.0039 (ppm)     | 0.65  | 2.0039 (ppm)    | 25771.7646   |
| 10/31/2017 21:25:14 | R1710033-005A                 | As (188.980 nm)    | 0.0443 (ppm)     | 0.47  | 0.0443 (ppm)    | 38.1198      |
| 10/31/2017 21:25:14 | R1710033-005A                 | B (249.772 nm)     | 1.3240 (ppm)     | 0.47  | 1.3240 (ppm)    | 36691.2337   |
| 10/31/2017 21:25:14 | R1710033-005A                 | Ba (230.424 nm)    | 2.1214 (ppm)     | 0.68  | 2.1214 (ppm)    | 71319.7697   |
| 10/31/2017 21:25:14 | R1710033-005A                 | Be (313.107 nm)    | 0.0481 (ppm)     | 0.49  | 0.0481 (ppm)    | 70550.0411   |
| 10/31/2017 21:25:14 | R1710033-005A                 | Ca (227.547 nm)    | 161.3684 o (ppm) | 0.48  | 161.3684 (ppm)  | 9088.7156    |
| 10/31/2017 21:25:14 | R1710033-005A                 | Cd (214.439 nm)    | 0.0483 (ppm)     | 0.77  | 0.0483 (ppm)    | 1060.3052    |
| 10/31/2017 21:25:14 | R1710033-005A                 | Co (230.786 nm)    | 0.4747 (ppm)     | 0.39  | 0.4747 (ppm)    | 4683.0060    |
| 10/31/2017 21:25:14 | R1710033-005A                 | Cr (267.716 nm)    | 0.1900 (ppm)     | 0.47  | 0.1900 (ppm)    | 9404.5842    |
| 10/31/2017 21:25:14 | R1710033-005A                 | Cu (327.395 nm)    | 0.2364 (ppm)     | 0.48  | 0.2364 (ppm)    | 14688.2988   |
| 10/31/2017 21:25:14 | R1710033-005A                 | Fe (234.350 nm)    | 22.0648 o (ppm)  | 0.51  | 22.0648 (ppm)   | 246458.7838  |
| 10/31/2017 21:25:14 | R1710033-005A                 | K (766.491 nm)     | 31.6897 (ppm)    | 0.60  | 31.6897 (ppm)   | 95608.1016   |
| 10/31/2017 21:25:14 | R1710033-005A                 | Mg (279.078 nm)    | 81.8973 o (ppm)  | 0.52  | 81.8973 (ppm)   | 158035.3119  |
| 10/31/2017 21:25:14 | R1710033-005A                 | Mn (257.610 nm)    | 1.0328 (ppm)     | 0.63  | 1.0328 (ppm)    | 323708.6596  |
| 10/31/2017 21:25:14 | R1710033-005A                 | Mo (202.032 nm)    | 0.4720 (ppm)     | 0.34  | 0.4720 (ppm)    | 4818.6090    |
| 10/31/2017 21:25:14 | R1710033-005A                 | Na (588.995 nm)    | 93.7332 o (ppm)  | 0.70  | 93.7332 (ppm)   | 4257029.5138 |
| 10/31/2017 21:25:14 | R1710033-005A                 | Ni (230.299 nm)    | 0.4864 (ppm)     | 0.43  | 0.4864 (ppm)    | 3255.9998    |
| 10/31/2017 21:25:14 | R1710033-005A                 | Pb (220.353 nm)    | 0.4768 (ppm)     | 0.83  | 0.4768 (ppm)    | 1023.8213    |
| 10/31/2017 21:25:14 | R1710033-005A                 | Sb (217.582 nm)    | 0.5007 (ppm)     | 0.91  | 0.5007 (ppm)    | 685.5362     |
| 10/31/2017 21:25:14 | R1710033-005A                 | Se (196.026 nm)    | 1.1591 o (ppm)   | 0.85  | 1.1591 (ppm)    | 993.4094     |
| 10/31/2017 21:25:14 | R1710033-005A                 | Sn (189.925 nm)    | 4.9455 (ppm)     | 0.67  | 4.9455 (ppm)    | 5988.6832    |
| 10/31/2017 21:25:14 | R1710033-005A                 | Sr (216.596 nm)    | 3.2467 (ppm)     | 0.30  | 3.2467 (ppm)    | 46098.0680   |
| 10/31/2017 21:25:14 | R1710033-005A                 | Ti (336.122 nm)    | 0.4769 (ppm)     | 0.72  | 0.4769 (ppm)    | 99302.5997   |
| 10/31/2017 21:25:14 | R1710033-005A                 | Tl (351.923 nm)    | 1.9354 (ppm)     | 0.48  | 1.9354 (ppm)    | 5323.2048    |
| 10/31/2017 21:25:14 | R1710033-005A                 | V (292.401 nm)     | 0.4842 (ppm)     | 0.50  | 0.4842 (ppm)    | 17223.0379   |
| 10/31/2017 21:25:14 | R1710033-005A                 | Y (360.074 nm)     | 0.93 (Ratio)     | 0.75  | 0.93 (Ratio)    | 790754.14    |
| 10/31/2017 21:25:14 | R1710033-005A                 | Y_R (360.074 nm)   | 0.93 (Ratio)     | 0.75  | 0.93 (Ratio)    | 791171.06    |
| 10/31/2017 21:25:14 | R1710033-005A                 | Zn (213.857 nm)    | 0.8534 (ppm)     | 0.76  | 0.8534 (ppm)    | 23849.0800   |
| 10/31/2017 21:28:33 | R1710033-005L                 | Ag (328.068 nm)    | 0.0001 (ppm)     | 80.83 | 0.0001 (ppm)    | -98.2896     |
| 10/31/2017 21:28:33 | R1710033-005L                 | Al (394.401 nm)    | 0.0164 (ppm)     | 5.38  | 0.0164 (ppm)    | 336.0282     |
| 10/31/2017 21:28:33 | R1710033-005L                 | As (188.980 nm)    | 0.0023 (ppm)     | 51.73 | 0.0023 (ppm)    | 0.6285       |
| 10/31/2017 21:28:33 | R1710033-005L                 | B (249.772 nm)     | 0.0442 (ppm)     | 1.95  | 0.0442 (ppm)    | 1257.5580    |
| 10/31/2017 21:28:33 | R1710033-005L                 | Ba (230.424 nm)    | 0.0364 (ppm)     | 1.06  | 0.0364 (ppm)    | 1226.1612    |
| 10/31/2017 21:28:33 | R1710033-005L                 | Be (313.107 nm)    | 0.0001 (ppm)     | 11.55 | 0.0001 (ppm)    | -445.1130    |
| 10/31/2017 21:28:33 | R1710033-005L                 | Ca (227.547 nm)    | 30.0492 (ppm)    | 0.82  | 30.0492 (ppm)   | 1696.0478    |
| 10/31/2017 21:28:33 | R1710033-005L                 | Cd (214.439 nm)    | 0.0003 (ppm)     | 16.45 | 0.0003 (ppm)    | 21.1491      |
| 10/31/2017 21:28:33 | R1710033-005L                 | Co (230.786 nm)    | 0.0010 (ppm)     | 19.18 | 0.0010 (ppm)    | 6.2658       |
| 10/31/2017 21:28:33 | R1710033-005L                 | Cr (267.716 nm)    | 0.0001 (ppm)     | 54.33 | 0.0001 (ppm)    | 4.7323       |
| 10/31/2017 21:28:33 | R1710033-005L                 | Cu (327.395 nm)    | 0.0004 (ppm)     | 46.53 | 0.0004 (ppm)    | 39.8425      |
| 10/31/2017 21:28:33 | R1710033-005L                 | Fe (234.350 nm)    | 4.4311 (ppm)     | 0.31  | 4.4311 (ppm)    | 49503.7143   |
| 10/31/2017 21:28:33 | R1710033-005L                 | K (766.491 nm)     | 2.1198 (ppm)     | 1.03  | 2.1198 (ppm)    | 6387.2159    |
| 10/31/2017 21:28:33 | R1710033-005L                 | Mg (279.078 nm)    | 15.6934 (ppm)    | 0.32  | 15.6934 (ppm)   | 30282.6187   |
| 10/31/2017 21:28:33 | R1710033-005L                 | Mn (257.610 nm)    | 0.1184 (ppm)     | 1.70  | 0.1184 (ppm)    | 37104.0633   |
| 10/31/2017 21:28:33 | R1710033-005L                 | Mo (202.032 nm)    | 0.0027 (ppm)     | 6.12  | 0.0027 (ppm)    | 34.8469      |
| 10/31/2017 21:28:33 | R1710033-005L                 | Na (588.995 nm)    | 15.1798 (ppm)    | 0.72  | 15.1798 (ppm)   | 684836.2898  |
| 10/31/2017 21:28:33 | R1710033-005L                 | Ni (230.299 nm)    | 0.0037 (ppm)     | 12.85 | 0.0037 (ppm)    | 4.1335       |
| 10/31/2017 21:28:33 | R1710033-005L                 | Pb (220.353 nm)    | -0.0017 u (ppm)  | 26.34 | -0.0017 (ppm)   | 1.5187       |

| Date Time           | Label         | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity   |
|---------------------|---------------|--------------------|-----------------|----------|-----------------|-------------|
| 10/31/2017 21:28:33 | R1710033-005L | Sb (217.582 nm)    | -0.0013 u (ppm) | > 100.00 | -0.0013 (ppm)   | -0.9358     |
| 10/31/2017 21:28:33 | R1710033-005L | Se (196.026 nm)    | 0.0033 (ppm)    | 36.97    | 0.0033 (ppm)    | 3.5781      |
| 10/31/2017 21:28:33 | R1710033-005L | Sn (189.925 nm)    | 0.0005 u (ppm)  | > 100.00 | 0.0005 (ppm)    | 0.5451      |
| 10/31/2017 21:28:33 | R1710033-005L | Sr (216.596 nm)    | 0.2649 (ppm)    | 0.38     | 0.2649 (ppm)    | 3760.9026   |
| 10/31/2017 21:28:33 | R1710033-005L | Ti (336.122 nm)    | 0.0009 (ppm)    | 6.16     | 0.0009 (ppm)    | -289.3889   |
| 10/31/2017 21:28:33 | R1710033-005L | Tl (351.923 nm)    | 0.0017 u (ppm)  | > 100.00 | 0.0017 (ppm)    | 11.8618     |
| 10/31/2017 21:28:33 | R1710033-005L | V (292.401 nm)     | 0.0006 (ppm)    | 63.58    | 0.0006 (ppm)    | 129.0207    |
| 10/31/2017 21:28:33 | R1710033-005L | Y (360.074 nm)     | 0.98 (Ratio)    | 0.77     | 0.98 (Ratio)    | 838684.41   |
| 10/31/2017 21:28:33 | R1710033-005L | Y_R (360.074 nm)   | 0.98 (Ratio)    | 0.77     | 0.98 (Ratio)    | 839214.46   |
| 10/31/2017 21:28:33 | R1710033-005L | Zn (213.857 nm)    | 0.0731 (ppm)    | 0.54     | 0.0731 (ppm)    | 2017.0912   |
| 10/31/2017 21:31:53 | K1710862-001  | Ag (328.068 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | -107.3906   |
| 10/31/2017 21:31:53 | K1710862-001  | Al (394.401 nm)    | 0.0201 (ppm)    | 2.25     | 0.0201 (ppm)    | 382.9386    |
| 10/31/2017 21:31:53 | K1710862-001  | As (188.980 nm)    | -0.0002 u (ppm) | > 100.00 | -0.0002 (ppm)   | -1.6076     |
| 10/31/2017 21:31:53 | K1710862-001  | B (249.772 nm)     | 0.0075 (ppm)    | 1.59     | 0.0075 (ppm)    | 240.6270    |
| 10/31/2017 21:31:53 | K1710862-001  | Ba (230.424 nm)    | 0.0134 (ppm)    | 1.59     | 0.0134 (ppm)    | 453.2508    |
| 10/31/2017 21:31:53 | K1710862-001  | Be (313.107 nm)    | 0.0000 (ppm)    | 49.58    | 0.0000 (ppm)    | -502.9220   |
| 10/31/2017 21:31:53 | K1710862-001  | Cb (227.547 nm)    | 2.0794 (ppm)    | 3.38     | 2.0794 (ppm)    | 121.4721    |
| 10/31/2017 21:31:53 | K1710862-001  | Cd (214.439 nm)    | -0.0001 u (ppm) | 88.23    | -0.0001 (ppm)   | 12.0455     |
| 10/31/2017 21:31:53 | K1710862-001  | Co (230.786 nm)    | 0.0003 (ppm)    | > 100.00 | 0.0003 (ppm)    | -0.8095     |
| 10/31/2017 21:31:53 | K1710862-001  | Cr (267.716 nm)    | 0.0001 (ppm)    | 47.21    | 0.0001 (ppm)    | 2.1896      |
| 10/31/2017 21:31:53 | K1710862-001  | Cu (327.395 nm)    | 0.0029 (ppm)    | 3.40     | 0.0029 (ppm)    | 193.7759    |
| 10/31/2017 21:31:53 | K1710862-001  | Fe (234.350 nm)    | 0.8051 (ppm)    | 0.35     | 0.8051 (ppm)    | 9003.8698   |
| 10/31/2017 21:31:53 | K1710862-001  | K (766.491 nm)     | 0.9661 (ppm)    | 1.15     | 0.9661 (ppm)    | 2906.1560   |
| 10/31/2017 21:31:53 | K1710862-001  | Mg (279.078 nm)    | 1.1059 (ppm)    | 0.51     | 1.1059 (ppm)    | 2133.3574   |
| 10/31/2017 21:31:53 | K1710862-001  | Mn (257.610 nm)    | 0.0335 (ppm)    | 20.76    | 0.0335 (ppm)    | 10509.5905  |
| 10/31/2017 21:31:53 | K1710862-001  | Mo (202.032 nm)    | 0.0005 (ppm)    | 13.08    | 0.0005 (ppm)    | 12.3114     |
| 10/31/2017 21:31:53 | K1710862-001  | Na (588.995 nm)    | 3.2400 (ppm)    | 0.51     | 3.2400 (ppm)    | 141877.4871 |
| 10/31/2017 21:31:53 | K1710862-001  | Ni (230.299 nm)    | -0.0035 u (ppm) | 8.31     | -0.0035 (ppm)   | -44.2018    |
| 10/31/2017 21:31:53 | K1710862-001  | Pb (220.353 nm)    | 0.0028 (ppm)    | 11.31    | 0.0028 (ppm)    | 11.0969     |
| 10/31/2017 21:31:53 | K1710862-001  | Sb (217.582 nm)    | -0.0003 u (ppm) | > 100.00 | -0.0003 (ppm)   | 0.3358      |
| 10/31/2017 21:31:53 | K1710862-001  | Se (196.026 nm)    | -0.0020 u (ppm) | > 100.00 | -0.0020 (ppm)   | -0.9266     |
| 10/31/2017 21:31:53 | K1710862-001  | Sn (189.925 nm)    | 0.0012 (ppm)    | 57.72    | 0.0012 (ppm)    | 1.4294      |
| 10/31/2017 21:31:53 | K1710862-001  | Sr (216.596 nm)    | 0.0176 (ppm)    | 1.00     | 0.0176 (ppm)    | 249.5457    |
| 10/31/2017 21:31:53 | K1710862-001  | Ti (336.122 nm)    | 0.0012 (ppm)    | 5.18     | 0.0012 (ppm)    | -224.9343   |
| 10/31/2017 21:31:53 | K1710862-001  | Tl (351.923 nm)    | 0.0009 u (ppm)  | > 100.00 | 0.0009 (ppm)    | 9.6467      |
| 10/31/2017 21:31:53 | K1710862-001  | V (292.401 nm)     | 0.0001 u (ppm)  | > 100.00 | 0.0001 (ppm)    | 111.0560    |
| 10/31/2017 21:31:53 | K1710862-001  | Y (360.074 nm)     | 1.01 (Ratio)    | 0.69     | 1.01 (Ratio)    | 863553.52   |
| 10/31/2017 21:31:53 | K1710862-001  | Y_R (360.074 nm)   | 1.01 (Ratio)    | 0.69     | 1.01 (Ratio)    | 864128.20   |
| 10/31/2017 21:31:53 | K1710862-001  | Zn (213.857 nm)    | 0.0029 (ppm)    | 6.52     | 0.0029 (ppm)    | 53.7762     |
| 10/31/2017 21:35:12 | K1710862-002  | Ag (328.068 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | -105.6343   |
| 10/31/2017 21:35:12 | K1710862-002  | Al (394.401 nm)    | 0.0211 (ppm)    | 1.55     | 0.0211 (ppm)    | 395.5493    |
| 10/31/2017 21:35:12 | K1710862-002  | As (188.980 nm)    | -0.0006 u (ppm) | > 100.00 | -0.0006 (ppm)   | -1.9659     |
| 10/31/2017 21:35:12 | K1710862-002  | B (249.772 nm)     | 0.0071 (ppm)    | 3.95     | 0.0071 (ppm)    | 228.9579    |
| 10/31/2017 21:35:12 | K1710862-002  | Ba (230.424 nm)    | 0.0134 (ppm)    | 0.87     | 0.0134 (ppm)    | 452.9468    |
| 10/31/2017 21:35:12 | K1710862-002  | Be (313.107 nm)    | 0.0000 (ppm)    | 29.75    | 0.0000 (ppm)    | -501.3500   |
| 10/31/2017 21:35:12 | K1710862-002  | Cb (227.547 nm)    | 2.1296 (ppm)    | 0.31     | 2.1296 (ppm)    | 124.3033    |
| 10/31/2017 21:35:12 | K1710862-002  | Cd (214.439 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | 12.3154     |
| 10/31/2017 21:35:12 | K1710862-002  | Co (230.786 nm)    | 0.0001 (ppm)    | > 100.00 | 0.0001 (ppm)    | -2.3052     |
| 10/31/2017 21:35:12 | K1710862-002  | Cr (267.716 nm)    | 0.0002 (ppm)    | 30.77    | 0.0002 (ppm)    | 9.9101      |
| 10/31/2017 21:35:12 | K1710862-002  | Cu (327.395 nm)    | 0.0029 (ppm)    | 2.24     | 0.0029 (ppm)    | 192.4227    |
| 10/31/2017 21:35:12 | K1710862-002  | Fe (234.350 nm)    | 0.8255 (ppm)    | 0.56     | 0.8255 (ppm)    | 9231.5978   |

| Date Time           | Label        | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity   |
|---------------------|--------------|--------------------|-----------------|----------|-----------------|-------------|
| 10/31/2017 21:35:12 | K1710862-002 | K (766.491 nm)     | 0.9487 (ppm)    | 0.71     | 0.9487 (ppm)    | 2853.7607   |
| 10/31/2017 21:35:12 | K1710862-002 | Mg (279.078 nm)    | 1.1062 (ppm)    | 0.65     | 1.1062 (ppm)    | 2133.9629   |
| 10/31/2017 21:35:12 | K1710862-002 | Mn (257.610 nm)    | 0.0342 (ppm)    | 19.87    | 0.0342 (ppm)    | 10719.7420  |
| 10/31/2017 21:35:12 | K1710862-002 | Mo (202.032 nm)    | 0.0003 (ppm)    | 56.85    | 0.0003 (ppm)    | 10.4335     |
| 10/31/2017 21:35:12 | K1710862-002 | Na (588.995 nm)    | 3.2302 (ppm)    | 0.84     | 3.2302 (ppm)    | 141434.3535 |
| 10/31/2017 21:35:12 | K1710862-002 | Ni (230.299 nm)    | -0.0038 u (ppm) | 8.54     | -0.0038 (ppm)   | -45.9347    |
| 10/31/2017 21:35:12 | K1710862-002 | Pb (220.353 nm)    | 0.0032 (ppm)    | 19.30    | 0.0032 (ppm)    | 11.8702     |
| 10/31/2017 21:35:12 | K1710862-002 | Sb (217.582 nm)    | -0.0013 u (ppm) | 98.54    | -0.0013 (ppm)   | -0.9882     |
| 10/31/2017 21:35:12 | K1710862-002 | Se (196.026 nm)    | -0.0014 u (ppm) | > 100.00 | -0.0014 (ppm)   | -0.3911     |
| 10/31/2017 21:35:12 | K1710862-002 | Sn (189.925 nm)    | -0.0002 u (ppm) | > 100.00 | -0.0002 (ppm)   | -0.2573     |
| 10/31/2017 21:35:12 | K1710862-002 | Sr (216.596 nm)    | 0.0173 (ppm)    | 1.14     | 0.0173 (ppm)    | 245.1706    |
| 10/31/2017 21:35:12 | K1710862-002 | Ti (336.122 nm)    | 0.0012 (ppm)    | 3.92     | 0.0012 (ppm)    | -223.4332   |
| 10/31/2017 21:35:12 | K1710862-002 | Tl (351.923 nm)    | 0.0041 (ppm)    | 50.57    | 0.0041 (ppm)    | 18.6006     |
| 10/31/2017 21:35:12 | K1710862-002 | V (292.401 nm)     | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | 109.0936    |
| 10/31/2017 21:35:12 | K1710862-002 | Y (360.074 nm)     | 1.01 (Ratio)    | 0.81     | 1.01 (Ratio)    | 861865.10   |
| 10/31/2017 21:35:12 | K1710862-002 | Y_R (360.074 nm)   | 1.01 (Ratio)    | 0.81     | 1.01 (Ratio)    | 862458.53   |
| 10/31/2017 21:35:12 | K1710862-002 | Zn (213.857 nm)    | 0.0029 (ppm)    | 2.50     | 0.0029 (ppm)    | 54.8491     |
| 10/31/2017 21:38:30 | K1710862-003 | Ag (328.068 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | -106.8234   |
| 10/31/2017 21:38:30 | K1710862-003 | Al (394.401 nm)    | 0.0059 (ppm)    | 4.08     | 0.0059 (ppm)    | 200.7811    |
| 10/31/2017 21:38:30 | K1710862-003 | As (188.980 nm)    | -0.0009 u (ppm) | 87.03    | -0.0009 (ppm)   | -2.2602     |
| 10/31/2017 21:38:30 | K1710862-003 | B (249.772 nm)     | 0.0068 (ppm)    | 1.71     | 0.0068 (ppm)    | 221.9332    |
| 10/31/2017 21:38:30 | K1710862-003 | Ba (230.424 nm)    | 0.0136 (ppm)    | 2.31     | 0.0136 (ppm)    | 460.5482    |
| 10/31/2017 21:38:30 | K1710862-003 | Be (313.107 nm)    | 0.0000 (ppm)    | 39.29    | 0.0000 (ppm)    | -511.7760   |
| 10/31/2017 21:38:30 | K1710862-003 | Ca (227.547 nm)    | 2.1350 (ppm)    | 3.71     | 2.1350 (ppm)    | 124.6021    |
| 10/31/2017 21:38:30 | K1710862-003 | Cd (214.439 nm)    | -0.0002 u (ppm) | 21.28    | -0.0002 (ppm)   | 9.4165      |
| 10/31/2017 21:38:30 | K1710862-003 | Co (230.786 nm)    | 0.0003 u (ppm)  | > 100.00 | 0.0003 (ppm)    | -0.8942     |
| 10/31/2017 21:38:30 | K1710862-003 | Cr (267.716 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | 0.9591      |
| 10/31/2017 21:38:30 | K1710862-003 | Cu (327.395 nm)    | 0.0025 (ppm)    | 7.00     | 0.0025 (ppm)    | 168.0115    |
| 10/31/2017 21:38:30 | K1710862-003 | Fe (234.350 nm)    | 0.2087 (ppm)    | 0.41     | 0.2087 (ppm)    | 2343.3010   |
| 10/31/2017 21:38:30 | K1710862-003 | K (766.491 nm)     | 0.9610 (ppm)    | 0.87     | 0.9610 (ppm)    | 2890.8731   |
| 10/31/2017 21:38:30 | K1710862-003 | Mg (279.078 nm)    | 1.1219 (ppm)    | 0.67     | 1.1219 (ppm)    | 2164.1606   |
| 10/31/2017 21:38:30 | K1710862-003 | Mn (257.610 nm)    | 0.0329 (ppm)    | 20.75    | 0.0329 (ppm)    | 10322.0496  |
| 10/31/2017 21:38:30 | K1710862-003 | Mo (202.032 nm)    | 0.0002 u (ppm)  | > 100.00 | 0.0002 (ppm)    | 8.8161      |
| 10/31/2017 21:38:30 | K1710862-003 | Na (588.995 nm)    | 3.2279 (ppm)    | 0.77     | 3.2279 (ppm)    | 141329.4842 |
| 10/31/2017 21:38:30 | K1710862-003 | Ni (230.299 nm)    | -0.0033 u (ppm) | 12.66    | -0.0033 (ppm)   | -42.7261    |
| 10/31/2017 21:38:30 | K1710862-003 | Pb (220.353 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | 4.8170      |
| 10/31/2017 21:38:30 | K1710862-003 | Sb (217.582 nm)    | -0.0003 u (ppm) | > 100.00 | -0.0003 (ppm)   | 0.3390      |
| 10/31/2017 21:38:30 | K1710862-003 | Se (196.026 nm)    | -0.0010 u (ppm) | > 100.00 | -0.0010 (ppm)   | -0.0693     |
| 10/31/2017 21:38:30 | K1710862-003 | Sn (189.925 nm)    | 0.0005 u (ppm)  | > 100.00 | 0.0005 (ppm)    | 0.4845      |
| 10/31/2017 21:38:30 | K1710862-003 | Sr (216.596 nm)    | 0.0175 (ppm)    | 0.74     | 0.0175 (ppm)    | 247.5647    |
| 10/31/2017 21:38:30 | K1710862-003 | Ti (336.122 nm)    | 0.0007 (ppm)    | 4.44     | 0.0007 (ppm)    | -335.2015   |
| 10/31/2017 21:38:30 | K1710862-003 | Tl (351.923 nm)    | 0.0007 u (ppm)  | > 100.00 | 0.0007 (ppm)    | 9.2514      |
| 10/31/2017 21:38:30 | K1710862-003 | V (292.401 nm)     | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | 108.7112    |
| 10/31/2017 21:38:30 | K1710862-003 | Y (360.074 nm)     | 1.01 (Ratio)    | 0.76     | 1.01 (Ratio)    | 862538.93   |
| 10/31/2017 21:38:30 | K1710862-003 | Y_R (360.074 nm)   | 1.01 (Ratio)    | 0.76     | 1.01 (Ratio)    | 863140.07   |
| 10/31/2017 21:38:30 | K1710862-003 | Zn (213.857 nm)    | 0.0040 (ppm)    | 2.09     | 0.0040 (ppm)    | 85.0868     |
| 10/31/2017 21:41:49 | K1710862-004 | Ag (328.068 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | -102.8661   |
| 10/31/2017 21:41:49 | K1710862-004 | Al (394.401 nm)    | 0.0226 (ppm)    | 2.04     | 0.0226 (ppm)    | 415.0188    |
| 10/31/2017 21:41:49 | K1710862-004 | As (188.980 nm)    | -0.0009 u (ppm) | > 100.00 | -0.0009 (ppm)   | -2.2811     |
| 10/31/2017 21:41:49 | K1710862-004 | B (249.772 nm)     | 0.0071 (ppm)    | 3.29     | 0.0071 (ppm)    | 229.5407    |
| 10/31/2017 21:41:49 | K1710862-004 | Ba (230.424 nm)    | 0.0144 (ppm)    | 1.19     | 0.0144 (ppm)    | 486.8285    |

| Date Time           | Label        | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity   |
|---------------------|--------------|--------------------|-----------------|----------|-----------------|-------------|
| 10/31/2017 21:41:49 | K1710862-004 | Be (313.107 nm)    | 0.0000 (ppm)    | 27.97    | 0.0000 (ppm)    | -501.1075   |
| 10/31/2017 21:41:49 | K1710862-004 | Ca (227.547 nm)    | 2.1678 (ppm)    | 1.32     | 2.1678 (ppm)    | 126.4490    |
| 10/31/2017 21:41:49 | K1710862-004 | Cd (214.439 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | 11.4515     |
| 10/31/2017 21:41:49 | K1710862-004 | Co (230.786 nm)    | 0.0001 (ppm)    | 48.10    | 0.0001 (ppm)    | -2.3315     |
| 10/31/2017 21:41:49 | K1710862-004 | Cr (267.716 nm)    | 0.0002 (ppm)    | 12.29    | 0.0002 (ppm)    | 10.9822     |
| 10/31/2017 21:41:49 | K1710862-004 | Cu (327.395 nm)    | 0.0030 (ppm)    | 2.90     | 0.0030 (ppm)    | 197.4892    |
| 10/31/2017 21:41:49 | K1710862-004 | Fe (234.350 nm)    | 0.7478 (ppm)    | 0.34     | 0.7478 (ppm)    | 8363.9783   |
| 10/31/2017 21:41:49 | K1710862-004 | K (766.491 nm)     | 0.9705 (ppm)    | 0.58     | 0.9705 (ppm)    | 2919.4553   |
| 10/31/2017 21:41:49 | K1710862-004 | Mg (279.078 nm)    | 1.1285 (ppm)    | 0.21     | 1.1285 (ppm)    | 2177.0561   |
| 10/31/2017 21:41:49 | K1710862-004 | Mn (257.610 nm)    | 0.0342 (ppm)    | 20.76    | 0.0342 (ppm)    | 10732.1335  |
| 10/31/2017 21:41:49 | K1710862-004 | Mo (202.032 nm)    | -0.0002 u (ppm) | 71.03    | -0.0002 (ppm)   | 5.1131      |
| 10/31/2017 21:41:49 | K1710862-004 | Na (588.995 nm)    | 3.2155 (ppm)    | 0.67     | 3.2155 (ppm)    | 140763.5110 |
| 10/31/2017 21:41:49 | K1710862-004 | Ni (230.299 nm)    | -0.0033 u (ppm) | 48.52    | -0.0033 (ppm)   | -42.9462    |
| 10/31/2017 21:41:49 | K1710862-004 | Pb (220.353 nm)    | 0.0023 (ppm)    | 52.10    | 0.0023 (ppm)    | 9.9321      |
| 10/31/2017 21:41:49 | K1710862-004 | Sb (217.582 nm)    | -0.0004 u (ppm) | > 100.00 | -0.0004 (ppm)   | 0.2124      |
| 10/31/2017 21:41:49 | K1710862-004 | Se (196.026 nm)    | -0.0018 u (ppm) | > 100.00 | -0.0018 (ppm)   | -0.7763     |
| 10/31/2017 21:41:49 | K1710862-004 | Sn (189.925 nm)    | -0.0004 u (ppm) | > 100.00 | -0.0004 (ppm)   | -0.6081     |
| 10/31/2017 21:41:49 | K1710862-004 | Sr (216.596 nm)    | 0.0180 (ppm)    | 0.03     | 0.0180 (ppm)    | 255.0978    |
| 10/31/2017 21:41:49 | K1710862-004 | Ti (336.122 nm)    | 0.0012 (ppm)    | 2.90     | 0.0012 (ppm)    | -223.7250   |
| 10/31/2017 21:41:49 | K1710862-004 | Tl (351.923 nm)    | -0.0016 u (ppm) | 82.24    | -0.0016 (ppm)   | 2.9802      |
| 10/31/2017 21:41:49 | K1710862-004 | V (292.401 nm)     | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | 109.3804    |
| 10/31/2017 21:41:49 | K1710862-004 | Y (360.074 nm)     | 1.01 (Ratio)    | 0.71     | 1.01 (Ratio)    | 860212.98   |
| 10/31/2017 21:41:49 | K1710862-004 | Y_R (360.074 nm)   | 1.01 (Ratio)    | 0.71     | 1.01 (Ratio)    | 860822.97   |
| 10/31/2017 21:41:49 | K1710862-004 | Zn (213.857 nm)    | 0.0026 (ppm)    | 1.64     | 0.0026 (ppm)    | 46.6423     |
| 10/31/2017 21:45:08 | K1710862-005 | Ag (328.068 nm)    | -0.0001 u (ppm) | 57.11    | -0.0001 (ppm)   | -108.7390   |
| 10/31/2017 21:45:08 | K1710862-005 | Al (394.401 nm)    | 0.0290 (ppm)    | 2.79     | 0.0290 (ppm)    | 496.4020    |
| 10/31/2017 21:45:08 | K1710862-005 | As (188.980 nm)    | -0.0005 u (ppm) | > 100.00 | -0.0005 (ppm)   | -1.9355     |
| 10/31/2017 21:45:08 | K1710862-005 | B (249.772 nm)     | 0.0066 (ppm)    | 0.93     | 0.0066 (ppm)    | 215.1468    |
| 10/31/2017 21:45:08 | K1710862-005 | Ba (230.424 nm)    | 0.0151 (ppm)    | 2.29     | 0.0151 (ppm)    | 508.2696    |
| 10/31/2017 21:45:08 | K1710862-005 | Be (313.107 nm)    | 0.0000 (ppm)    | 73.92    | 0.0000 (ppm)    | -504.6277   |
| 10/31/2017 21:45:08 | K1710862-005 | Ca (227.547 nm)    | 2.2056 (ppm)    | 2.96     | 2.2056 (ppm)    | 128.5789    |
| 10/31/2017 21:45:08 | K1710862-005 | Cd (214.439 nm)    | -0.0002 u (ppm) | 18.30    | -0.0002 (ppm)   | 10.0780     |
| 10/31/2017 21:45:08 | K1710862-005 | Co (230.786 nm)    | 0.0004 (ppm)    | 70.94    | 0.0004 (ppm)    | 0.3125      |
| 10/31/2017 21:45:08 | K1710862-005 | Cr (267.716 nm)    | 0.0001 (ppm)    | > 100.00 | 0.0001 (ppm)    | 4.1818      |
| 10/31/2017 21:45:08 | K1710862-005 | Cu (327.395 nm)    | 0.0028 (ppm)    | 0.77     | 0.0028 (ppm)    | 185.6001    |
| 10/31/2017 21:45:08 | K1710862-005 | Fe (234.350 nm)    | 0.8293 (ppm)    | 0.31     | 0.8293 (ppm)    | 9275.0279   |
| 10/31/2017 21:45:08 | K1710862-005 | K (766.491 nm)     | 0.9911 (ppm)    | 1.61     | 0.9911 (ppm)    | 2981.6894   |
| 10/31/2017 21:45:08 | K1710862-005 | Mg (279.078 nm)    | 1.1582 (ppm)    | 0.63     | 1.1582 (ppm)    | 2234.2812   |
| 10/31/2017 21:45:08 | K1710862-005 | Mn (257.610 nm)    | 0.0339 (ppm)    | 20.22    | 0.0339 (ppm)    | 10636.6190  |
| 10/31/2017 21:45:08 | K1710862-005 | Mo (202.032 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | 6.6922      |
| 10/31/2017 21:45:08 | K1710862-005 | Na (588.995 nm)    | 3.2210 (ppm)    | 0.76     | 3.2210 (ppm)    | 141014.6037 |
| 10/31/2017 21:45:08 | K1710862-005 | Ni (230.299 nm)    | -0.0035 u (ppm) | 14.84    | -0.0035 (ppm)   | -44.2682    |
| 10/31/2017 21:45:08 | K1710862-005 | Pb (220.353 nm)    | 0.0029 (ppm)    | 14.16    | 0.0029 (ppm)    | 11.1562     |
| 10/31/2017 21:45:08 | K1710862-005 | Sb (217.582 nm)    | -0.0007 u (ppm) | > 100.00 | -0.0007 (ppm)   | -0.1364     |
| 10/31/2017 21:45:08 | K1710862-005 | Se (196.026 nm)    | 0.0021 (ppm)    | > 100.00 | 0.0021 (ppm)    | 2.5502      |
| 10/31/2017 21:45:08 | K1710862-005 | Sn (189.925 nm)    | 0.0004 u (ppm)  | > 100.00 | 0.0004 (ppm)    | 0.4504      |
| 10/31/2017 21:45:08 | K1710862-005 | Sr (216.596 nm)    | 0.0182 (ppm)    | 0.49     | 0.0182 (ppm)    | 258.3763    |
| 10/31/2017 21:45:08 | K1710862-005 | Ti (336.122 nm)    | 0.0014 (ppm)    | 3.74     | 0.0014 (ppm)    | -198.0194   |
| 10/31/2017 21:45:08 | K1710862-005 | Tl (351.923 nm)    | 0.0007 u (ppm)  | > 100.00 | 0.0007 (ppm)    | 9.3333      |
| 10/31/2017 21:45:08 | K1710862-005 | V (292.401 nm)     | 0.0002 (ppm)    | 61.92    | 0.0002 (ppm)    | 115.7538    |
| 10/31/2017 21:45:08 | K1710862-005 | Y (360.074 nm)     | 1.01 (Ratio)    | 0.81     | 1.01 (Ratio)    | 861223.86   |

| Date Time           | Label         | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity    |
|---------------------|---------------|--------------------|-----------------|----------|-----------------|--------------|
| 10/31/2017 21:45:08 | K1710862-005  | Y_R (360.074 nm)   | 1.01 (Ratio)    | 0.81     | 1.01 (Ratio)    | 861788.68    |
| 10/31/2017 21:45:08 | K1710862-005  | Zn (213.857 nm)    | 0.0022 (ppm)    | 3.44     | 0.0022 (ppm)    | 34.4201      |
| 10/31/2017 21:48:27 | K1710862-006  | Ag (328.068 nm)    | -0.0001 u (ppm) | 87.77    | -0.0001 (ppm)   | -109.6007    |
| 10/31/2017 21:48:27 | K1710862-006  | Al (394.401 nm)    | 0.0227 (ppm)    | 2.85     | 0.0227 (ppm)    | 416.4246     |
| 10/31/2017 21:48:27 | K1710862-006  | As (188.980 nm)    | 0.0002 u (ppm)  | > 100.00 | 0.0002 (ppm)    | -1.3210      |
| 10/31/2017 21:48:27 | K1710862-006  | B (249.772 nm)     | 0.0077 (ppm)    | 1.93     | 0.0077 (ppm)    | 245.9600     |
| 10/31/2017 21:48:27 | K1710862-006  | Ba (230.424 nm)    | 0.0168 (ppm)    | 0.67     | 0.0168 (ppm)    | 566.5847     |
| 10/31/2017 21:48:27 | K1710862-006  | Be (313.107 nm)    | 0.0000 (ppm)    | 6.80     | 0.0000 (ppm)    | -476.9087    |
| 10/31/2017 21:48:27 | K1710862-006  | Ca (227.547 nm)    | 4.0862 (ppm)    | 0.37     | 4.0862 (ppm)    | 234.4512     |
| 10/31/2017 21:48:27 | K1710862-006  | Cd (214.439 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | 13.3688      |
| 10/31/2017 21:48:27 | K1710862-006  | Co (230.786 nm)    | 0.0018 (ppm)    | 18.17    | 0.0018 (ppm)    | 14.4612      |
| 10/31/2017 21:48:27 | K1710862-006  | Cr (267.716 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | -2.3898      |
| 10/31/2017 21:48:27 | K1710862-006  | Cu (327.395 nm)    | 0.0010 (ppm)    | 19.27    | 0.0010 (ppm)    | 75.2284      |
| 10/31/2017 21:48:27 | K1710862-006  | Fe (234.350 nm)    | 1.1957 (ppm)    | 0.49     | 1.1957 (ppm)    | 13366.4642   |
| 10/31/2017 21:48:27 | K1710862-006  | K (766.491 nm)     | 1.3165 (ppm)    | 0.23     | 1.3165 (ppm)    | 3963.3364    |
| 10/31/2017 21:48:27 | K1710862-006  | Mg (279.078 nm)    | 1.9846 (ppm)    | 0.56     | 1.9846 (ppm)    | 3829.0074    |
| 10/31/2017 21:48:27 | K1710862-006  | Mn (257.610 nm)    | 0.1827 (ppm)    | 3.36     | 0.1827 (ppm)    | 57266.5525   |
| 10/31/2017 21:48:27 | K1710862-006  | Mo (202.032 nm)    | -0.0002 u (ppm) | > 100.00 | -0.0002 (ppm)   | 4.9084       |
| 10/31/2017 21:48:27 | K1710862-006  | Na (588.995 nm)    | 3.5746 (ppm)    | 0.61     | 3.5746 (ppm)    | 157095.8353  |
| 10/31/2017 21:48:27 | K1710862-006  | Ni (230.299 nm)    | -0.0028 u (ppm) | 18.80    | -0.0028 (ppm)   | -39.1908     |
| 10/31/2017 21:48:27 | K1710862-006  | Pb (220.353 nm)    | -0.0002 u (ppm) | > 100.00 | -0.0002 (ppm)   | 4.5460       |
| 10/31/2017 21:48:27 | K1710862-006  | Sb (217.582 nm)    | 0.0001 u (ppm)  | > 100.00 | 0.0001 (ppm)    | 0.9825       |
| 10/31/2017 21:48:27 | K1710862-006  | Se (196.026 nm)    | -0.0018 u (ppm) | > 100.00 | -0.0018 (ppm)   | -0.7267      |
| 10/31/2017 21:48:27 | K1710862-006  | Sn (189.925 nm)    | 0.0007 u (ppm)  | > 100.00 | 0.0007 (ppm)    | 0.7934       |
| 10/31/2017 21:48:27 | K1710862-006  | Sr (216.596 nm)    | 0.0268 (ppm)    | 0.99     | 0.0268 (ppm)    | 380.3729     |
| 10/31/2017 21:48:27 | K1710862-006  | Ti (336.122 nm)    | 0.0008 (ppm)    | 8.52     | 0.0008 (ppm)    | -321.1750    |
| 10/31/2017 21:48:27 | K1710862-006  | Tl (351.923 nm)    | 0.0006 u (ppm)  | > 100.00 | 0.0006 (ppm)    | 8.9430       |
| 10/31/2017 21:48:27 | K1710862-006  | V (292.401 nm)     | 0.0001 (ppm)    | 81.58    | 0.0001 (ppm)    | 113.6201     |
| 10/31/2017 21:48:27 | K1710862-006  | Y (360.074 nm)     | 1.01 (Ratio)    | 0.67     | 1.01 (Ratio)    | 863244.98    |
| 10/31/2017 21:48:27 | K1710862-006  | Y_R (360.074 nm)   | 1.01 (Ratio)    | 0.68     | 1.01 (Ratio)    | 863818.51    |
| 10/31/2017 21:48:27 | K1710862-006  | Zn (213.857 nm)    | 0.0033 (ppm)    | 0.43     | 0.0033 (ppm)    | 66.4297      |
| 10/31/2017 21:51:46 | K1710862-006S | Ag (328.068 nm)    | 0.0490 (ppm)    | 0.56     | 0.0490 (ppm)    | 3399.4732    |
| 10/31/2017 21:51:46 | K1710862-006S | Al (394.401 nm)    | 1.8614 (ppm)    | 0.61     | 1.8614 (ppm)    | 23947.4799   |
| 10/31/2017 21:51:46 | K1710862-006S | As (188.980 nm)    | 0.0389 (ppm)    | 3.84     | 0.0389 (ppm)    | 33.3155      |
| 10/31/2017 21:51:46 | K1710862-006S | B (249.772 nm)     | 0.9730 (ppm)    | 0.36     | 0.9730 (ppm)    | 26973.2430   |
| 10/31/2017 21:51:46 | K1710862-006S | Ba (230.424 nm)    | 2.0975 (ppm)    | 0.51     | 2.0975 (ppm)    | 70518.3974   |
| 10/31/2017 21:51:46 | K1710862-006S | Be (313.107 nm)    | 0.0504 (ppm)    | 0.49     | 0.0504 (ppm)    | 73906.8092   |
| 10/31/2017 21:51:46 | K1710862-006S | Ca (227.547 nm)    | 5.9404 (ppm)    | 0.93     | 5.9404 (ppm)    | 338.8320     |
| 10/31/2017 21:51:46 | K1710862-006S | Cd (214.439 nm)    | 0.0516 (ppm)    | 0.73     | 0.0516 (ppm)    | 1129.6781    |
| 10/31/2017 21:51:46 | K1710862-006S | Co (230.786 nm)    | 0.5161 (ppm)    | 0.44     | 0.5161 (ppm)    | 5091.4006    |
| 10/31/2017 21:51:46 | K1710862-006S | Cr (267.716 nm)    | 0.1998 (ppm)    | 0.43     | 0.1998 (ppm)    | 9890.3463    |
| 10/31/2017 21:51:46 | K1710862-006S | Cu (327.395 nm)    | 0.2413 (ppm)    | 0.72     | 0.2413 (ppm)    | 14996.0152   |
| 10/31/2017 21:51:46 | K1710862-006S | Fe (234.350 nm)    | 2.1383 (ppm)    | 0.51     | 2.1383 (ppm)    | 23894.6654   |
| 10/31/2017 21:51:46 | K1710862-006S | K (766.491 nm)     | 20.2878 (ppm)   | 0.68     | 20.2878 (ppm)   | 61205.1852   |
| 10/31/2017 21:51:46 | K1710862-006S | Mg (279.078 nm)    | 3.9263 (ppm)    | 0.32     | 3.9263 (ppm)    | 7575.8654    |
| 10/31/2017 21:51:46 | K1710862-006S | Mn (257.610 nm)    | 0.6668 (ppm)    | 0.42     | 0.6668 (ppm)    | 209009.7493  |
| 10/31/2017 21:51:46 | K1710862-006S | Mo (202.032 nm)    | 0.4756 (ppm)    | 0.35     | 0.4756 (ppm)    | 4855.3745    |
| 10/31/2017 21:51:46 | K1710862-006S | Na (588.995 nm)    | 22.6836 (ppm)   | 0.75     | 22.6836 (ppm)   | 1026072.3049 |
| 10/31/2017 21:51:46 | K1710862-006S | Ni (230.299 nm)    | 0.5119 (ppm)    | 0.37     | 0.5119 (ppm)    | 3428.0156    |
| 10/31/2017 21:51:46 | K1710862-006S | Pb (220.353 nm)    | 0.5115 (ppm)    | 0.29     | 0.5115 (ppm)    | 1098.0052    |
| 10/31/2017 21:51:46 | K1710862-006S | Sb (217.582 nm)    | 0.4995 (ppm)    | 0.42     | 0.4995 (ppm)    | 683.9279     |

| Date Time           | Label                                 | Element Label (nm) | Conc          | %RSD | Unadjusted Conc | Intensity    |
|---------------------|---------------------------------------|--------------------|---------------|------|-----------------|--------------|
| 10/31/2017 21:51:46 | K1710862-006S                         | Se (196.026 nm)    | 1.0547 (ppm)  | 0.57 | 1.0547 (ppm)    | 904.0225     |
| 10/31/2017 21:51:46 | K1710862-006S                         | Sn (189.925 nm)    | 5.1330 (ppm)  | 0.31 | 5.1330 (ppm)    | 6215.6998    |
| 10/31/2017 21:51:46 | K1710862-006S                         | Sr (216.596 nm)    | 2.0842 (ppm)  | 0.64 | 2.0842 (ppm)    | 29592.6135   |
| 10/31/2017 21:51:46 | K1710862-006S                         | Ti (336.122 nm)    | 0.4878 (ppm)  | 0.47 | 0.4878 (ppm)    | 101580.7866  |
| 10/31/2017 21:51:46 | K1710862-006S                         | Tl (351.923 nm)    | 1.8566 (ppm)  | 0.53 | 1.8566 (ppm)    | 5106.9503    |
| 10/31/2017 21:51:46 | K1710862-006S                         | V (292.401 nm)     | 0.4982 (ppm)  | 0.55 | 0.4982 (ppm)    | 17718.5814   |
| 10/31/2017 21:51:46 | K1710862-006S                         | Y (360.074 nm)     | 0.99 (Ratio)  | 0.81 | 0.99 (Ratio)    | 841169.87    |
| 10/31/2017 21:51:46 | K1710862-006S                         | Y_R (360.074 nm)   | 0.99 (Ratio)  | 0.81 | 0.99 (Ratio)    | 841712.89    |
| 10/31/2017 21:51:46 | K1710862-006S                         | Zn (213.857 nm)    | 0.5141 (ppm)  | 0.92 | 0.5141 (ppm)    | 14356.4427   |
| 10/31/2017 21:55:05 | K1710862-006SD                        | Ag (328.068 nm)    | 0.0491 (ppm)  | 0.44 | 0.0491 (ppm)    | 3407.0895    |
| 10/31/2017 21:55:05 | K1710862-006SD                        | Al (394.401 nm)    | 1.8652 (ppm)  | 0.48 | 1.8652 (ppm)    | 23995.5425   |
| 10/31/2017 21:55:05 | K1710862-006SD                        | As (188.980 nm)    | 0.0422 (ppm)  | 4.67 | 0.0422 (ppm)    | 36.2299      |
| 10/31/2017 21:55:05 | K1710862-006SD                        | B (249.772 nm)     | 0.9771 (ppm)  | 0.34 | 0.9771 (ppm)    | 27087.2120   |
| 10/31/2017 21:55:05 | K1710862-006SD                        | Ba (230.424 nm)    | 2.1132 (ppm)  | 0.38 | 2.1132 (ppm)    | 71044.7131   |
| 10/31/2017 21:55:05 | K1710862-006SD                        | Be (313.107 nm)    | 0.0506 (ppm)  | 0.41 | 0.0506 (ppm)    | 74259.7555   |
| 10/31/2017 21:55:05 | K1710862-006SD                        | Ca (227.547 nm)    | 6.0030 (ppm)  | 1.02 | 6.0030 (ppm)    | 342.3539     |
| 10/31/2017 21:55:05 | K1710862-006SD                        | Cd (214.439 nm)    | 0.0519 (ppm)  | 0.20 | 0.0519 (ppm)    | 1137.1276    |
| 10/31/2017 21:55:05 | K1710862-006SD                        | Co (230.786 nm)    | 0.5176 (ppm)  | 0.25 | 0.5176 (ppm)    | 5106.3405    |
| 10/31/2017 21:55:05 | K1710862-006SD                        | Cr (267.716 nm)    | 0.2004 (ppm)  | 0.22 | 0.2004 (ppm)    | 9920.1001    |
| 10/31/2017 21:55:05 | K1710862-006SD                        | Cu (327.395 nm)    | 0.2414 (ppm)  | 0.65 | 0.2414 (ppm)    | 14998.3955   |
| 10/31/2017 21:55:05 | K1710862-006SD                        | Fe (234.350 nm)    | 2.1474 (ppm)  | 0.23 | 2.1474 (ppm)    | 23997.1482   |
| 10/31/2017 21:55:05 | K1710862-006SD                        | K (766.491 nm)     | 20.3094 (ppm) | 0.64 | 20.3094 (ppm)   | 61270.5379   |
| 10/31/2017 21:55:05 | K1710862-006SD                        | Mg (279.078 nm)    | 3.9507 (ppm)  | 0.34 | 3.9507 (ppm)    | 7623.0124    |
| 10/31/2017 21:55:05 | K1710862-006SD                        | Mn (257.610 nm)    | 0.6681 (ppm)  | 0.25 | 0.6681 (ppm)    | 209415.1117  |
| 10/31/2017 21:55:05 | K1710862-006SD                        | Mo (202.032 nm)    | 0.4801 (ppm)  | 0.21 | 0.4801 (ppm)    | 4901.4356    |
| 10/31/2017 21:55:05 | K1710862-006SD                        | Na (588.995 nm)    | 22.6891 (ppm) | 0.64 | 22.6891 (ppm)   | 1026318.6830 |
| 10/31/2017 21:55:05 | K1710862-006SD                        | Ni (230.299 nm)    | 0.5134 (ppm)  | 0.21 | 0.5134 (ppm)    | 3437.8968    |
| 10/31/2017 21:55:05 | K1710862-006SD                        | Pb (220.353 nm)    | 0.5147 (ppm)  | 0.38 | 0.5147 (ppm)    | 1104.7208    |
| 10/31/2017 21:55:05 | K1710862-006SD                        | Sb (217.582 nm)    | 0.5024 (ppm)  | 0.67 | 0.5024 (ppm)    | 687.9163     |
| 10/31/2017 21:55:05 | K1710862-006SD                        | Se (196.026 nm)    | 1.0624 (ppm)  | 0.87 | 1.0624 (ppm)    | 910.6062     |
| 10/31/2017 21:55:05 | K1710862-006SD                        | Sn (189.925 nm)    | 5.1683 (ppm)  | 0.21 | 5.1683 (ppm)    | 6258.4584    |
| 10/31/2017 21:55:05 | K1710862-006SD                        | Sr (216.596 nm)    | 2.0970 (ppm)  | 0.38 | 2.0970 (ppm)    | 29773.5805   |
| 10/31/2017 21:55:05 | K1710862-006SD                        | Ti (336.122 nm)    | 0.4897 (ppm)  | 0.36 | 0.4897 (ppm)    | 101980.2159  |
| 10/31/2017 21:55:05 | K1710862-006SD                        | Tl (351.923 nm)    | 1.8648 (ppm)  | 0.39 | 1.8648 (ppm)    | 5129.4207    |
| 10/31/2017 21:55:05 | K1710862-006SD                        | V (292.401 nm)     | 0.4999 (ppm)  | 0.41 | 0.4999 (ppm)    | 17778.2974   |
| 10/31/2017 21:55:05 | K1710862-006SD                        | Y (360.074 nm)     | 0.98 (Ratio)  | 0.83 | 0.98 (Ratio)    | 838904.00    |
| 10/31/2017 21:55:05 | K1710862-006SD                        | Y_R (360.074 nm)   | 0.98 (Ratio)  | 0.83 | 0.98 (Ratio)    | 839456.50    |
| 10/31/2017 21:55:05 | K1710862-006SD                        | Zn (213.857 nm)    | 0.5167 (ppm)  | 0.51 | 0.5167 (ppm)    | 14429.6648   |
| 10/31/2017 21:58:24 | Continuing Calibration Verification 1 | Ag (328.068 nm)    | 0.4807 (ppm)  | 0.24 | 0.4807 (ppm)    | 34241.9039   |
| 10/31/2017 21:58:24 | Continuing Calibration Verification 1 | Al (394.401 nm)    | 9.2297 (ppm)  | 0.30 | 9.2297 (ppm)    | 118244.2056  |
| 10/31/2017 21:58:24 | Continuing Calibration Verification 1 | As (188.980 nm)    | 0.9508 (ppm)  | 0.19 | 0.9508 (ppm)    | 848.4543     |
| 10/31/2017 21:58:24 | Continuing Calibration Verification 1 | B (249.772 nm)     | 2.3794 (ppm)  | 0.20 | 2.3794 (ppm)    | 65911.5590   |
| 10/31/2017 21:58:24 | Continuing Calibration Verification 1 | Ba (230.424 nm)    | 10.1517 (ppm) | 0.25 | 10.1517 (ppm)   | 341293.5892  |
| 10/31/2017 21:58:24 | Continuing Calibration Verification 1 | Be (313.107 nm)    | 0.2489 (ppm)  | 0.35 | 0.2489 (ppm)    | 367109.3370  |
| 10/31/2017 21:58:24 | Continuing Calibration Verification 1 | Ca (227.547 nm)    | 23.5344 (ppm) | 0.32 | 23.5344 (ppm)   | 1329.2921    |
| 10/31/2017 21:58:24 | Continuing Calibration Verification 1 | Cd (214.439 nm)    | 0.4965 (ppm)  | 0.19 | 0.4965 (ppm)    | 10762.5456   |
| 10/31/2017 21:58:24 | Continuing Calibration Verification 1 | Co (230.786 nm)    | 2.5563 (ppm)  | 0.25 | 2.5563 (ppm)    | 25233.9091   |
| 10/31/2017 21:58:24 | Continuing Calibration Verification 1 | Cr (267.716 nm)    | 0.4987 (ppm)  | 0.31 | 0.4987 (ppm)    | 24690.4572   |
| 10/31/2017 21:58:24 | Continuing Calibration Verification 1 | Cu (327.395 nm)    | 1.1678 (ppm)  | 0.29 | 1.1678 (ppm)    | 72514.8218   |
| 10/31/2017 21:58:24 | Continuing Calibration Verification 1 | Fe (234.350 nm)    | 4.7721 (ppm)  | 0.25 | 4.7721 (ppm)    | 53312.1500   |
| 10/31/2017 21:58:24 | Continuing Calibration Verification 1 | K (766.491 nm)     | 23.8871 (ppm) | 0.34 | 23.8871 (ppm)   | 72065.4900   |

| Date Time           | Label                                | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity    |
|---------------------|--------------------------------------|--------------------|-----------------|----------|-----------------|--------------|
| 10/31/2017 21:58:24 | Continuing Calibration Verification1 | Mg (279.078 nm)    | 24.7935 (ppm)   | 0.25     | 24.7935 (ppm)   | 47842.9666   |
| 10/31/2017 21:58:24 | Continuing Calibration Verification1 | Mn (257.610 nm)    | 0.7474 (ppm)    | 0.21     | 0.7474 (ppm)    | 234267.5583  |
| 10/31/2017 21:58:24 | Continuing Calibration Verification1 | Mo (202.032 nm)    | 2.3688 (ppm)    | 0.25     | 2.3688 (ppm)    | 24153.6828   |
| 10/31/2017 21:58:24 | Continuing Calibration Verification1 | Na (588.995 nm)    | 24.0113 (ppm)   | 0.65     | 24.0113 (ppm)   | 1086446.4926 |
| 10/31/2017 21:58:24 | Continuing Calibration Verification1 | Ni (230.299 nm)    | 2.0099 (ppm)    | 0.19     | 2.0099 (ppm)    | 13519.5890   |
| 10/31/2017 21:58:24 | Continuing Calibration Verification1 | Pb (220.353 nm)    | 0.4949 (ppm)    | 0.65     | 0.4949 (ppm)    | 1062.3850    |
| 10/31/2017 21:58:24 | Continuing Calibration Verification1 | Sb (217.582 nm)    | 4.7997 (ppm)    | 0.44     | 4.7997 (ppm)    | 6564.6642    |
| 10/31/2017 21:58:24 | Continuing Calibration Verification1 | Se (196.026 nm)    | 0.4849 (ppm)    | 0.47     | 0.4849 (ppm)    | 416.0821     |
| 10/31/2017 21:58:24 | Continuing Calibration Verification1 | Sn (189.925 nm)    | 5.0604 (ppm)    | 0.33     | 5.0604 (ppm)    | 6127.8369    |
| 10/31/2017 21:58:24 | Continuing Calibration Verification1 | Sr (216.596 nm)    | 2.5177 (ppm)    | 0.48     | 2.5177 (ppm)    | 35747.5625   |
| 10/31/2017 21:58:24 | Continuing Calibration Verification1 | Ti (336.122 nm)    | 2.4459 (ppm)    | 0.32     | 2.4459 (ppm)    | 511294.6911  |
| 10/31/2017 21:58:24 | Continuing Calibration Verification1 | Tl (351.923 nm)    | 0.9628 (ppm)    | 0.12     | 0.9628 (ppm)    | 2651.9283    |
| 10/31/2017 21:58:24 | Continuing Calibration Verification1 | V (292.401 nm)     | 2.4715 (ppm)    | 0.23     | 2.4715 (ppm)    | 87467.0754   |
| 10/31/2017 21:58:24 | Continuing Calibration Verification1 | Y (360.074 nm)     | 0.97 (Ratio)    | 0.68     | 0.97 (Ratio)    | 826201.27    |
| 10/31/2017 21:58:24 | Continuing Calibration Verification1 | Y_R (360.074 nm)   | 0.97 (Ratio)    | 0.68     | 0.97 (Ratio)    | 826727.51    |
| 10/31/2017 21:58:24 | Continuing Calibration Verification1 | Zn (213.857 nm)    | 0.9937 (ppm)    | 0.32     | 0.9937 (ppm)    | 27771.7221   |
| 10/31/2017 22:01:43 | Continuing Calibration Blank1        | Ag (328.068 nm)    | 0.0005 (ppm)    | 53.61    | 0.0005 (ppm)    | -69.2450     |
| 10/31/2017 22:01:43 | Continuing Calibration Blank1        | Al (394.401 nm)    | 0.0104 (ppm)    | 47.22    | 0.0104 (ppm)    | 258.4346     |
| 10/31/2017 22:01:43 | Continuing Calibration Blank1        | As (188.980 nm)    | -0.0009 u (ppm) | > 100.00 | -0.0009 (ppm)   | -2.2788      |
| 10/31/2017 22:01:43 | Continuing Calibration Blank1        | B (249.772 nm)     | 0.0066 (ppm)    | 29.98    | 0.0066 (ppm)    | 216.2370     |
| 10/31/2017 22:01:43 | Continuing Calibration Blank1        | Ba (230.424 nm)    | 0.0149 (ppm)    | 43.39    | 0.0149 (ppm)    | 503.7450     |
| 10/31/2017 22:01:43 | Continuing Calibration Blank1        | Be (313.107 nm)    | 0.0003 (ppm)    | 39.30    | 0.0003 (ppm)    | -42.3478     |
| 10/31/2017 22:01:43 | Continuing Calibration Blank1        | Ce (227.547 nm)    | 0.0355 (ppm)    | > 100.00 | 0.0355 (ppm)    | 6.4154       |
| 10/31/2017 22:01:43 | Continuing Calibration Blank1        | Cd (214.439 nm)    | 0.0007 (ppm)    | 49.62    | 0.0007 (ppm)    | 29.1045      |
| 10/31/2017 22:01:43 | Continuing Calibration Blank1        | Co (230.786 nm)    | 0.0039 Z (ppm)  | 36.21    | 0.0039 (ppm)    | 34.5229 Z    |
| 10/31/2017 22:01:43 | Continuing Calibration Blank1        | Cr (267.716 nm)    | 0.0006 (ppm)    | 34.31    | 0.0006 (ppm)    | 30.1491      |
| 10/31/2017 22:01:43 | Continuing Calibration Blank1        | Cu (327.395 nm)    | 0.0017 (ppm)    | 31.74    | 0.0017 (ppm)    | 118.5179     |
| 10/31/2017 22:01:43 | Continuing Calibration Blank1        | Fe (234.350 nm)    | 0.0068 (ppm)    | 42.44    | 0.0068 (ppm)    | 88.1733      |
| 10/31/2017 22:01:43 | Continuing Calibration Blank1        | K (766.491 nm)     | 0.0750 (ppm)    | 24.91    | 0.0750 (ppm)    | 217.3751     |
| 10/31/2017 22:01:43 | Continuing Calibration Blank1        | Mg (279.078 nm)    | 0.0307 (ppm)    | 43.98    | 0.0307 (ppm)    | 58.6663      |
| 10/31/2017 22:01:43 | Continuing Calibration Blank1        | Mn (257.610 nm)    | 0.0062 (ppm)    | 17.56    | 0.0062 (ppm)    | 1953.1371    |
| 10/31/2017 22:01:43 | Continuing Calibration Blank1        | Mo (202.032 nm)    | 0.0058 (ppm)    | 17.25    | 0.0058 (ppm)    | 66.0724      |
| 10/31/2017 22:01:43 | Continuing Calibration Blank1        | Na (588.995 nm)    | 0.0191 (ppm)    | 81.44    | 0.0191 (ppm)    | -4590.1787   |
| 10/31/2017 22:01:43 | Continuing Calibration Blank1        | Ni (230.299 nm)    | 0.0025 (ppm)    | 37.23    | 0.0025 (ppm)    | -3.8442      |
| 10/31/2017 22:01:43 | Continuing Calibration Blank1        | Pb (220.353 nm)    | 0.0010 (ppm)    | 77.20    | 0.0010 (ppm)    | 7.2329       |
| 10/31/2017 22:01:43 | Continuing Calibration Blank1        | Sb (217.582 nm)    | 0.0064 (ppm)    | 32.87    | 0.0064 (ppm)    | 9.6068       |
| 10/31/2017 22:01:43 | Continuing Calibration Blank1        | Se (196.026 nm)    | 0.0037 (ppm)    | 55.53    | 0.0037 (ppm)    | 3.9119       |
| 10/31/2017 22:01:43 | Continuing Calibration Blank1        | Sn (189.925 nm)    | 0.0060 (ppm)    | 70.95    | 0.0060 (ppm)    | 7.2421       |
| 10/31/2017 22:01:43 | Continuing Calibration Blank1        | Sr (216.596 nm)    | 0.0033 (ppm)    | 38.57    | 0.0033 (ppm)    | 46.2805      |
| 10/31/2017 22:01:43 | Continuing Calibration Blank1        | Ti (336.122 nm)    | 0.0041 (ppm)    | 33.75    | 0.0041 (ppm)    | 376.7393     |
| 10/31/2017 22:01:43 | Continuing Calibration Blank1        | Tl (351.923 nm)    | 0.0003 u (ppm)  | > 100.00 | 0.0003 (ppm)    | 8.2309       |
| 10/31/2017 22:01:43 | Continuing Calibration Blank1        | V (292.401 nm)     | 0.0033 Z (ppm)  | 40.43    | 0.0033 (ppm)    | 226.9474 Z   |
| 10/31/2017 22:01:43 | Continuing Calibration Blank1        | Y (360.074 nm)     | 1.01 (Ratio)    | 0.68     | 1.01 (Ratio)    | 860462.61    |
| 10/31/2017 22:01:43 | Continuing Calibration Blank1        | Y_R (360.074 nm)   | 1.01 (Ratio)    | 0.68     | 1.01 (Ratio)    | 861087.22    |
| 10/31/2017 22:01:43 | Continuing Calibration Blank1        | Zn (213.857 nm)    | 0.0013 (ppm)    | 38.48    | 0.0013 (ppm)    | 10.6710      |
| 10/31/2017 22:05:03 | K1710862-006A                        | Ag (328.068 nm)    | 0.0466 (ppm)    | 0.53     | 0.0466 (ppm)    | 3227.9380    |
| 10/31/2017 22:05:03 | K1710862-006A                        | Al (394.401 nm)    | 1.7816 (ppm)    | 0.60     | 1.7816 (ppm)    | 22926.5396   |
| 10/31/2017 22:05:03 | K1710862-006A                        | As (188.980 nm)    | 0.0367 (ppm)    | 10.40    | 0.0367 (ppm)    | 31.3193      |
| 10/31/2017 22:05:03 | K1710862-006A                        | B (249.772 nm)     | 1.0534 (ppm)    | 0.43     | 1.0534 (ppm)    | 29199.1912   |
| 10/31/2017 22:05:03 | K1710862-006A                        | Ba (230.424 nm)    | 1.9913 (ppm)    | 0.41     | 1.9913 (ppm)    | 66946.7119   |
| 10/31/2017 22:05:03 | K1710862-006A                        | Be (313.107 nm)    | 0.0479 (ppm)    | 0.51     | 0.0479 (ppm)    | 70239.6048   |

0.050u

0.050u

| Date Time           | Label         | Element Label (nm) | Conc          | %RSD     | Unadjusted Conc | Intensity   |
|---------------------|---------------|--------------------|---------------|----------|-----------------|-------------|
| 10/31/2017 22:05:03 | K1710862-006A | Ca (227.547 nm)    | 5.8673 (ppm)  | 1.14     | 5.8673 (ppm)    | 334.7157    |
| 10/31/2017 22:05:03 | K1710862-006A | Cd (214.439 nm)    | 0.0488 (ppm)  | 0.32     | 0.0488 (ppm)    | 1069.1708   |
| 10/31/2017 22:05:03 | K1710862-006A | Co (230.786 nm)    | 0.4906 (ppm)  | 0.29     | 0.4906 (ppm)    | 4839.9294   |
| 10/31/2017 22:05:03 | K1710862-006A | Cr (267.716 nm)    | 0.1894 (ppm)  | 0.51     | 0.1894 (ppm)    | 9377.7428   |
| 10/31/2017 22:05:03 | K1710862-006A | Cu (327.395 nm)    | 0.2286 (ppm)  | 0.92     | 0.2286 (ppm)    | 14205.7047  |
| 10/31/2017 22:05:03 | K1710862-006A | Fe (234.350 nm)    | 2.0799 (ppm)  | 0.52     | 2.0799 (ppm)    | 23242.8755  |
| 10/31/2017 22:05:03 | K1710862-006A | K (766.491 nm)     | 19.2922 (ppm) | 0.53     | 19.2922 (ppm)   | 58201.2806  |
| 10/31/2017 22:05:03 | K1710862-006A | Mg (279.078 nm)    | 3.8111 (ppm)  | 0.49     | 3.8111 (ppm)    | 7353.5858   |
| 10/31/2017 22:05:03 | K1710862-006A | Mn (257.610 nm)    | 0.6646 (ppm)  | 1.33     | 0.6646 (ppm)    | 208319.3623 |
| 10/31/2017 22:05:03 | K1710862-006A | Mo (202.032 nm)    | 0.4569 (ppm)  | 0.34     | 0.4569 (ppm)    | 4664.0785   |
| 10/31/2017 22:05:03 | K1710862-006A | Na (588.995 nm)    | 21.7978 (ppm) | 0.78     | 21.7978 (ppm)   | 985789.9296 |
| 10/31/2017 22:05:03 | K1710862-006A | Ni (230.299 nm)    | 0.4850 (ppm)  | 0.36     | 0.4850 (ppm)    | 3246.7986   |
| 10/31/2017 22:05:03 | K1710862-006A | Pb (220.353 nm)    | 0.4851 (ppm)  | 0.60     | 0.4851 (ppm)    | 1041.5730   |
| 10/31/2017 22:05:03 | K1710862-006A | Sb (217.582 nm)    | 0.4774 (ppm)  | 0.59     | 0.4774 (ppm)    | 653.6871    |
| 10/31/2017 22:05:03 | K1710862-006A | Se (196.026 nm)    | 1.1006 (ppm)  | 0.36     | 1.1006 (ppm)    | 943.3492    |
| 10/31/2017 22:05:03 | K1710862-006A | Sn (189.925 nm)    | 4.9188 (ppm)  | 0.64     | 4.9188 (ppm)    | 5956.3724   |
| 10/31/2017 22:05:03 | K1710862-006A | Sr (216.596 nm)    | 2.0706 (ppm)  | 0.69     | 2.0706 (ppm)    | 29398.4087  |
| 10/31/2017 22:05:03 | K1710862-006A | Ti (336.122 nm)    | 0.4658 (ppm)  | 0.46     | 0.4658 (ppm)    | 96987.7644  |
| 10/31/2017 22:05:03 | K1710862-006A | Tl (351.923 nm)    | 1.7592 (ppm)  | 0.49     | 1.7592 (ppm)    | 4839.2475   |
| 10/31/2017 22:05:03 | K1710862-006A | V (292.401 nm)     | 0.4736 (ppm)  | 0.53     | 0.4736 (ppm)    | 16848.7975  |
| 10/31/2017 22:05:03 | K1710862-006A | Y (360.074 nm)     | 0.99 (Ratio)  | 0.77     | 0.99 (Ratio)    | 847633.44   |
| 10/31/2017 22:05:03 | K1710862-006A | Y_R (360.074 nm)   | 0.99 (Ratio)  | 0.77     | 0.99 (Ratio)    | 848239.69   |
| 10/31/2017 22:05:03 | K1710862-006A | Zn (213.857 nm)    | 0.4871 (ppm)  | 1.01     | 0.4871 (ppm)    | 13599.3273  |
| 10/31/2017 22:08:22 | K1710862-006L | Ag (328.068 nm)    | 0.0000 (ppm)  | > 100.00 | 0.0000 (ppm)    | -102.1971   |
| 10/31/2017 22:08:22 | K1710862-006L | Al (394.401 nm)    | 0.0071 (ppm)  | 27.65    | 0.0071 (ppm)    | 216.1185    |
| 10/31/2017 22:08:22 | K1710862-006L | As (188.980 nm)    | -0.0004 (ppm) | 91.85    | -0.0004 (ppm)   | -1.7901     |
| 10/31/2017 22:08:22 | K1710862-006L | B (249.772 nm)     | 0.0043 (ppm)  | 21.83    | 0.0043 (ppm)    | 153.7762    |
| 10/31/2017 22:08:22 | K1710862-006L | Ba (230.424 nm)    | 0.0067 (ppm)  | 39.81    | 0.0067 (ppm)    | 226.7622    |
| 10/31/2017 22:08:22 | K1710862-006L | Be (313.107 nm)    | 0.0001 (ppm)  | 62.50    | 0.0001 (ppm)    | -398.1580   |
| 10/31/2017 22:08:22 | K1710862-006L | Ca (227.547 nm)    | 0.8124 (ppm)  | 4.04     | 0.8124 (ppm)    | 50.1507     |
| 10/31/2017 22:08:22 | K1710862-006L | Cd (214.439 nm)    | 0.0000 (ppm)  | > 100.00 | 0.0000 (ppm)    | 14.0274     |
| 10/31/2017 22:08:22 | K1710862-006L | Co (230.786 nm)    | 0.0012 (ppm)  | 49.41    | 0.0012 (ppm)    | 8.2668      |
| 10/31/2017 22:08:22 | K1710862-006L | Cr (267.716 nm)    | 0.0003 (ppm)  | 30.57    | 0.0003 (ppm)    | 11.6339     |
| 10/31/2017 22:08:22 | K1710862-006L | Cu (327.395 nm)    | 0.0006 (ppm)  | 49.74    | 0.0006 (ppm)    | 49.5182     |
| 10/31/2017 22:08:22 | K1710862-006L | Fe (234.350 nm)    | 0.2404 (ppm)  | 0.71     | 0.2404 (ppm)    | 2696.7566   |
| 10/31/2017 22:08:22 | K1710862-006L | K (766.491 nm)     | 0.2957 (ppm)  | 5.38     | 0.2957 (ppm)    | 883.5265    |
| 10/31/2017 22:08:22 | K1710862-006L | Mg (279.078 nm)    | 0.3915 (ppm)  | 1.22     | 0.3915 (ppm)    | 754.8068    |
| 10/31/2017 22:08:22 | K1710862-006L | Mn (257.610 nm)    | 0.0389 (ppm)  | 3.32     | 0.0389 (ppm)    | 12199.1790  |
| 10/31/2017 22:08:22 | K1710862-006L | Mo (202.032 nm)    | 0.0018 (ppm)  | 28.71    | 0.0018 (ppm)    | 25.6861     |
| 10/31/2017 22:08:22 | K1710862-006L | Na (588.995 nm)    | 0.7094 (ppm)  | 1.74     | 0.7094 (ppm)    | 26799.0076  |
| 10/31/2017 22:08:22 | K1710862-006L | Ni (230.299 nm)    | 0.0001 (ppm)  | > 100.00 | 0.0001 (ppm)    | -19.6406    |
| 10/31/2017 22:08:22 | K1710862-006L | Pb (220.353 nm)    | 0.0006 (ppm)  | 85.51    | 0.0006 (ppm)    | 6.2349      |
| 10/31/2017 22:08:22 | K1710862-006L | Sb (217.582 nm)    | 0.0012 (ppm)  | 37.64    | 0.0012 (ppm)    | 2.4609      |
| 10/31/2017 22:08:22 | K1710862-006L | Se (196.026 nm)    | 0.0032 (ppm)  | > 100.00 | 0.0032 (ppm)    | 3.4951      |
| 10/31/2017 22:08:22 | K1710862-006L | Sn (189.925 nm)    | 0.0028 (ppm)  | 52.44    | 0.0028 (ppm)    | 3.2624      |
| 10/31/2017 22:08:22 | K1710862-006L | Sr (216.596 nm)    | 0.0064 (ppm)  | 12.17    | 0.0064 (ppm)    | 90.6066     |
| 10/31/2017 22:08:22 | K1710862-006L | Ti (336.122 nm)    | 0.0013 (ppm)  | 34.74    | 0.0013 (ppm)    | -212.3016   |
| 10/31/2017 22:08:22 | K1710862-006L | Tl (351.923 nm)    | 0.0018 (ppm)  | 57.29    | 0.0018 (ppm)    | 12.1898     |
| 10/31/2017 22:08:22 | K1710862-006L | V (292.401 nm)     | 0.0008 (ppm)  | 67.67    | 0.0008 (ppm)    | 136.5527    |
| 10/31/2017 22:08:22 | K1710862-006L | Y (360.074 nm)     | 1.02 (Ratio)  | 0.74     | 1.02 (Ratio)    | 868404.38   |
| 10/31/2017 22:08:22 | K1710862-006L | Y_R (360.074 nm)   | 1.02 (Ratio)  | 0.75     | 1.02 (Ratio)    | 869022.89   |



| Date Time           | Label         | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity   |
|---------------------|---------------|--------------------|-----------------|----------|-----------------|-------------|
| 10/31/2017 22:08:22 | K1710862-006L | Zn (213.857 nm)    | 0.0026 (ppm)    | 12.58    | 0.0026 (ppm)    | 46.5890     |
| 10/31/2017 22:11:40 | K1710862-007  | Ag (328.068 nm)    | 0.0001 (ppm)    | 82.05    | 0.0001 (ppm)    | -99.6710    |
| 10/31/2017 22:11:40 | K1710862-007  | Al (394.401 nm)    | 0.0018 (ppm)    | 34.27    | 0.0018 (ppm)    | 148.4286    |
| 10/31/2017 22:11:40 | K1710862-007  | As (188.980 nm)    | 0.0003 u (ppm)  | > 100.00 | 0.0003 (ppm)    | -1.2142     |
| 10/31/2017 22:11:40 | K1710862-007  | B (249.772 nm)     | 0.0012 (ppm)    | 9.77     | 0.0012 (ppm)    | 66.7262     |
| 10/31/2017 22:11:40 | K1710862-007  | Ba (230.424 nm)    | 0.0001 (ppm)    | 11.02    | 0.0001 (ppm)    | 5.7624      |
| 10/31/2017 22:11:40 | K1710862-007  | Be (313.107 nm)    | 0.0000 (ppm)    | 27.18    | 0.0000 (ppm)    | -510.6663   |
| 10/31/2017 22:11:40 | K1710862-007  | Ca (227.547 nm)    | 0.0146 u (ppm)  | > 100.00 | 0.0146 (ppm)    | 5.2365      |
| 10/31/2017 22:11:40 | K1710862-007  | Cd (214.439 nm)    | -0.0001 u (ppm) | 83.98    | -0.0001 (ppm)   | 11.7517     |
| 10/31/2017 22:11:40 | K1710862-007  | Co (230.786 nm)    | 0.0001 u (ppm)  | > 100.00 | 0.0001 (ppm)    | -2.2575     |
| 10/31/2017 22:11:40 | K1710862-007  | Cr (267.716 nm)    | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | -1.8309     |
| 10/31/2017 22:11:40 | K1710862-007  | Cu (327.395 nm)    | 0.0001 (ppm)    | > 100.00 | 0.0001 (ppm)    | 20.5459     |
| 10/31/2017 22:11:40 | K1710862-007  | Fe (234.350 nm)    | 0.0023 (ppm)    | 7.70     | 0.0023 (ppm)    | 37.6005     |
| 10/31/2017 22:11:40 | K1710862-007  | K (766.491 nm)     | 0.0299 (ppm)    | 2.03     | 0.0299 (ppm)    | 81.3992     |
| 10/31/2017 22:11:40 | K1710862-007  | Mg (279.078 nm)    | 0.0030 (ppm)    | 60.69    | 0.0030 (ppm)    | 5.1452      |
| 10/31/2017 22:11:40 | K1710862-007  | Mn (257.610 nm)    | 0.0122 (ppm)    | 35.25    | 0.0122 (ppm)    | 3817.8952   |
| 10/31/2017 22:11:40 | K1710862-007  | Mo (202.032 nm)    | 0.0002 u (ppm)  | > 100.00 | 0.0002 (ppm)    | 9.0059      |
| 10/31/2017 22:11:40 | K1710862-007  | Na (588.995 nm)    | -0.0004 u (ppm) | > 100.00 | -0.0004 (ppm)   | -5479.4350  |
| 10/31/2017 22:11:40 | K1710862-007  | Ni (230.299 nm)    | 0.0007 (ppm)    | 47.13    | 0.0007 (ppm)    | -15.7731    |
| 10/31/2017 22:11:40 | K1710862-007  | Pb (220.353 nm)    | -0.0010 u (ppm) | 88.66    | -0.0010 (ppm)   | 2.8719      |
| 10/31/2017 22:11:40 | K1710862-007  | Sb (217.582 nm)    | -0.0008 u (ppm) | > 100.00 | -0.0008 (ppm)   | -0.2345     |
| 10/31/2017 22:11:40 | K1710862-007  | Se (196.026 nm)    | 0.0013 u (ppm)  | > 100.00 | 0.0013 (ppm)    | 1.8518      |
| 10/31/2017 22:11:40 | K1710862-007  | Sn (189.925 nm)    | 0.0010 u (ppm)  | > 100.00 | 0.0010 (ppm)    | 1.0937      |
| 10/31/2017 22:11:40 | K1710862-007  | Sr (216.596 nm)    | 0.0001 u (ppm)  | > 100.00 | 0.0001 (ppm)    | 0.7622      |
| 10/31/2017 22:11:40 | K1710862-007  | Ti (336.122 nm)    | 0.0007 (ppm)    | 4.37     | 0.0007 (ppm)    | -343.7249   |
| 10/31/2017 22:11:40 | K1710862-007  | Tl (351.923 nm)    | 0.0026 (ppm)    | 54.26    | 0.0026 (ppm)    | 14.4002     |
| 10/31/2017 22:11:40 | K1710862-007  | V (292.401 nm)     | -0.0002 u (ppm) | 38.00    | -0.0002 (ppm)   | 103.2249    |
| 10/31/2017 22:11:40 | K1710862-007  | Y (360.074 nm)     | 1.02 (Ratio)    | 0.78     | 1.02 (Ratio)    | 866100.59   |
| 10/31/2017 22:11:40 | K1710862-007  | Y_R (360.074 nm)   | 1.01 (Ratio)    | 0.78     | 1.01 (Ratio)    | 866765.64   |
| 10/31/2017 22:11:40 | K1710862-007  | Zn (213.857 nm)    | 0.0023 (ppm)    | 0.32     | 0.0023 (ppm)    | 38.3410     |
| 10/31/2017 22:14:59 | K1710862-008  | Ag (328.068 nm)    | 0.0001 (ppm)    | 53.15    | 0.0001 (ppm)    | -95.6160    |
| 10/31/2017 22:14:59 | K1710862-008  | Al (394.401 nm)    | 0.0180 (ppm)    | 2.38     | 0.0180 (ppm)    | 356.7937    |
| 10/31/2017 22:14:59 | K1710862-008  | As (188.980 nm)    | -0.0004 u (ppm) | > 100.00 | -0.0004 (ppm)   | -1.8037     |
| 10/31/2017 22:14:59 | K1710862-008  | B (249.772 nm)     | 0.0084 (ppm)    | 0.77     | 0.0084 (ppm)    | 267.1408    |
| 10/31/2017 22:14:59 | K1710862-008  | Ba (230.424 nm)    | 0.0171 (ppm)    | 0.99     | 0.0171 (ppm)    | 577.0664    |
| 10/31/2017 22:14:59 | K1710862-008  | Be (313.107 nm)    | 0.0000 (ppm)    | 3.05     | 0.0000 (ppm)    | -475.4145   |
| 10/31/2017 22:14:59 | K1710862-008  | Ca (227.547 nm)    | 4.3507 (ppm)    | 1.53     | 4.3507 (ppm)    | 249.3363    |
| 10/31/2017 22:14:59 | K1710862-008  | Cd (214.439 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | 11.7568     |
| 10/31/2017 22:14:59 | K1710862-008  | Co (230.786 nm)    | 0.0028 (ppm)    | 4.20     | 0.0028 (ppm)    | 24.3043     |
| 10/31/2017 22:14:59 | K1710862-008  | Cr (267.716 nm)    | 0.0000 u (ppm)  | 72.53    | 0.0000 (ppm)    | -3.3570     |
| 10/31/2017 22:14:59 | K1710862-008  | Cu (327.395 nm)    | 0.0009 (ppm)    | 5.37     | 0.0009 (ppm)    | 67.5037     |
| 10/31/2017 22:14:59 | K1710862-008  | Fe (234.350 nm)    | 1.2240 (ppm)    | 0.45     | 1.2240 (ppm)    | 13683.5234  |
| 10/31/2017 22:14:59 | K1710862-008  | K (766.491 nm)     | 1.3499 (ppm)    | 1.00     | 1.3499 (ppm)    | 4064.3127   |
| 10/31/2017 22:14:59 | K1710862-008  | Mg (279.078 nm)    | 2.1669 (ppm)    | 0.42     | 2.1669 (ppm)    | 4180.7297   |
| 10/31/2017 22:14:59 | K1710862-008  | Mn (257.610 nm)    | 0.2517 (ppm)    | 1.85     | 0.2517 (ppm)    | 78911.0647  |
| 10/31/2017 22:14:59 | K1710862-008  | Mo (202.032 nm)    | 0.0002 (ppm)    | > 100.00 | 0.0002 (ppm)    | 9.5538      |
| 10/31/2017 22:14:59 | K1710862-008  | Na (588.995 nm)    | 3.5318 (ppm)    | 0.90     | 3.5318 (ppm)    | 155149.1956 |
| 10/31/2017 22:14:59 | K1710862-008  | Ni (230.299 nm)    | -0.0027 u (ppm) | 7.68     | -0.0027 (ppm)   | -38.6914    |
| 10/31/2017 22:14:59 | K1710862-008  | Pb (220.353 nm)    | -0.0010 u (ppm) | > 100.00 | -0.0010 (ppm)   | 3.0094      |
| 10/31/2017 22:14:59 | K1710862-008  | Sb (217.582 nm)    | -0.0008 u (ppm) | > 100.00 | -0.0008 (ppm)   | -0.2533     |
| 10/31/2017 22:14:59 | K1710862-008  | Se (196.026 nm)    | -0.0022 u (ppm) | > 100.00 | -0.0022 (ppm)   | -1.1282     |

| Date Time           | Label        | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity   |
|---------------------|--------------|--------------------|-----------------|----------|-----------------|-------------|
| 10/31/2017 22:14:59 | K1710862-008 | Sn (189.925 nm)    | 0.0003 u (ppm)  | > 100.00 | 0.0003 (ppm)    | 0.3091      |
| 10/31/2017 22:14:59 | K1710862-008 | Sr (216.596 nm)    | 0.0279 (ppm)    | 1.24     | 0.0279 (ppm)    | 395.6605    |
| 10/31/2017 22:14:59 | K1710862-008 | Ti (336.122 nm)    | 0.0007 (ppm)    | 4.67     | 0.0007 (ppm)    | -333.2493   |
| 10/31/2017 22:14:59 | K1710862-008 | Tl (351.923 nm)    | 0.0034 (ppm)    | 21.52    | 0.0034 (ppm)    | 16.5464     |
| 10/31/2017 22:14:59 | K1710862-008 | V (292.401 nm)     | 0.0001 (ppm)    | > 100.00 | 0.0001 (ppm)    | 111.4589    |
| 10/31/2017 22:14:59 | K1710862-008 | Y (360.074 nm)     | 1.00 (Ratio)    | 0.61     | 1.00 (Ratio)    | 854986.16   |
| 10/31/2017 22:14:59 | K1710862-008 | Y_R (360.074 nm)   | 1.00 (Ratio)    | 0.61     | 1.00 (Ratio)    | 855639.49   |
| 10/31/2017 22:14:59 | K1710862-008 | Zn (213.857 nm)    | 0.0040 (ppm)    | 1.88     | 0.0040 (ppm)    | 84.4661     |
| 10/31/2017 22:18:18 | K1710862-009 | Ag (328.068 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | -102.4516   |
| 10/31/2017 22:18:18 | K1710862-009 | Al (394.401 nm)    | 0.0256 (ppm)    | 3.02     | 0.0256 (ppm)    | 453.3629    |
| 10/31/2017 22:18:18 | K1710862-009 | As (188.980 nm)    | 0.0004 u (ppm)  | > 100.00 | 0.0004 (ppm)    | -1.0902     |
| 10/31/2017 22:18:18 | K1710862-009 | B (249.772 nm)     | 0.0082 (ppm)    | 1.99     | 0.0082 (ppm)    | 260.5212    |
| 10/31/2017 22:18:18 | K1710862-009 | Ba (230.424 nm)    | 0.0171 (ppm)    | 0.29     | 0.0171 (ppm)    | 576.6599    |
| 10/31/2017 22:18:18 | K1710862-009 | Be (313.107 nm)    | 0.0000 (ppm)    | 27.05    | 0.0000 (ppm)    | -480.5394   |
| 10/31/2017 22:18:18 | K1710862-009 | Ca (227.547 nm)    | 4.3726 (ppm)    | 0.93     | 4.3726 (ppm)    | 250.5700    |
| 10/31/2017 22:18:18 | K1710862-009 | Cd (214.439 nm)    | -0.0001 u (ppm) | 99.85    | -0.0001 (ppm)   | 10.7550     |
| 10/31/2017 22:18:18 | K1710862-009 | Co (230.786 nm)    | 0.0027 (ppm)    | 14.32    | 0.0027 (ppm)    | 23.0659     |
| 10/31/2017 22:18:18 | K1710862-009 | Cr (267.716 nm)    | -0.0001 u (ppm) | 29.55    | -0.0001 (ppm)   | -4.9547     |
| 10/31/2017 22:18:18 | K1710862-009 | Cu (327.395 nm)    | 0.0011 (ppm)    | 3.21     | 0.0011 (ppm)    | 80.9301     |
| 10/31/2017 22:18:18 | K1710862-009 | Fe (234.350 nm)    | 1.6292 (ppm)    | 0.24     | 1.6292 (ppm)    | 18208.7422  |
| 10/31/2017 22:18:18 | K1710862-009 | K (766.491 nm)     | 1.3575 (ppm)    | 1.33     | 1.3575 (ppm)    | 4087.2495   |
| 10/31/2017 22:18:18 | K1710862-009 | Mg (279.078 nm)    | 2.1839 (ppm)    | 0.35     | 2.1839 (ppm)    | 4213.5973   |
| 10/31/2017 22:18:18 | K1710862-009 | Mn (257.610 nm)    | 0.2522 (ppm)    | 1.79     | 0.2522 (ppm)    | 79053.4599  |
| 10/31/2017 22:18:18 | K1710862-009 | Mo (202.032 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | 6.1489      |
| 10/31/2017 22:18:18 | K1710862-009 | Na (588.995 nm)    | 3.6198 (ppm)    | 0.72     | 3.6198 (ppm)    | 159148.7244 |
| 10/31/2017 22:18:18 | K1710862-009 | Ni (230.299 nm)    | -0.0028 u (ppm) | 10.22    | -0.0028 (ppm)   | -39.7523    |
| 10/31/2017 22:18:18 | K1710862-009 | Pb (220.353 nm)    | 0.0010 (ppm)    | 38.13    | 0.0010 (ppm)    | 7.2420      |
| 10/31/2017 22:18:18 | K1710862-009 | Sb (217.582 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | 0.6592      |
| 10/31/2017 22:18:18 | K1710862-009 | Se (196.026 nm)    | -0.0005 u (ppm) | > 100.00 | -0.0005 (ppm)   | 0.3194      |
| 10/31/2017 22:18:18 | K1710862-009 | Sn (189.925 nm)    | -0.0002 u (ppm) | 74.99    | -0.0002 (ppm)   | -0.3587     |
| 10/31/2017 22:18:18 | K1710862-009 | Sr (216.596 nm)    | 0.0282 (ppm)    | 0.88     | 0.0282 (ppm)    | 400.4164    |
| 10/31/2017 22:18:18 | K1710862-009 | Ti (336.122 nm)    | 0.0008 (ppm)    | 5.16     | 0.0008 (ppm)    | -323.4255   |
| 10/31/2017 22:18:18 | K1710862-009 | Tl (351.923 nm)    | -0.0002 u (ppm) | > 100.00 | -0.0002 (ppm)   | 6.7032      |
| 10/31/2017 22:18:18 | K1710862-009 | V (292.401 nm)     | 0.0001 (ppm)    | 76.04    | 0.0001 (ppm)    | 114.0276    |
| 10/31/2017 22:18:18 | K1710862-009 | Y (360.074 nm)     | 0.99 (Ratio)    | 0.67     | 0.99 (Ratio)    | 848586.03   |
| 10/31/2017 22:18:18 | K1710862-009 | Y_R (360.074 nm)   | 0.99 (Ratio)    | 0.67     | 0.99 (Ratio)    | 849232.34   |
| 10/31/2017 22:18:18 | K1710862-009 | Zn (213.857 nm)    | 0.0036 (ppm)    | 1.59     | 0.0036 (ppm)    | 74.9186     |
| 10/31/2017 22:21:38 | K1710862-010 | Ag (328.068 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | -108.3584   |
| 10/31/2017 22:21:38 | K1710862-010 | Al (394.401 nm)    | 0.0275 (ppm)    | 1.61     | 0.0275 (ppm)    | 478.3355    |
| 10/31/2017 22:21:38 | K1710862-010 | As (188.980 nm)    | 0.0014 (ppm)    | 48.65    | 0.0014 (ppm)    | -0.2042     |
| 10/31/2017 22:21:38 | K1710862-010 | B (249.772 nm)     | 0.0082 (ppm)    | 3.12     | 0.0082 (ppm)    | 259.6216    |
| 10/31/2017 22:21:38 | K1710862-010 | Ba (230.424 nm)    | 0.0168 (ppm)    | 1.15     | 0.0168 (ppm)    | 565.6659    |
| 10/31/2017 22:21:38 | K1710862-010 | Be (313.107 nm)    | 0.0000 (ppm)    | 33.99    | 0.0000 (ppm)    | -488.3255   |
| 10/31/2017 22:21:38 | K1710862-010 | Ca (227.547 nm)    | 4.3380 (ppm)    | 1.25     | 4.3380 (ppm)    | 248.6214    |
| 10/31/2017 22:21:38 | K1710862-010 | Cd (214.439 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | 13.1072     |
| 10/31/2017 22:21:38 | K1710862-010 | Co (230.786 nm)    | 0.0027 (ppm)    | 6.67     | 0.0027 (ppm)    | 23.0229     |
| 10/31/2017 22:21:38 | K1710862-010 | Cr (267.716 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | -2.3026     |
| 10/31/2017 22:21:38 | K1710862-010 | Cu (327.395 nm)    | 0.0012 (ppm)    | 7.29     | 0.0012 (ppm)    | 87.8776     |
| 10/31/2017 22:21:38 | K1710862-010 | Fe (234.350 nm)    | 1.5782 (ppm)    | 0.40     | 1.5782 (ppm)    | 17638.9078  |
| 10/31/2017 22:21:38 | K1710862-010 | K (766.491 nm)     | 1.3484 (ppm)    | 1.06     | 1.3484 (ppm)    | 4059.6835   |
| 10/31/2017 22:21:38 | K1710862-010 | Mg (279.078 nm)    | 2.1515 (ppm)    | 0.31     | 2.1515 (ppm)    | 4150.9638   |

| Date Time           | Label          | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity   |
|---------------------|----------------|--------------------|-----------------|----------|-----------------|-------------|
| 10/31/2017 22:21:38 | K1710862-010   | Mn (257.610 nm)    | 0.2324 (ppm)    | 1.73     | 0.2324 (ppm)    | 72850.8343  |
| 10/31/2017 22:21:38 | K1710862-010   | Mo (202.032 nm)    | 0.0002 u (ppm)  | > 100.00 | 0.0002 (ppm)    | 9.3022      |
| 10/31/2017 22:21:38 | K1710862-010   | Na (588.995 nm)    | 3.6340 (ppm)    | 0.78     | 3.6340 (ppm)    | 159793.6046 |
| 10/31/2017 22:21:38 | K1710862-010   | Ni (230.299 nm)    | -0.0025 u (ppm) | 21.86    | -0.0025 (ppm)   | -37.5358    |
| 10/31/2017 22:21:38 | K1710862-010   | Pb (220.353 nm)    | 0.0003 u (ppm)  | > 100.00 | 0.0003 (ppm)    | 5.6874      |
| 10/31/2017 22:21:38 | K1710862-010   | Sb (217.582 nm)    | -0.0003 u (ppm) | > 100.00 | -0.0003 (ppm)   | 0.3506      |
| 10/31/2017 22:21:38 | K1710862-010   | Se (196.026 nm)    | -0.0010 u (ppm) | > 100.00 | -0.0010 (ppm)   | -0.0657     |
| 10/31/2017 22:21:38 | K1710862-010   | Sn (189.925 nm)    | 0.0002 u (ppm)  | > 100.00 | 0.0002 (ppm)    | 0.2035      |
| 10/31/2017 22:21:38 | K1710862-010   | Sr (216.596 nm)    | 0.0280 (ppm)    | 3.27     | 0.0280 (ppm)    | 396.6791    |
| 10/31/2017 22:21:38 | K1710862-010   | Ti (336.122 nm)    | 0.0008 (ppm)    | 0.41     | 0.0008 (ppm)    | -316.8211   |
| 10/31/2017 22:21:38 | K1710862-010   | Tl (351.923 nm)    | 0.0025 (ppm)    | 73.40    | 0.0025 (ppm)    | 14.2631     |
| 10/31/2017 22:21:38 | K1710862-010   | V (292.401 nm)     | 0.0002 (ppm)    | 22.33    | 0.0002 (ppm)    | 116.2705    |
| 10/31/2017 22:21:38 | K1710862-010   | Y (360.074 nm)     | 1.00 (Ratio)    | 0.79     | 1.00 (Ratio)    | 851306.43   |
| 10/31/2017 22:21:38 | K1710862-010   | Y_R (360.074 nm)   | 1.00 (Ratio)    | 0.78     | 1.00 (Ratio)    | 851883.76   |
| 10/31/2017 22:21:38 | K1710862-010   | Zn (213.857 nm)    | 0.0050 (ppm)    | 1.56     | 0.0050 (ppm)    | 111.8263    |
| 10/31/2017 22:24:56 | K1710862-001 T | Ag (328.068 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | -100.0339   |
| 10/31/2017 22:24:56 | K1710862-001 T | Al (394.401 nm)    | 0.0935 (ppm)    | 0.40     | 0.0935 (ppm)    | 1321.9637   |
| 10/31/2017 22:24:56 | K1710862-001 T | As (188.980 nm)    | -0.0006 u (ppm) | > 100.00 | -0.0006 (ppm)   | -1.9546     |
| 10/31/2017 22:24:56 | K1710862-001 T | B (249.772 nm)     | 0.0069 (ppm)    | 1.77     | 0.0069 (ppm)    | 224.7696    |
| 10/31/2017 22:24:56 | K1710862-001 T | Ba (230.424 nm)    | 0.0143 (ppm)    | 0.61     | 0.0143 (ppm)    | 482.7812    |
| 10/31/2017 22:24:56 | K1710862-001 T | Be (313.107 nm)    | 0.0000 (ppm)    | 23.97    | 0.0000 (ppm)    | -491.8050   |
| 10/31/2017 22:24:56 | K1710862-001 T | Ca (227.547 nm)    | 2.0869 (ppm)    | 1.52     | 2.0869 (ppm)    | 121.8993    |
| 10/31/2017 22:24:56 | K1710862-001 T | Cd (214.439 nm)    | -0.0001 u (ppm) | 4.86     | -0.0001 (ppm)   | 11.9150     |
| 10/31/2017 22:24:56 | K1710862-001 T | Co (230.786 nm)    | 0.0004 (ppm)    | 40.39    | 0.0004 (ppm)    | 0.8130      |
| 10/31/2017 22:24:56 | K1710862-001 T | Cr (267.716 nm)    | 0.0001 u (ppm)  | > 100.00 | 0.0001 (ppm)    | 5.1943      |
| 10/31/2017 22:24:56 | K1710862-001 T | Cu (327.395 nm)    | 0.0034 (ppm)    | 1.91     | 0.0034 (ppm)    | 225.3272    |
| 10/31/2017 22:24:56 | K1710862-001 T | Fe (234.350 nm)    | 1.8673 (ppm)    | 0.22     | 1.8673 (ppm)    | 20868.3426  |
| 10/31/2017 22:24:56 | K1710862-001 T | K (766.491 nm)     | 0.9574 (ppm)    | 0.74     | 0.9574 (ppm)    | 2879.8779   |
| 10/31/2017 22:24:56 | K1710862-001 T | Mg (279.078 nm)    | 1.1127 (ppm)    | 0.52     | 1.1127 (ppm)    | 2146.4787   |
| 10/31/2017 22:24:56 | K1710862-001 T | Mn (257.610 nm)    | 0.0322 (ppm)    | 14.71    | 0.0322 (ppm)    | 10092.4123  |
| 10/31/2017 22:24:56 | K1710862-001 T | Mo (202.032 nm)    | 0.0002 (ppm)    | 96.11    | 0.0002 (ppm)    | 9.1475      |
| 10/31/2017 22:24:56 | K1710862-001 T | Na (588.995 nm)    | 3.2370 (ppm)    | 0.67     | 3.2370 (ppm)    | 141742.4672 |
| 10/31/2017 22:24:56 | K1710862-001 T | Ni (230.299 nm)    | -0.0037 u (ppm) | 18.97    | -0.0037 (ppm)   | -45.7783    |
| 10/31/2017 22:24:56 | K1710862-001 T | Pb (220.353 nm)    | 0.0067 (ppm)    | 9.21     | 0.0067 (ppm)    | 19.2733     |
| 10/31/2017 22:24:56 | K1710862-001 T | Sb (217.582 nm)    | -0.0010 u (ppm) | > 100.00 | -0.0010 (ppm)   | -0.6003     |
| 10/31/2017 22:24:56 | K1710862-001 T | Se (196.026 nm)    | 0.0015 u (ppm)  | > 100.00 | 0.0015 (ppm)    | 2.0907      |
| 10/31/2017 22:24:56 | K1710862-001 T | Sn (189.925 nm)    | 0.0004 u (ppm)  | > 100.00 | 0.0004 (ppm)    | 0.4708      |
| 10/31/2017 22:24:56 | K1710862-001 T | Sr (216.596 nm)    | 0.0176 (ppm)    | 0.39     | 0.0176 (ppm)    | 249.5898    |
| 10/31/2017 22:24:56 | K1710862-001 T | Ti (336.122 nm)    | 0.0031 (ppm)    | 1.76     | 0.0031 (ppm)    | 157.6143    |
| 10/31/2017 22:24:56 | K1710862-001 T | Tl (351.923 nm)    | -0.0011 u (ppm) | > 100.00 | -0.0011 (ppm)   | 4.2707      |
| 10/31/2017 22:24:56 | K1710862-001 T | V (292.401 nm)     | 0.0005 (ppm)    | 37.39    | 0.0005 (ppm)    | 127.2103    |
| 10/31/2017 22:24:56 | K1710862-001 T | Y (360.074 nm)     | 1.00 (Ratio)    | 0.54     | 1.00 (Ratio)    | 857274.94   |
| 10/31/2017 22:24:56 | K1710862-001 T | Y_R (360.074 nm)   | 1.00 (Ratio)    | 0.54     | 1.00 (Ratio)    | 857867.57   |
| 10/31/2017 22:24:56 | K1710862-001 T | Zn (213.857 nm)    | 0.0029 (ppm)    | 1.25     | 0.0029 (ppm)    | 55.0750     |
| 10/31/2017 22:28:16 | K1710862-002 T | Ag (328.068 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | -105.9984   |
| 10/31/2017 22:28:16 | K1710862-002 T | Al (394.401 nm)    | 0.0836 (ppm)    | 1.79     | 0.0836 (ppm)    | 1195.7241   |
| 10/31/2017 22:28:16 | K1710862-002 T | As (188.980 nm)    | -0.0005 u (ppm) | > 100.00 | -0.0005 (ppm)   | -1.9146     |
| 10/31/2017 22:28:16 | K1710862-002 T | B (249.772 nm)     | 0.0069 (ppm)    | 1.57     | 0.0069 (ppm)    | 224.7119    |
| 10/31/2017 22:28:16 | K1710862-002 T | Ba (230.424 nm)    | 0.0141 (ppm)    | 1.13     | 0.0141 (ppm)    | 477.4470    |
| 10/31/2017 22:28:16 | K1710862-002 T | Be (313.107 nm)    | 0.0000 (ppm)    | 23.75    | 0.0000 (ppm)    | -497.6433   |
| 10/31/2017 22:28:16 | K1710862-002 T | Ca (227.547 nm)    | 2.0813 (ppm)    | 0.85     | 2.0813 (ppm)    | 121.5831    |

| Date Time           | Label          | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity   |
|---------------------|----------------|--------------------|-----------------|----------|-----------------|-------------|
| 10/31/2017 22:28:16 | K1710862-002 T | Cd (214.439 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | 12.3668     |
| 10/31/2017 22:28:16 | K1710862-002 T | Co (230.786 nm)    | 0.0001 (ppm)    | 88.72    | 0.0001 (ppm)    | -2.6269     |
| 10/31/2017 22:28:16 | K1710862-002 T | Cr (267.716 nm)    | 0.0002 (ppm)    | 28.34    | 0.0002 (ppm)    | 8.7448      |
| 10/31/2017 22:28:16 | K1710862-002 T | Cu (327.395 nm)    | 0.0033 (ppm)    | 1.52     | 0.0033 (ppm)    | 217.9965    |
| 10/31/2017 22:28:16 | K1710862-002 T | Fe (234.350 nm)    | 1.8404 (ppm)    | 0.43     | 1.8404 (ppm)    | 20567.4498  |
| 10/31/2017 22:28:16 | K1710862-002 T | K (766.491 nm)     | 0.9481 (ppm)    | 2.02     | 0.9481 (ppm)    | 2851.7331   |
| 10/31/2017 22:28:16 | K1710862-002 T | Mg (279.078 nm)    | 1.1083 (ppm)    | 0.66     | 1.1083 (ppm)    | 2137.9802   |
| 10/31/2017 22:28:16 | K1710862-002 T | Mn (257.610 nm)    | 0.0313 (ppm)    | 15.01    | 0.0313 (ppm)    | 9830.4073   |
| 10/31/2017 22:28:16 | K1710862-002 T | Mo (202.032 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | 5.8846      |
| 10/31/2017 22:28:16 | K1710862-002 T | Na (588.995 nm)    | 3.2151 (ppm)    | 0.66     | 3.2151 (ppm)    | 140744.5937 |
| 10/31/2017 22:28:16 | K1710862-002 T | Ni (230.299 nm)    | -0.0032 u (ppm) | 10.59    | -0.0032 (ppm)   | -42.2121    |
| 10/31/2017 22:28:16 | K1710862-002 T | Pb (220.353 nm)    | 0.0069 (ppm)    | 18.20    | 0.0069 (ppm)    | 19.7997     |
| 10/31/2017 22:28:16 | K1710862-002 T | Sb (217.582 nm)    | -0.0010 u (ppm) | > 100.00 | -0.0010 (ppm)   | -0.5607     |
| 10/31/2017 22:28:16 | K1710862-002 T | Se (196.026 nm)    | 0.0011 u (ppm)  | > 100.00 | 0.0011 (ppm)    | 1.6996      |
| 10/31/2017 22:28:16 | K1710862-002 T | Sn (189.925 nm)    | 0.0007 u (ppm)  | > 100.00 | 0.0007 (ppm)    | 0.7368      |
| 10/31/2017 22:28:16 | K1710862-002 T | Sr (216.596 nm)    | 0.0172 (ppm)    | 1.21     | 0.0172 (ppm)    | 244.2541    |
| 10/31/2017 22:28:16 | K1710862-002 T | Ti (336.122 nm)    | 0.0027 (ppm)    | 2.41     | 0.0027 (ppm)    | 82.8436     |
| 10/31/2017 22:28:16 | K1710862-002 T | Tl (351.923 nm)    | 0.0006 (ppm)    | > 100.00 | 0.0006 (ppm)    | 9.0147      |
| 10/31/2017 22:28:16 | K1710862-002 T | V (292.401 nm)     | 0.0005 (ppm)    | 34.63    | 0.0005 (ppm)    | 126.7297    |
| 10/31/2017 22:28:16 | K1710862-002 T | Y (360.074 nm)     | 1.00 (Ratio)    | 0.75     | 1.00 (Ratio)    | 854982.13   |
| 10/31/2017 22:28:16 | K1710862-002 T | Y_R (360.074 nm)   | 1.00 (Ratio)    | 0.75     | 1.00 (Ratio)    | 855513.58   |
| 10/31/2017 22:28:16 | K1710862-002 T | Zn (213.857 nm)    | 0.0027 (ppm)    | 2.60     | 0.0027 (ppm)    | 47.9294     |
| 10/31/2017 22:31:35 | K1710862-006 T | Ag (328.068 nm)    | -0.0001 u (ppm) | 56.66    | -0.0001 (ppm)   | -113.8405   |
| 10/31/2017 22:31:35 | K1710862-006 T | Al (394.401 nm)    | 0.0736 (ppm)    | 1.08     | 0.0736 (ppm)    | 1067.6261   |
| 10/31/2017 22:31:35 | K1710862-006 T | As (188.980 nm)    | -0.0016 u (ppm) | > 100.00 | -0.0016 (ppm)   | -2.8890     |
| 10/31/2017 22:31:35 | K1710862-006 T | B (249.772 nm)     | 0.0082 (ppm)    | 2.29     | 0.0082 (ppm)    | 260.8291    |
| 10/31/2017 22:31:35 | K1710862-006 T | Ba (230.424 nm)    | 0.0176 (ppm)    | 2.26     | 0.0176 (ppm)    | 592.6917    |
| 10/31/2017 22:31:35 | K1710862-006 T | Be (313.107 nm)    | 0.0000 (ppm)    | 14.98    | 0.0000 (ppm)    | -459.6046   |
| 10/31/2017 22:31:35 | K1710862-006 T | Ca (227.547 nm)    | 3.9766 (ppm)    | 0.85     | 3.9766 (ppm)    | 228.2780    |
| 10/31/2017 22:31:35 | K1710862-006 T | Cd (214.439 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | 10.6734     |
| 10/31/2017 22:31:35 | K1710862-006 T | Co (230.786 nm)    | 0.0016 (ppm)    | 26.60    | 0.0016 (ppm)    | 12.5951     |
| 10/31/2017 22:31:35 | K1710862-006 T | Cr (267.716 nm)    | 0.0001 (ppm)    | 55.05    | 0.0001 (ppm)    | 5.3315      |
| 10/31/2017 22:31:35 | K1710862-006 T | Cu (327.395 nm)    | 0.0013 (ppm)    | 8.34     | 0.0013 (ppm)    | 95.9291     |
| 10/31/2017 22:31:35 | K1710862-006 T | Fe (234.350 nm)    | 3.0671 (ppm)    | 0.35     | 3.0671 (ppm)    | 34268.5861  |
| 10/31/2017 22:31:35 | K1710862-006 T | K (766.491 nm)     | 1.2948 (ppm)    | 0.97     | 1.2948 (ppm)    | 3897.9443   |
| 10/31/2017 22:31:35 | K1710862-006 T | Mg (279.078 nm)    | 1.9654 (ppm)    | 0.38     | 1.9654 (ppm)    | 3791.8865   |
| 10/31/2017 22:31:35 | K1710862-006 T | Mn (257.610 nm)    | 0.1819 (ppm)    | 2.20     | 0.1819 (ppm)    | 57013.3333  |
| 10/31/2017 22:31:35 | K1710862-006 T | Mo (202.032 nm)    | 0.0001 u (ppm)  | > 100.00 | 0.0001 (ppm)    | 8.3203      |
| 10/31/2017 22:31:35 | K1710862-006 T | Na (588.995 nm)    | 3.5129 (ppm)    | 0.80     | 3.5129 (ppm)    | 154289.0960 |
| 10/31/2017 22:31:35 | K1710862-006 T | Ni (230.299 nm)    | -0.0025 u (ppm) | 10.71    | -0.0025 (ppm)   | -37.2808    |
| 10/31/2017 22:31:35 | K1710862-006 T | Pb (220.353 nm)    | 0.0010 (ppm)    | 10.86    | 0.0010 (ppm)    | 7.2895      |
| 10/31/2017 22:31:35 | K1710862-006 T | Sb (217.582 nm)    | -0.0009 u (ppm) | 29.58    | -0.0009 (ppm)   | -0.3720     |
| 10/31/2017 22:31:35 | K1710862-006 T | Se (196.026 nm)    | -0.0012 u (ppm) | > 100.00 | -0.0012 (ppm)   | -0.2412     |
| 10/31/2017 22:31:35 | K1710862-006 T | Sn (189.925 nm)    | -0.0013 u (ppm) | 43.85    | -0.0013 (ppm)   | -1.6526     |
| 10/31/2017 22:31:35 | K1710862-006 T | Sr (216.596 nm)    | 0.0267 (ppm)    | 1.52     | 0.0267 (ppm)    | 378.9631    |
| 10/31/2017 22:31:35 | K1710862-006 T | Ti (336.122 nm)    | 0.0018 (ppm)    | 13.38    | 0.0018 (ppm)    | -95.9366    |
| 10/31/2017 22:31:35 | K1710862-006 T | Tl (351.923 nm)    | 0.0009 u (ppm)  | > 100.00 | 0.0009 (ppm)    | 9.7988      |
| 10/31/2017 22:31:35 | K1710862-006 T | V (292.401 nm)     | 0.0006 (ppm)    | 8.90     | 0.0006 (ppm)    | 131.3944    |
| 10/31/2017 22:31:35 | K1710862-006 T | Y (360.074 nm)     | 1.00 (Ratio)    | 0.90     | 1.00 (Ratio)    | 854467.19   |
| 10/31/2017 22:31:35 | K1710862-006 T | Y_R (360.074 nm)   | 1.00 (Ratio)    | 0.90     | 1.00 (Ratio)    | 854943.76   |
| 10/31/2017 22:31:35 | K1710862-006 T | Zn (213.857 nm)    | 0.0063 (ppm)    | 0.90     | 0.0063 (ppm)    | 148.2504    |

| Date Time           | Label                                 | Element Label (nm) | Conc          | %RSD  | Unadjusted Conc | Intensity    |
|---------------------|---------------------------------------|--------------------|---------------|-------|-----------------|--------------|
| 10/31/2017 22:34:53 | K1710862-006S T                       | Ag (328.068 nm)    | 0.0487 (ppm)  | 0.66  | 0.0487 (ppm)    | 3378.3098    |
| 10/31/2017 22:34:53 | K1710862-006S T                       | Al (394.401 nm)    | 1.9051 (ppm)  | 0.55  | 1.9051 (ppm)    | 24506.9441   |
| 10/31/2017 22:34:53 | K1710862-006S T                       | As (188.980 nm)    | 0.0414 (ppm)  | 10.73 | 0.0414 (ppm)    | 35.5657      |
| 10/31/2017 22:34:53 | K1710862-006S T                       | B (249.772 nm)     | 0.9648 (ppm)  | 0.39  | 0.9648 (ppm)    | 26746.0495   |
| 10/31/2017 22:34:53 | K1710862-006S T                       | Ba (230.424 nm)    | 2.0895 (ppm)  | 0.63  | 2.0895 (ppm)    | 70249.9977   |
| 10/31/2017 22:34:53 | K1710862-006S T                       | Be (313.107 nm)    | 0.0500 (ppm)  | 0.35  | 0.0500 (ppm)    | 73321.4960   |
| 10/31/2017 22:34:53 | K1710862-006S T                       | Ca (227.547 nm)    | 5.9450 (ppm)  | 0.50  | 5.9450 (ppm)    | 339.0886     |
| 10/31/2017 22:34:53 | K1710862-006S T                       | Cd (214.439 nm)    | 0.0511 (ppm)  | 0.66  | 0.0511 (ppm)    | 1120.7331    |
| 10/31/2017 22:34:53 | K1710862-006S T                       | Co (230.786 nm)    | 0.5132 (ppm)  | 0.24  | 0.5132 (ppm)    | 5062.8168    |
| 10/31/2017 22:34:53 | K1710862-006S T                       | Cr (267.716 nm)    | 0.1990 (ppm)  | 0.44  | 0.1990 (ppm)    | 9850.1814    |
| 10/31/2017 22:34:53 | K1710862-006S T                       | Cu (327.395 nm)    | 0.2390 (ppm)  | 0.40  | 0.2390 (ppm)    | 14851.1022   |
| 10/31/2017 22:34:53 | K1710862-006S T                       | Fe (234.350 nm)    | 4.0345 (ppm)  | 0.40  | 4.0345 (ppm)    | 45073.8562   |
| 10/31/2017 22:34:53 | K1710862-006S T                       | K (766.491 nm)     | 20.1040 (ppm) | 0.65  | 20.1040 (ppm)   | 60650.5112   |
| 10/31/2017 22:34:53 | K1710862-006S T                       | Mg (279.078 nm)    | 3.9326 (ppm)  | 0.41  | 3.9326 (ppm)    | 7588.0880    |
| 10/31/2017 22:34:53 | K1710862-006S T                       | Mn (257.610 nm)    | 0.6676 (ppm)  | 0.28  | 0.6676 (ppm)    | 209248.1636  |
| 10/31/2017 22:34:53 | K1710862-006S T                       | Mo (202.032 nm)    | 0.4741 (ppm)  | 0.47  | 0.4741 (ppm)    | 4839.4704    |
| 10/31/2017 22:34:53 | K1710862-006S T                       | Na (588.995 nm)    | 22.4930 (ppm) | 0.62  | 22.4930 (ppm)   | 1017403.1148 |
| 10/31/2017 22:34:53 | K1710862-006S T                       | Ni (230.299 nm)    | 0.5061 (ppm)  | 0.44  | 0.5061 (ppm)    | 3389.1040    |
| 10/31/2017 22:34:53 | K1710862-006S T                       | Pb (220.353 nm)    | 0.5093 (ppm)  | 0.37  | 0.5093 (ppm)    | 1093.2575    |
| 10/31/2017 22:34:53 | K1710862-006S T                       | Sb (217.582 nm)    | 0.4930 (ppm)  | 0.77  | 0.4930 (ppm)    | 675.0769     |
| 10/31/2017 22:34:53 | K1710862-006S T                       | Se (196.026 nm)    | 1.0542 (ppm)  | 1.04  | 1.0542 (ppm)    | 903.6286     |
| 10/31/2017 22:34:53 | K1710862-006S T                       | Sn (189.925 nm)    | 5.1092 (ppm)  | 0.27  | 5.1092 (ppm)    | 6186.8168    |
| 10/31/2017 22:34:53 | K1710862-006S T                       | Sr (216.596 nm)    | 2.0855 (ppm)  | 0.53  | 2.0855 (ppm)    | 29611.0456   |
| 10/31/2017 22:34:53 | K1710862-006S T                       | Ti (336.122 nm)    | 0.4852 (ppm)  | 0.41  | 0.4852 (ppm)    | 101039.0535  |
| 10/31/2017 22:34:53 | K1710862-006S T                       | Tl (351.923 nm)    | 1.8500 (ppm)  | 0.58  | 1.8500 (ppm)    | 5088.7539    |
| 10/31/2017 22:34:53 | K1710862-006S T                       | V (292.401 nm)     | 0.4953 (ppm)  | 0.45  | 0.4953 (ppm)    | 17616.8289   |
| 10/31/2017 22:34:53 | K1710862-006S T                       | Y (360.074 nm)     | 0.98 (Ratio)  | 0.79  | 0.98 (Ratio)    | 839337.44    |
| 10/31/2017 22:34:53 | K1710862-006S T                       | Y_R (360.074 nm)   | 0.98 (Ratio)  | 0.79  | 0.98 (Ratio)    | 839758.28    |
| 10/31/2017 22:34:53 | K1710862-006S T                       | Zn (213.857 nm)    | 0.5083 (ppm)  | 0.59  | 0.5083 (ppm)    | 14193.5182   |
| 10/31/2017 22:38:12 | Continuing Calibration Verification 1 | Ag (328.068 nm)    | 0.4777 (ppm)  | 0.28  | 0.4777 (ppm)    | 34027.4857   |
| 10/31/2017 22:38:12 | Continuing Calibration Verification 1 | Al (394.401 nm)    | 9.2063 (ppm)  | 0.46  | 9.2063 (ppm)    | 117945.3435  |
| 10/31/2017 22:38:12 | Continuing Calibration Verification 1 | As (188.980 nm)    | 0.9430 (ppm)  | 0.52  | 0.9430 (ppm)    | 841.5327     |
| 10/31/2017 22:38:12 | Continuing Calibration Verification 1 | B (249.772 nm)     | 2.3607 (ppm)  | 0.25  | 2.3607 (ppm)    | 65396.3618   |
| 10/31/2017 22:38:12 | Continuing Calibration Verification 1 | Ba (230.424 nm)    | 10.0606 (ppm) | 0.36  | 10.0606 (ppm)   | 338230.6067  |
| 10/31/2017 22:38:12 | Continuing Calibration Verification 1 | Be (313.107 nm)    | 0.2462 (ppm)  | 0.41  | 0.2462 (ppm)    | 363220.0022  |
| 10/31/2017 22:38:12 | Continuing Calibration Verification 1 | Ca (227.547 nm)    | 23.4147 (ppm) | 0.65  | 23.4147 (ppm)   | 1322.5527    |
| 10/31/2017 22:38:12 | Continuing Calibration Verification 1 | Cd (214.439 nm)    | 0.4920 (ppm)  | 0.24  | 0.4920 (ppm)    | 10664.0462   |
| 10/31/2017 22:38:12 | Continuing Calibration Verification 1 | Co (230.786 nm)    | 2.5377 (ppm)  | 0.21  | 2.5377 (ppm)    | 25050.3094   |
| 10/31/2017 22:38:12 | Continuing Calibration Verification 1 | Cr (267.716 nm)    | 0.4959 (ppm)  | 0.30  | 0.4959 (ppm)    | 24551.5800   |
| 10/31/2017 22:38:12 | Continuing Calibration Verification 1 | Cu (327.395 nm)    | 1.1591 (ppm)  | 0.46  | 1.1591 (ppm)    | 71976.9484   |
| 10/31/2017 22:38:12 | Continuing Calibration Verification 1 | Fe (234.350 nm)    | 4.7397 (ppm)  | 0.27  | 4.7397 (ppm)    | 52950.3521   |
| 10/31/2017 22:38:12 | Continuing Calibration Verification 1 | K (766.491 nm)     | 23.8743 (ppm) | 0.68  | 23.8743 (ppm)   | 72026.8306   |
| 10/31/2017 22:38:12 | Continuing Calibration Verification 1 | Mg (279.078 nm)    | 24.6487 (ppm) | 0.24  | 24.6487 (ppm)   | 47563.5486   |
| 10/31/2017 22:38:12 | Continuing Calibration Verification 1 | Mn (257.610 nm)    | 0.7403 (ppm)  | 0.27  | 0.7403 (ppm)    | 232040.3032  |
| 10/31/2017 22:38:12 | Continuing Calibration Verification 1 | Mo (202.032 nm)    | 2.3552 (ppm)  | 0.22  | 2.3552 (ppm)    | 24014.9146   |
| 10/31/2017 22:38:12 | Continuing Calibration Verification 1 | Na (588.995 nm)    | 23.9427 (ppm) | 0.67  | 23.9427 (ppm)   | 1083327.9424 |
| 10/31/2017 22:38:12 | Continuing Calibration Verification 1 | Ni (230.299 nm)    | 1.9962 (ppm)  | 0.32  | 1.9962 (ppm)    | 13426.8702   |
| 10/31/2017 22:38:12 | Continuing Calibration Verification 1 | Pb (220.353 nm)    | 0.4901 (ppm)  | 0.52  | 0.4901 (ppm)    | 1052.1645    |
| 10/31/2017 22:38:12 | Continuing Calibration Verification 1 | Sb (217.582 nm)    | 4.7880 (ppm)  | 0.52  | 4.7880 (ppm)    | 6548.6826    |
| 10/31/2017 22:38:12 | Continuing Calibration Verification 1 | Se (196.026 nm)    | 0.4847 (ppm)  | 0.77  | 0.4847 (ppm)    | 415.8538     |
| 10/31/2017 22:38:12 | Continuing Calibration Verification 1 | Sn (189.925 nm)    | 5.0034 (ppm)  | 0.48  | 5.0034 (ppm)    | 6058.7895    |

| Date Time           | Label                                 | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity   |
|---------------------|---------------------------------------|--------------------|-----------------|----------|-----------------|-------------|
| 10/31/2017 22:38:12 | Continuing Calibration Verification 1 | Sr (216.596 nm)    | 2.4967 (ppm)    | 0.40     | 2.4967 (ppm)    | 35448.7971  |
| 10/31/2017 22:38:12 | Continuing Calibration Verification 1 | Ti (336.122 nm)    | 2.4326 (ppm)    | 0.37     | 2.4326 (ppm)    | 508499.0123 |
| 10/31/2017 22:38:12 | Continuing Calibration Verification 1 | Ti (351.923 nm)    | 0.9595 (ppm)    | 0.81     | 0.9595 (ppm)    | 2642.8111   |
| 10/31/2017 22:38:12 | Continuing Calibration Verification 1 | V (292.401 nm)     | 2.4557 (ppm)    | 0.34     | 2.4557 (ppm)    | 86910.7911  |
| 10/31/2017 22:38:12 | Continuing Calibration Verification 1 | Y (360.074 nm)     | 0.98 (Ratio)    | 0.73     | 0.98 (Ratio)    | 831973.01   |
| 10/31/2017 22:38:12 | Continuing Calibration Verification 1 | Y_R (360.074 nm)   | 0.97 (Ratio)    | 0.73     | 0.97 (Ratio)    | 832377.68   |
| 10/31/2017 22:38:12 | Continuing Calibration Verification 1 | Zn (213.857 nm)    | 0.9869 (ppm)    | 0.26     | 0.9869 (ppm)    | 27583.7544  |
| 10/31/2017 22:41:31 | Continuing Calibration Blank 1        | Ag (328.068 nm)    | 0.0002 (ppm)    | 30.64    | 0.0002 (ppm)    | -90.3847    |
| 10/31/2017 22:41:31 | Continuing Calibration Blank 1        | Al (394.401 nm)    | 0.0034 (ppm)    | 46.33    | 0.0034 (ppm)    | 169.7673    |
| 10/31/2017 22:41:31 | Continuing Calibration Blank 1        | As (188.980 nm)    | 0.0027 (ppm)    | 90.90    | 0.0027 (ppm)    | 0.9530      |
| 10/31/2017 22:41:31 | Continuing Calibration Blank 1        | B (249.772 nm)     | 0.0043 (ppm)    | 27.74    | 0.0043 (ppm)    | 153.3229    |
| 10/31/2017 22:41:31 | Continuing Calibration Blank 1        | Ba (230.424 nm)    | 0.0052 (ppm)    | 33.94    | 0.0052 (ppm)    | 175.2776    |
| 10/31/2017 22:41:31 | Continuing Calibration Blank 1        | Be (313.107 nm)    | 0.0001 (ppm)    | 26.80    | 0.0001 (ppm)    | -337.4687   |
| 10/31/2017 22:41:31 | Continuing Calibration Blank 1        | Ca (227.547 nm)    | 0.0375 (ppm)    | 17.99    | 0.0375 (ppm)    | 6.5277      |
| 10/31/2017 22:41:31 | Continuing Calibration Blank 1        | Cd (214.439 nm)    | 0.0002 (ppm)    | 18.55    | 0.0002 (ppm)    | 18.8916     |
| 10/31/2017 22:41:31 | Continuing Calibration Blank 1        | Co (230.786 nm)    | 0.0012 (ppm)    | 60.61    | 0.0012 (ppm)    | 8.3274      |
| 10/31/2017 22:41:31 | Continuing Calibration Blank 1        | Cr (267.716 nm)    | 0.0004 (ppm)    | 23.21    | 0.0004 (ppm)    | 17.1938     |
| 10/31/2017 22:41:31 | Continuing Calibration Blank 1        | Cu (327.395 nm)    | 0.0006 (ppm)    | 55.02    | 0.0006 (ppm)    | 52.6701     |
| 10/31/2017 22:41:31 | Continuing Calibration Blank 1        | Fe (234.350 nm)    | 0.0029 (ppm)    | 36.13    | 0.0029 (ppm)    | 43.7731     |
| 10/31/2017 22:41:31 | Continuing Calibration Blank 1        | K (766.491 nm)     | 0.0494 (ppm)    | 22.96    | 0.0494 (ppm)    | 140.1645    |
| 10/31/2017 22:41:31 | Continuing Calibration Blank 1        | Mg (279.078 nm)    | 0.0111 (ppm)    | 41.27    | 0.0111 (ppm)    | 20.8189     |
| 10/31/2017 22:41:31 | Continuing Calibration Blank 1        | Mn (257.610 nm)    | 0.0039 (ppm)    | 23.79    | 0.0039 (ppm)    | 1237.6399   |
| 10/31/2017 22:41:31 | Continuing Calibration Blank 1        | Mo (202.032 nm)    | 0.0031 (ppm)    | 11.75    | 0.0031 (ppm)    | 38.9848     |
| 10/31/2017 22:41:31 | Continuing Calibration Blank 1        | Na (588.995 nm)    | -0.0023 u (ppm) | > 100.00 | -0.0023 (ppm)   | -5562.6608  |
| 10/31/2017 22:41:31 | Continuing Calibration Blank 1        | Ni (230.299 nm)    | 0.0006 (ppm)    | 43.10    | 0.0006 (ppm)    | -16.7297    |
| 10/31/2017 22:41:31 | Continuing Calibration Blank 1        | Pb (220.353 nm)    | 0.0007 (ppm)    | 77.12    | 0.0007 (ppm)    | 6.4935      |
| 10/31/2017 22:41:31 | Continuing Calibration Blank 1        | Sb (217.582 nm)    | 0.0027 (ppm)    | > 100.00 | 0.0027 (ppm)    | 4.5618      |
| 10/31/2017 22:41:31 | Continuing Calibration Blank 1        | Se (195.026 nm)    | 0.0007 u (ppm)  | > 100.00 | 0.0007 (ppm)    | 1.3708      |
| 10/31/2017 22:41:31 | Continuing Calibration Blank 1        | Sn (189.925 nm)    | 0.0038 (ppm)    | 14.67    | 0.0038 (ppm)    | 4.4716      |
| 10/31/2017 22:41:31 | Continuing Calibration Blank 1        | Sr (216.596 nm)    | 0.0011 (ppm)    | 29.02    | 0.0011 (ppm)    | 14.8075     |
| 10/31/2017 22:41:31 | Continuing Calibration Blank 1        | Ti (336.122 nm)    | 0.0021 (ppm)    | 18.30    | 0.0021 (ppm)    | -50.4953    |
| 10/31/2017 22:41:31 | Continuing Calibration Blank 1        | Ti (351.923 nm)    | -0.0005 u (ppm) | > 100.00 | -0.0005 (ppm)   | 5.9676      |
| 10/31/2017 22:41:31 | Continuing Calibration Blank 1        | V (292.401 nm)     | 0.0011 (ppm)    | 34.07    | 0.0011 (ppm)    | 147.7030    |
| 10/31/2017 22:41:31 | Continuing Calibration Blank 1        | Y (360.074 nm)     | 1.02 (Ratio)    | 0.70     | 1.02 (Ratio)    | 866758.05   |
| 10/31/2017 22:41:31 | Continuing Calibration Blank 1        | Y_R (360.074 nm)   | 1.02 (Ratio)    | 0.70     | 1.02 (Ratio)    | 867206.77   |
| 10/31/2017 22:41:31 | Continuing Calibration Blank 1        | Zn (213.857 nm)    | 0.0005 (ppm)    | 23.35    | 0.0005 (ppm)    | -11.5858    |
| 10/31/2017 22:44:50 | K1710862-006SD T                      | Ag (328.068 nm)    | 0.0487 (ppm)    | 0.41     | 0.0487 (ppm)    | 3379.4114   |
| 10/31/2017 22:44:50 | K1710862-006SD T                      | Al (394.401 nm)    | 1.9059 (ppm)    | 0.61     | 1.9059 (ppm)    | 24517.5273  |
| 10/31/2017 22:44:50 | K1710862-006SD T                      | As (188.980 nm)    | 0.0384 (ppm)    | 5.64     | 0.0384 (ppm)    | 32.8983     |
| 10/31/2017 22:44:50 | K1710862-006SD T                      | B (249.772 nm)     | 0.9639 (ppm)    | 0.35     | 0.9639 (ppm)    | 26720.1378  |
| 10/31/2017 22:44:50 | K1710862-006SD T                      | Ba (230.424 nm)    | 2.0945 (ppm)    | 0.46     | 2.0945 (ppm)    | 70417.9335  |
| 10/31/2017 22:44:50 | K1710862-006SD T                      | Be (313.107 nm)    | 0.0499 (ppm)    | 0.45     | 0.0499 (ppm)    | 73237.6050  |
| 10/31/2017 22:44:50 | K1710862-006SD T                      | Ca (227.547 nm)    | 5.9972 (ppm)    | 0.43     | 5.9972 (ppm)    | 342.0298    |
| 10/31/2017 22:44:50 | K1710862-006SD T                      | Cd (214.439 nm)    | 0.0513 (ppm)    | 0.69     | 0.0513 (ppm)    | 1124.8793   |
| 10/31/2017 22:44:50 | K1710862-006SD T                      | Co (230.786 nm)    | 0.5124 (ppm)    | 0.52     | 0.5124 (ppm)    | 5055.1081   |
| 10/31/2017 22:44:50 | K1710862-006SD T                      | Cr (267.716 nm)    | 0.1987 (ppm)    | 0.50     | 0.1987 (ppm)    | 9839.0637   |
| 10/31/2017 22:44:50 | K1710862-006SD T                      | Cu (327.395 nm)    | 0.2386 (ppm)    | 0.60     | 0.2386 (ppm)    | 14828.9408  |
| 10/31/2017 22:44:50 | K1710862-006SD T                      | Fe (234.350 nm)    | 4.0806 (ppm)    | 0.41     | 4.0806 (ppm)    | 45589.2067  |
| 10/31/2017 22:44:50 | K1710862-006SD T                      | K (766.491 nm)     | 20.1345 (ppm)   | 0.61     | 20.1345 (ppm)   | 60742.5857  |
| 10/31/2017 22:44:50 | K1710862-006SD T                      | Mg (279.078 nm)    | 3.9328 (ppm)    | 0.49     | 3.9328 (ppm)    | 7588.4138   |
| 10/31/2017 22:44:50 | K1710862-006SD T                      | Mn (257.610 nm)    | 0.6655 (ppm)    | 0.33     | 0.6655 (ppm)    | 208596.1926 |

| Date Time           | Label            | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity    |
|---------------------|------------------|--------------------|-----------------|----------|-----------------|--------------|
| 10/31/2017 22:44:50 | K1710862-006SD T | Mo (202.032 nm)    | 0.4746 (ppm)    | 0.46     | 0.4746 (ppm)    | 4845.0174    |
| 10/31/2017 22:44:50 | K1710862-006SD T | Na (588.995 nm)    | 22.5149 (ppm)   | 0.60     | 22.5149 (ppm)   | 1018399.0235 |
| 10/31/2017 22:44:50 | K1710862-006SD T | Ni (230.299 nm)    | 0.5069 (ppm)    | 0.50     | 0.5069 (ppm)    | 3393.9164    |
| 10/31/2017 22:44:50 | K1710862-006SD T | Pb (220.353 nm)    | 0.5103 (ppm)    | 0.84     | 0.5103 (ppm)    | 1095.4402    |
| 10/31/2017 22:44:50 | K1710862-006SD T | Sb (217.582 nm)    | 0.4976 (ppm)    | 0.84     | 0.4976 (ppm)    | 681.2441     |
| 10/31/2017 22:44:50 | K1710862-006SD T | Se (196.026 nm)    | 1.0513 (ppm)    | 1.36     | 1.0513 (ppm)    | 901.1384     |
| 10/31/2017 22:44:50 | K1710862-006SD T | Sn (189.925 nm)    | 5.1009 (ppm)    | 0.43     | 5.1009 (ppm)    | 6176.8553    |
| 10/31/2017 22:44:50 | K1710862-006SD T | Sr (216.596 nm)    | 2.0834 (ppm)    | 0.69     | 2.0834 (ppm)    | 29580.3856   |
| 10/31/2017 22:44:50 | K1710862-006SD T | Ti (336.122 nm)    | 0.4847 (ppm)    | 0.52     | 0.4847 (ppm)    | 100930.7431  |
| 10/31/2017 22:44:50 | K1710862-006SD T | Tl (351.923 nm)    | 1.8417 (ppm)    | 0.65     | 1.8417 (ppm)    | 5065.8989    |
| 10/31/2017 22:44:50 | K1710862-006SD T | V (292.401 nm)     | 0.4950 (ppm)    | 0.51     | 0.4950 (ppm)    | 17605.5337   |
| 10/31/2017 22:44:50 | K1710862-006SD T | Y (360.074 nm)     | 1.00 (Ratio)    | 0.69     | 1.00 (Ratio)    | 850625.97    |
| 10/31/2017 22:44:50 | K1710862-006SD T | Y_R (360.074 nm)   | 1.00 (Ratio)    | 0.69     | 1.00 (Ratio)    | 851016.33    |
| 10/31/2017 22:44:50 | K1710862-006SD T | Zn (213.857 nm)    | 0.5073 (ppm)    | 0.61     | 0.5073 (ppm)    | 14164.7868   |
| 10/31/2017 22:48:09 | K1710862-006A T  | Ag (328.068 nm)    | 0.0460 (ppm)    | 0.38     | 0.0460 (ppm)    | 3185.0809    |
| 10/31/2017 22:48:09 | K1710862-006A T  | Al (394.401 nm)    | 1.8131 (ppm)    | 0.39     | 1.8131 (ppm)    | 23329.1688   |
| 10/31/2017 22:48:09 | K1710862-006A T  | As (188.980 nm)    | 0.0376 (ppm)    | 0.23     | 0.0376 (ppm)    | 32.1415      |
| 10/31/2017 22:48:09 | K1710862-006A T  | B (249.772 nm)     | 1.0419 (ppm)    | 0.18     | 1.0419 (ppm)    | 28881.4504   |
| 10/31/2017 22:48:09 | K1710862-006A T  | Ba (230.424 nm)    | 1.9733 (ppm)    | 0.27     | 1.9733 (ppm)    | 66342.7388   |
| 10/31/2017 22:48:09 | K1710862-006A T  | Be (313.107 nm)    | 0.0472 (ppm)    | 0.23     | 0.0472 (ppm)    | 69250.8193   |
| 10/31/2017 22:48:09 | K1710862-006A T  | Ca (227.547 nm)    | 5.7228 (ppm)    | 1.29     | 5.7228 (ppm)    | 326.5839     |
| 10/31/2017 22:48:09 | K1710862-006A T  | Cd (214.439 nm)    | 0.0484 (ppm)    | 0.43     | 0.0484 (ppm)    | 1062.2011    |
| 10/31/2017 22:48:09 | K1710862-006A T  | Co (230.786 nm)    | 0.4847 (ppm)    | 0.23     | 0.4847 (ppm)    | 4781.5340    |
| 10/31/2017 22:48:09 | K1710862-006A T  | Cr (267.716 nm)    | 0.1880 (ppm)    | 0.25     | 0.1880 (ppm)    | 9305.2320    |
| 10/31/2017 22:48:09 | K1710862-006A T  | Cu (327.395 nm)    | 0.2256 (ppm)    | 0.43     | 0.2256 (ppm)    | 14019.3691   |
| 10/31/2017 22:48:09 | K1710862-006A T  | Fe (234.350 nm)    | 3.8580 (ppm)    | 0.21     | 3.8580 (ppm)    | 43102.7389   |
| 10/31/2017 22:48:09 | K1710862-006A T  | K (766.491 nm)     | 19.1200 (ppm)   | 0.54     | 19.1200 (ppm)   | 57681.5624   |
| 10/31/2017 22:48:09 | K1710862-006A T  | Mg (279.078 nm)    | 3.7756 (ppm)    | 0.26     | 3.7756 (ppm)    | 7284.9722    |
| 10/31/2017 22:48:09 | K1710862-006A T  | Mn (257.610 nm)    | 0.6523 (ppm)    | 1.09     | 0.6523 (ppm)    | 204475.1605  |
| 10/31/2017 22:48:09 | K1710862-006A T  | Mo (202.032 nm)    | 0.4536 (ppm)    | 0.20     | 0.4536 (ppm)    | 4630.4949    |
| 10/31/2017 22:48:09 | K1710862-006A T  | Na (588.995 nm)    | 21.5800 (ppm)   | 0.65     | 21.5800 (ppm)   | 975883.7681  |
| 10/31/2017 22:48:09 | K1710862-006A T  | Ni (230.299 nm)    | 0.4788 (ppm)    | 0.04     | 0.4788 (ppm)    | 3205.2062    |
| 10/31/2017 22:48:09 | K1710862-006A T  | Pb (220.353 nm)    | 0.4813 (ppm)    | 0.37     | 0.4813 (ppm)    | 1033.2876    |
| 10/31/2017 22:48:09 | K1710862-006A T  | Sb (217.582 nm)    | 0.4742 (ppm)    | 0.50     | 0.4742 (ppm)    | 649.3505     |
| 10/31/2017 22:48:09 | K1710862-006A T  | Se (196.026 nm)    | 1.0957 (ppm)    | 0.37     | 1.0957 (ppm)    | 939.1656     |
| 10/31/2017 22:48:09 | K1710862-006A T  | Sn (189.925 nm)    | 4.8728 (ppm)    | 0.58     | 4.8728 (ppm)    | 5900.5914    |
| 10/31/2017 22:48:09 | K1710862-006A T  | Sr (216.596 nm)    | 2.0508 (ppm)    | 0.12     | 2.0508 (ppm)    | 29117.6873   |
| 10/31/2017 22:48:09 | K1710862-006A T  | Ti (336.122 nm)    | 0.4625 (ppm)    | 0.36     | 0.4625 (ppm)    | 96292.8854   |
| 10/31/2017 22:48:09 | K1710862-006A T  | Tl (351.923 nm)    | 1.7457 (ppm)    | 0.41     | 1.7457 (ppm)    | 4802.2565    |
| 10/31/2017 22:48:09 | K1710862-006A T  | V (292.401 nm)     | 0.4676 (ppm)    | 0.28     | 0.4676 (ppm)    | 16637.9240   |
| 10/31/2017 22:48:09 | K1710862-006A T  | Y (360.074 nm)     | 0.99 (Ratio)    | 0.68     | 0.99 (Ratio)    | 847712.06    |
| 10/31/2017 22:48:09 | K1710862-006A T  | Y_R (360.074 nm)   | 0.99 (Ratio)    | 0.68     | 0.99 (Ratio)    | 848083.77    |
| 10/31/2017 22:48:09 | K1710862-006A T  | Zn (213.857 nm)    | 0.4986 (ppm)    | 0.27     | 0.4986 (ppm)    | 13920.8717   |
| 10/31/2017 22:51:29 | K1710862-006L T  | Ag (328.068 nm)    | -0.0002 u (ppm) | 48.45    | -0.0002 (ppm)   | -114.2892    |
| 10/31/2017 22:51:29 | K1710862-006L T  | Al (394.401 nm)    | 0.0142 (ppm)    | 2.78     | 0.0142 (ppm)    | 307.1232     |
| 10/31/2017 22:51:29 | K1710862-006L T  | As (188.980 nm)    | -0.0008 u (ppm) | > 100.00 | -0.0008 (ppm)   | -2.2140      |
| 10/31/2017 22:51:29 | K1710862-006L T  | B (249.772 nm)     | 0.0043 (ppm)    | 16.45    | 0.0043 (ppm)    | 151.9720     |
| 10/31/2017 22:51:29 | K1710862-006L T  | Ba (230.424 nm)    | 0.0047 (ppm)    | 16.19    | 0.0047 (ppm)    | 158.5469     |
| 10/31/2017 22:51:29 | K1710862-006L T  | Be (313.107 nm)    | 0.0001 (ppm)    | 24.64    | 0.0001 (ppm)    | -445.5697    |
| 10/31/2017 22:51:29 | K1710862-006L T  | Ca (227.547 nm)    | 0.7926 (ppm)    | 2.91     | 0.7926 (ppm)    | 49.0334      |
| 10/31/2017 22:51:29 | K1710862-006L T  | Cd (214.439 nm)    | 0.0001 u (ppm)  | > 100.00 | 0.0001 (ppm)    | 14.8661      |

| Date Time           | Label                                 | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity  |
|---------------------|---------------------------------------|--------------------|-----------------|----------|-----------------|------------|
| 10/31/2017 22:51:29 | K1710862-006L T                       | Co (230.786 nm)    | 0.0005 (ppm)    | 40.00    | 0.0005 (ppm)    | 1.1073     |
| 10/31/2017 22:51:29 | K1710862-006L T                       | Cr (267.716 nm)    | 0.0001 (ppm)    | > 100.00 | 0.0001 (ppm)    | 4.6995     |
| 10/31/2017 22:51:29 | K1710862-006L T                       | Cu (327.395 nm)    | 0.0005 (ppm)    | 29.55    | 0.0005 (ppm)    | 44.9795    |
| 10/31/2017 22:51:29 | K1710862-006L T                       | Fe (234.350 nm)    | 0.6106 (ppm)    | 0.18     | 0.6106 (ppm)    | 6831.4437  |
| 10/31/2017 22:51:29 | K1710862-006L T                       | K (766.491 nm)     | 0.2880 (ppm)    | 3.61     | 0.2880 (ppm)    | 860.1382   |
| 10/31/2017 22:51:29 | K1710862-006L T                       | Mg (279.078 nm)    | 0.3856 (ppm)    | 0.91     | 0.3856 (ppm)    | 743.3496   |
| 10/31/2017 22:51:29 | K1710862-006L T                       | Mn (257.610 nm)    | 0.0380 (ppm)    | 2.54     | 0.0380 (ppm)    | 11899.4135 |
| 10/31/2017 22:51:29 | K1710862-006L T                       | Mo (202.032 nm)    | 0.0015 (ppm)    | 4.55     | 0.0015 (ppm)    | 22.4368    |
| 10/31/2017 22:51:29 | K1710862-006L T                       | Na (588.995 nm)    | 0.6997 (ppm)    | 1.24     | 0.6997 (ppm)    | 26359.8865 |
| 10/31/2017 22:51:29 | K1710862-006L T                       | Ni (230.299 nm)    | -0.0003 u (ppm) | > 100.00 | -0.0003 (ppm)   | -22.4681   |
| 10/31/2017 22:51:29 | K1710862-006L T                       | Pb (220.353 nm)    | 0.0002 u (ppm)  | > 100.00 | 0.0002 (ppm)    | 5.4424     |
| 10/31/2017 22:51:29 | K1710862-006L T                       | Sb (217.582 nm)    | -0.0004 u (ppm) | > 100.00 | -0.0004 (ppm)   | 0.2835     |
| 10/31/2017 22:51:29 | K1710862-006L T                       | Se (196.026 nm)    | 0.0027 (ppm)    | 46.93    | 0.0027 (ppm)    | 3.1182     |
| 10/31/2017 22:51:29 | K1710862-006L T                       | Sn (189.925 nm)    | 0.0032 u (ppm)  | > 100.00 | 0.0032 (ppm)    | 3.8174     |
| 10/31/2017 22:51:29 | K1710862-006L T                       | Sr (216.596 nm)    | 0.0061 (ppm)    | 7.82     | 0.0061 (ppm)    | 86.3641    |
| 10/31/2017 22:51:29 | K1710862-006L T                       | Ti (336.122 nm)    | 0.0009 (ppm)    | 12.99    | 0.0009 (ppm)    | -288.4396  |
| 10/31/2017 22:51:29 | K1710862-006L T                       | Ti (351.923 nm)    | 0.0021 (ppm)    | 58.13    | 0.0021 (ppm)    | 13.1361    |
| 10/31/2017 22:51:29 | K1710862-006L T                       | V (292.401 nm)     | 0.0004 (ppm)    | 69.81    | 0.0004 (ppm)    | 123.2386   |
| 10/31/2017 22:51:29 | K1710862-006L T                       | Y (360.074 nm)     | 1.02 (Ratio)    | 0.78     | 1.02 (Ratio)    | 867208.24  |
| 10/31/2017 22:51:29 | K1710862-006L T                       | Y_R (360.074 nm)   | 1.02 (Ratio)    | 0.78     | 1.02 (Ratio)    | 867648.86  |
| 10/31/2017 22:51:29 | K1710862-006L T                       | Zn (213.857 nm)    | 0.0022 (ppm)    | 7.74     | 0.0022 (ppm)    | 34.3699    |
| 10/31/2017 22:54:48 | K1710862-014 T                        | Ag (328.068 nm)    | -0.0001 u (ppm) | 89.32    | -0.0001 (ppm)   | -109.4387  |
| 10/31/2017 22:54:48 | K1710862-014 T                        | Al (394.401 nm)    | 0.0016 (ppm)    | 41.00    | 0.0016 (ppm)    | 145.7314   |
| 10/31/2017 22:54:48 | K1710862-014 T                        | As (188.980 nm)    | 0.0015 u (ppm)  | > 100.00 | 0.0015 (ppm)    | -0.1341    |
| 10/31/2017 22:54:48 | K1710862-014 T                        | B (249.772 nm)     | 0.0011 (ppm)    | 19.18    | 0.0011 (ppm)    | 64.1191    |
| 10/31/2017 22:54:48 | K1710862-014 T                        | Ba (230.424 nm)    | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | 2.2733     |
| 10/31/2017 22:54:48 | K1710862-014 T                        | Be (313.107 nm)    | 0.0000 (ppm)    | 71.77    | 0.0000 (ppm)    | -508.9716  |
| 10/31/2017 22:54:48 | K1710862-014 T                        | Cb (227.547 nm)    | -0.0072 u (ppm) | > 100.00 | -0.0072 (ppm)   | 4.0098     |
| 10/31/2017 22:54:48 | K1710862-014 T                        | Cd (214.439 nm)    | -0.0001 u (ppm) | 87.57    | -0.0001 (ppm)   | 12.1546    |
| 10/31/2017 22:54:48 | K1710862-014 T                        | Co (230.786 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | -3.6123    |
| 10/31/2017 22:54:48 | K1710862-014 T                        | Cr (267.716 nm)    | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | -1.2463    |
| 10/31/2017 22:54:48 | K1710862-014 T                        | Cu (327.395 nm)    | 0.0001 (ppm)    | 35.79    | 0.0001 (ppm)    | 22.1640    |
| 10/31/2017 22:54:48 | K1710862-014 T                        | Fe (234.350 nm)    | 0.0032 (ppm)    | 3.25     | 0.0032 (ppm)    | 47.6964    |
| 10/31/2017 22:54:48 | K1710862-014 T                        | K (766.491 nm)     | 0.0168 (ppm)    | 16.21    | 0.0168 (ppm)    | 41.7685    |
| 10/31/2017 22:54:48 | K1710862-014 T                        | Mg (279.078 nm)    | -0.0009 u (ppm) | > 100.00 | -0.0009 (ppm)   | -2.4279    |
| 10/31/2017 22:54:48 | K1710862-014 T                        | Mn (257.610 nm)    | 0.0073 (ppm)    | 35.00    | 0.0073 (ppm)    | 2283.4163  |
| 10/31/2017 22:54:48 | K1710862-014 T                        | Mo (202.032 nm)    | 0.0004 (ppm)    | 48.52    | 0.0004 (ppm)    | 11.1345    |
| 10/31/2017 22:54:48 | K1710862-014 T                        | Na (588.995 nm)    | -0.0087 u (ppm) | 16.16    | -0.0087 (ppm)   | -5857.8799 |
| 10/31/2017 22:54:48 | K1710862-014 T                        | Ni (230.299 nm)    | 0.0004 (ppm)    | 63.05    | 0.0004 (ppm)    | -18.2372   |
| 10/31/2017 22:54:48 | K1710862-014 T                        | Pb (220.353 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | 5.1236     |
| 10/31/2017 22:54:48 | K1710862-014 T                        | Sb (217.582 nm)    | -0.0010 u (ppm) | > 100.00 | -0.0010 (ppm)   | -0.6234    |
| 10/31/2017 22:54:48 | K1710862-014 T                        | Se (196.026 nm)    | -0.0005 u (ppm) | > 100.00 | -0.0005 (ppm)   | 0.3690     |
| 10/31/2017 22:54:48 | K1710862-014 T                        | Sn (189.925 nm)    | -0.0006 u (ppm) | > 100.00 | -0.0006 (ppm)   | -0.7628    |
| 10/31/2017 22:54:48 | K1710862-014 T                        | Sr (216.596 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | -1.5205    |
| 10/31/2017 22:54:48 | K1710862-014 T                        | Ti (336.122 nm)    | 0.0006 (ppm)    | 10.48    | 0.0006 (ppm)    | -348.2037  |
| 10/31/2017 22:54:48 | K1710862-014 T                        | Ti (351.923 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | 7.2273     |
| 10/31/2017 22:54:48 | K1710862-014 T                        | V (292.401 nm)     | -0.0002 u (ppm) | 77.66    | -0.0002 (ppm)   | 101.5147   |
| 10/31/2017 22:54:48 | K1710862-014 T                        | Y (360.074 nm)     | 1.02 (Ratio)    | 0.61     | 1.02 (Ratio)    | 873517.59  |
| 10/31/2017 22:54:48 | K1710862-014 T                        | Y_R (360.074 nm)   | 1.02 (Ratio)    | 0.61     | 1.02 (Ratio)    | 873958.50  |
| 10/31/2017 22:54:48 | K1710862-014 T                        | Zn (213.857 nm)    | 0.0028 (ppm)    | 4.17     | 0.0028 (ppm)    | 50.4361    |
| 10/31/2017 22:58:07 | Continuing Calibration Verification 1 | Ag (328.068 nm)    | 0.4787 (ppm)    | 0.29     | 0.4787 (ppm)    | 34098.4389 |



| Date Time           | Label                                | Element Label (nm) | Conc           | %RSD     | Unadjusted Conc | Intensity    |
|---------------------|--------------------------------------|--------------------|----------------|----------|-----------------|--------------|
| 10/31/2017 22:58:07 | Continuing Calibration Verification1 | Al (394.401 nm)    | 9.2238 (ppm)   | 0.49     | 9.2238 (ppm)    | 118169.2727  |
| 10/31/2017 22:58:07 | Continuing Calibration Verification1 | As (188.980 nm)    | 0.9454 (ppm)   | 1.23     | 0.9454 (ppm)    | 843.6327     |
| 10/31/2017 22:58:07 | Continuing Calibration Verification1 | B (249.772 nm)     | 2.3662 (ppm)   | 0.33     | 2.3662 (ppm)    | 65548.5179   |
| 10/31/2017 22:58:07 | Continuing Calibration Verification1 | Ba (230.424 nm)    | 10.0887 (ppm)  | 0.35     | 10.0887 (ppm)   | 339174.1403  |
| 10/31/2017 22:58:07 | Continuing Calibration Verification1 | Be (313.107 nm)    | 0.2475 (ppm)   | 0.61     | 0.2475 (ppm)    | 365029.6228  |
| 10/31/2017 22:58:07 | Continuing Calibration Verification1 | Ca (227.547 nm)    | 23.4441 (ppm)  | 0.51     | 23.4441 (ppm)   | 1324.2075    |
| 10/31/2017 22:58:07 | Continuing Calibration Verification1 | Cd (214.439 nm)    | 0.4938 (ppm)   | 0.23     | 0.4938 (ppm)    | 10703.1709   |
| 10/31/2017 22:58:07 | Continuing Calibration Verification1 | Co (230.786 nm)    | 2.5460 (ppm)   | 0.25     | 2.5460 (ppm)    | 25132.8547   |
| 10/31/2017 22:58:07 | Continuing Calibration Verification1 | Cr (267.716 nm)    | 0.4978 (ppm)   | 0.25     | 0.4978 (ppm)    | 24645.8818   |
| 10/31/2017 22:58:07 | Continuing Calibration Verification1 | Cu (327.395 nm)    | 1.1600 (ppm)   | 0.53     | 1.1600 (ppm)    | 72032.3564   |
| 10/31/2017 22:58:07 | Continuing Calibration Verification1 | Fe (234.350 nm)    | 4.7501 (ppm)   | 0.29     | 4.7501 (ppm)    | 53067.0878   |
| 10/31/2017 22:58:07 | Continuing Calibration Verification1 | K (766.491 nm)     | 23.8785 (ppm)  | 0.59     | 23.8785 (ppm)   | 72039.4142   |
| 10/31/2017 22:58:07 | Continuing Calibration Verification1 | Mg (279.078 nm)    | 24.7077 (ppm)  | 0.28     | 24.7077 (ppm)   | 47677.4753   |
| 10/31/2017 22:58:07 | Continuing Calibration Verification1 | Mn (257.610 nm)    | 0.7414 (ppm)   | 0.21     | 0.7414 (ppm)    | 232397.2850  |
| 10/31/2017 22:58:07 | Continuing Calibration Verification1 | Mo (202.032 nm)    | 2.3615 (ppm)   | 0.25     | 2.3615 (ppm)    | 24078.9884   |
| 10/31/2017 22:58:07 | Continuing Calibration Verification1 | Na (588.995 nm)    | 23.9663 (ppm)  | 0.44     | 23.9663 (ppm)   | 1084398.7296 |
| 10/31/2017 22:58:07 | Continuing Calibration Verification1 | Ni (230.299 nm)    | 1.9995 (ppm)   | 0.33     | 1.9995 (ppm)    | 13449.0123   |
| 10/31/2017 22:58:07 | Continuing Calibration Verification1 | Pb (220.353 nm)    | 0.4934 (ppm)   | 0.32     | 0.4934 (ppm)    | 1059.2153    |
| 10/31/2017 22:58:07 | Continuing Calibration Verification1 | Sb (217.582 nm)    | 4.7973 (ppm)   | 0.78     | 4.7973 (ppm)    | 6561.3195    |
| 10/31/2017 22:58:07 | Continuing Calibration Verification1 | Se (196.026 nm)    | 0.4846 (ppm)   | 1.81     | 0.4846 (ppm)    | 415.8308     |
| 10/31/2017 22:58:07 | Continuing Calibration Verification1 | Sn (189.925 nm)    | 5.0296 (ppm)   | 0.13     | 5.0296 (ppm)    | 6090.5200    |
| 10/31/2017 22:58:07 | Continuing Calibration Verification1 | Sr (216.596 nm)    | 2.5025 (ppm)   | 0.63     | 2.5025 (ppm)    | 35531.3673   |
| 10/31/2017 22:58:07 | Continuing Calibration Verification1 | Ti (336.122 nm)    | 2.4345 (ppm)   | 0.35     | 2.4345 (ppm)    | 508895.2856  |
| 10/31/2017 22:58:07 | Continuing Calibration Verification1 | Tl (351.923 nm)    | 0.9599 (ppm)   | 0.37     | 0.9599 (ppm)    | 2643.7461    |
| 10/31/2017 22:58:07 | Continuing Calibration Verification1 | V (292.401 nm)     | 2.4651 (ppm)   | 0.39     | 2.4651 (ppm)    | 87243.0687   |
| 10/31/2017 22:58:07 | Continuing Calibration Verification1 | Y (360.074 nm)     | 0.97 (Ratio)   | 0.83     | 0.97 (Ratio)    | 830436.21    |
| 10/31/2017 22:58:07 | Continuing Calibration Verification1 | Y_R (360.074 nm)   | 0.97 (Ratio)   | 0.82     | 0.97 (Ratio)    | 830823.45    |
| 10/31/2017 22:58:07 | Continuing Calibration Verification1 | Zn (213.857 nm)    | 0.9906 (ppm)   | 0.31     | 0.9906 (ppm)    | 27686.6852   |
| 10/31/2017 23:01:26 | Continuing Calibration Blank1        | Ag (328.068 nm)    | 0.0003 (ppm)   | 61.85    | 0.0003 (ppm)    | -80.9776     |
| 10/31/2017 23:01:26 | Continuing Calibration Blank1        | Al (394.401 nm)    | 0.0076 (ppm)   | 13.29    | 0.0076 (ppm)    | 222.7541     |
| 10/31/2017 23:01:26 | Continuing Calibration Blank1        | As (188.980 nm)    | 0.0000 u (ppm) | > 100.00 | 0.0000 (ppm)    | -1.4842      |
| 10/31/2017 23:01:26 | Continuing Calibration Blank1        | B (249.772 nm)     | 0.0054 (ppm)   | 19.06    | 0.0054 (ppm)    | 182.7751     |
| 10/31/2017 23:01:26 | Continuing Calibration Blank1        | Ba (230.424 nm)    | 0.0108 (ppm)   | 21.70    | 0.0108 (ppm)    | 365.9897     |
| 10/31/2017 23:01:26 | Continuing Calibration Blank1        | Be (313.107 nm)    | 0.0003 (ppm)   | 17.66    | 0.0003 (ppm)    | -144.2961    |
| 10/31/2017 23:01:26 | Continuing Calibration Blank1        | Ca (227.547 nm)    | 0.0293 u (ppm) | > 100.00 | 0.0293 (ppm)    | 6.0631       |
| 10/31/2017 23:01:26 | Continuing Calibration Blank1        | Cd (214.439 nm)    | 0.0005 (ppm)   | 29.82    | 0.0005 (ppm)    | 25.1574      |
| 10/31/2017 23:01:26 | Continuing Calibration Blank1        | Co (230.786 nm)    | 0.0026 (ppm)   | 13.74    | 0.0026 (ppm)    | 22.0202      |
| 10/31/2017 23:01:26 | Continuing Calibration Blank1        | Cr (267.716 nm)    | 0.0005 (ppm)   | 31.04    | 0.0005 (ppm)    | 22.7026      |
| 10/31/2017 23:01:26 | Continuing Calibration Blank1        | Cu (327.395 nm)    | 0.0012 (ppm)   | 19.31    | 0.0012 (ppm)    | 87.1604      |
| 10/31/2017 23:01:26 | Continuing Calibration Blank1        | Fe (234.350 nm)    | 0.0054 (ppm)   | 19.06    | 0.0054 (ppm)    | 71.9310      |
| 10/31/2017 23:01:26 | Continuing Calibration Blank1        | K (766.491 nm)     | 0.0541 (ppm)   | 22.73    | 0.0541 (ppm)    | 154.2560     |
| 10/31/2017 23:01:26 | Continuing Calibration Blank1        | Mg (279.078 nm)    | 0.0224 (ppm)   | 21.68    | 0.0224 (ppm)    | 42.5127      |
| 10/31/2017 23:01:26 | Continuing Calibration Blank1        | Mn (257.610 nm)    | 0.0039 (ppm)   | 20.94    | 0.0039 (ppm)    | 1214.2579    |
| 10/31/2017 23:01:26 | Continuing Calibration Blank1        | Mo (202.032 nm)    | 0.0046 (ppm)   | 8.66     | 0.0046 (ppm)    | 54.2941      |
| 10/31/2017 23:01:26 | Continuing Calibration Blank1        | Na (588.995 nm)    | 0.0110 (ppm)   | 47.23    | 0.0110 (ppm)    | -4957.8322   |
| 10/31/2017 23:01:26 | Continuing Calibration Blank1        | Ni (230.299 nm)    | 0.0017 (ppm)   | 40.03    | 0.0017 (ppm)    | -9.0209      |
| 10/31/2017 23:01:26 | Continuing Calibration Blank1        | Pb (220.353 nm)    | 0.0002 u (ppm) | > 100.00 | 0.0002 (ppm)    | 5.4396       |
| 10/31/2017 23:01:26 | Continuing Calibration Blank1        | Sb (217.582 nm)    | 0.0044 (ppm)   | 61.13    | 0.0044 (ppm)    | 6.8590       |
| 10/31/2017 23:01:26 | Continuing Calibration Blank1        | Se (196.026 nm)    | 0.0017 (ppm)   | 97.78    | 0.0017 (ppm)    | 2.1932       |
| 10/31/2017 23:01:26 | Continuing Calibration Blank1        | Sn (189.925 nm)    | 0.0053 (ppm)   | 10.53    | 0.0053 (ppm)    | 6.3138       |
| 10/31/2017 23:01:26 | Continuing Calibration Blank1        | Sr (216.596 nm)    | 0.0026 (ppm)   | 19.53    | 0.0026 (ppm)    | 36.1023      |

| Date Time           | Label                             | Element Label (nm) | Conc             | %RSD     | Unadjusted Conc | Intensity    |
|---------------------|-----------------------------------|--------------------|------------------|----------|-----------------|--------------|
| 10/31/2017 23:01:26 | Continuing Calibration Blank1     | Ti (336.122 nm)    | 0.0033 (ppm)     | 14.01    | 0.0033 (ppm)    | 215.0010     |
| 10/31/2017 23:01:26 | Continuing Calibration Blank1     | Ti (351.923 nm)    | 0.0004 (ppm)     | 71.00    | 0.0004 (ppm)    | 8.3853       |
| 10/31/2017 23:01:26 | Continuing Calibration Blank1     | V (292.401 nm)     | 0.0025 (ppm)     | 19.83    | 0.0025 (ppm)    | 195.7344     |
| 10/31/2017 23:01:26 | Continuing Calibration Blank1     | Y (360.074 nm)     | 1.01 (Ratio)     | 0.73     | 1.01 (Ratio)    | 862882.91    |
| 10/31/2017 23:01:26 | Continuing Calibration Blank1     | Y_R (360.074 nm)   | 1.01 (Ratio)     | 0.74     | 1.01 (Ratio)    | 863367.89    |
| 10/31/2017 23:01:26 | Continuing Calibration Blank1     | Zn (213.857 nm)    | 0.0010 (ppm)     | 20.33    | 0.0010 (ppm)    | 0.6769       |
| 10/31/2017 23:04:46 | Contract Required Detection Limit | Ag (328.068 nm)    | 0.0093 (ppm)     | 1.86     | 0.0093 (ppm)    | 560.4223     |
| 10/31/2017 23:04:46 | Contract Required Detection Limit | Al (394.401 nm)    | 0.1700 (ppm)     | 0.87     | 0.1700 (ppm)    | 2300.9950    |
| 10/31/2017 23:04:46 | Contract Required Detection Limit | As (188.980 nm)    | 0.0183 (ppm)     | 6.96     | 0.0183 (ppm)    | 14.9397      |
| 10/31/2017 23:04:46 | Contract Required Detection Limit | B (249.772 nm)     | 0.1867 (ppm)     | 0.52     | 0.1867 (ppm)    | 5203.3363    |
| 10/31/2017 23:04:46 | Contract Required Detection Limit | Ba (230.424 nm)    | 0.2098 (ppm)     | 0.63     | 0.2098 (ppm)    | 7056.7172    |
| 10/31/2017 23:04:46 | Contract Required Detection Limit | Be (313.107 nm)    | 0.0048 (ppm)     | 0.39     | 0.0048 (ppm)    | 6615.0929    |
| 10/31/2017 23:04:46 | Contract Required Detection Limit | Ca (227.547 nm)    | 0.9681 (ppm)     | 3.33     | 0.9681 (ppm)    | 58.9125      |
| 10/31/2017 23:04:46 | Contract Required Detection Limit | Cd (214.439 nm)    | 0.0101 (ppm)     | 0.83     | 0.0101 (ppm)    | 233.2222     |
| 10/31/2017 23:04:46 | Contract Required Detection Limit | Co (230.786 nm)    | 0.0511 (ppm)     | 0.75     | 0.0511 (ppm)    | 500.5469     |
| 10/31/2017 23:04:46 | Contract Required Detection Limit | Cr (267.716 nm)    | 0.0103 (ppm)     | 1.35     | 0.0103 (ppm)    | 508.1192     |
| 10/31/2017 23:04:46 | Contract Required Detection Limit | Cu (327.395 nm)    | 0.0237 (ppm)     | 0.55     | 0.0237 (ppm)    | 1481.6656    |
| 10/31/2017 23:04:46 | Contract Required Detection Limit | Fe (234.350 nm)    | 0.1015 (ppm)     | 0.42     | 0.1015 (ppm)    | 1145.0259    |
| 10/31/2017 23:04:46 | Contract Required Detection Limit | K (766.491 nm)     | 0.9192 (ppm)     | 0.91     | 0.9192 (ppm)    | 2764.5769    |
| 10/31/2017 23:04:46 | Contract Required Detection Limit | Mg (279.078 nm)    | 0.9855 (ppm)     | 0.06     | 0.9855 (ppm)    | 1901.0634    |
| 10/31/2017 23:04:46 | Contract Required Detection Limit | Mn (257.610 nm)    | 0.0222 R (ppm)   | 10.41    | 0.0222 (ppm)    | 6972.8886 R  |
| 10/31/2017 23:04:46 | Contract Required Detection Limit | Mo (202.032 nm)    | 0.0255 (ppm)     | 0.58     | 0.0255 (ppm)    | 266.9819     |
| 10/31/2017 23:04:46 | Contract Required Detection Limit | Na (588.995 nm)    | 0.9623 (ppm)     | 0.70     | 0.9623 (ppm)    | 38301.1538   |
| 10/31/2017 23:04:46 | Contract Required Detection Limit | Ni (230.299 nm)    | 0.0399 (ppm)     | 1.92     | 0.0399 (ppm)    | 248.3551     |
| 10/31/2017 23:04:46 | Contract Required Detection Limit | Pb (220.353 nm)    | 0.0102 (ppm)     | 14.11    | 0.0102 (ppm)    | 26.9167      |
| 10/31/2017 23:04:46 | Contract Required Detection Limit | Sb (217.582 nm)    | 0.0576 (ppm)     | 1.88     | 0.0576 (ppm)    | 79.5205      |
| 10/31/2017 23:04:46 | Contract Required Detection Limit | Se (196.026 nm)    | 0.0109 (ppm)     | 12.68    | 0.0109 (ppm)    | 10.1485      |
| 10/31/2017 23:04:46 | Contract Required Detection Limit | Sn (189.925 nm)    | 0.5021 (ppm)     | 0.62     | 0.5021 (ppm)    | 607.9773     |
| 10/31/2017 23:04:46 | Contract Required Detection Limit | Sr (216.596 nm)    | 0.1014 (ppm)     | 0.66     | 0.1014 (ppm)    | 1438.4669    |
| 10/31/2017 23:04:46 | Contract Required Detection Limit | Ti (336.122 nm)    | 0.0499 (ppm)     | 0.53     | 0.0499 (ppm)    | 9956.2898    |
| 10/31/2017 23:04:46 | Contract Required Detection Limit | Ti (351.923 nm)    | 0.0189 (ppm)     | 18.16    | 0.0189 (ppm)    | 59.1610      |
| 10/31/2017 23:04:46 | Contract Required Detection Limit | V (292.401 nm)     | 0.0490 (ppm)     | 0.65     | 0.0490 (ppm)    | 1839.8740    |
| 10/31/2017 23:04:46 | Contract Required Detection Limit | Y (360.074 nm)     | 1.02 (Ratio)     | 0.83     | 1.02 (Ratio)    | 869025.01    |
| 10/31/2017 23:04:46 | Contract Required Detection Limit | Y_R (360.074 nm)   | 1.02 (Ratio)     | 0.83     | 1.02 (Ratio)    | 869508.91    |
| 10/31/2017 23:04:46 | Contract Required Detection Limit | Zn (213.857 nm)    | 0.0194 (ppm)     | 0.92     | 0.0194 (ppm)    | 515.0384     |
| 10/31/2017 23:08:06 | Interference Check Solution A     | Ag (328.068 nm)    | 0.0000 (ppm)     | > 100.00 | 0.0000 (ppm)    | -100.9508    |
| 10/31/2017 23:08:06 | Interference Check Solution A     | Al (394.401 nm)    | 254.3234 o (ppm) | 0.39     | 254.3234 (ppm)  | 3254880.2861 |
| 10/31/2017 23:08:06 | Interference Check Solution A     | As (188.980 nm)    | -0.0010 u (ppm)  | > 100.00 | -0.0010 (ppm)   | -2.3290      |
| 10/31/2017 23:08:06 | Interference Check Solution A     | B (249.772 nm)     | 0.0399 (ppm)     | 0.47     | 0.0399 (ppm)    | 1137.1433    |
| 10/31/2017 23:08:06 | Interference Check Solution A     | Ba (230.424 nm)    | 0.0013 (ppm)     | 20.82    | 0.0013 (ppm)    | 46.3246      |
| 10/31/2017 23:08:06 | Interference Check Solution A     | Be (313.107 nm)    | 0.0000 (ppm)     | 65.64    | 0.0000 (ppm)    | -539.3984    |
| 10/31/2017 23:08:06 | Interference Check Solution A     | Ca (227.547 nm)    | 257.4927 o (ppm) | 0.48     | 257.4927 (ppm)  | 14500.0675   |
| 10/31/2017 23:08:06 | Interference Check Solution A     | Cd (214.439 nm)    | -0.0009 u (ppm)  | 24.70    | -0.0009 (ppm)   | -6.0419      |
| 10/31/2017 23:08:06 | Interference Check Solution A     | Co (230.786 nm)    | -0.0016 u (ppm)  | 39.64    | -0.0016 (ppm)   | -19.4724     |
| 10/31/2017 23:08:06 | Interference Check Solution A     | Cr (267.716 nm)    | 0.0002 (ppm)     | 63.36    | 0.0002 (ppm)    | 8.7785       |
| 10/31/2017 23:08:06 | Interference Check Solution A     | Cu (327.395 nm)    | 0.0007 (ppm)     | 14.78    | 0.0007 (ppm)    | 57.6338      |
| 10/31/2017 23:08:06 | Interference Check Solution A     | Fe (234.350 nm)    | 87.5318 o (ppm)  | 0.33     | 87.5318 (ppm)   | 977675.7813  |
| 10/31/2017 23:08:06 | Interference Check Solution A     | K (766.491 nm)     | 0.0779 (ppm)     | 29.86    | 0.0779 (ppm)    | 226.2902     |
| 10/31/2017 23:08:06 | Interference Check Solution A     | Mg (279.078 nm)    | 261.2869 o (ppm) | 0.29     | 261.2869 (ppm)  | 504200.4906  |
| 10/31/2017 23:08:06 | Interference Check Solution A     | Mn (257.610 nm)    | 0.0084 (ppm)     | 28.09    | 0.0084 (ppm)    | 2632.0164    |
| 10/31/2017 23:08:06 | Interference Check Solution A     | Mo (202.032 nm)    | 0.0012 (ppm)     | 60.93    | 0.0012 (ppm)    | 19.1167      |

| Date Time           | Label                               | Element Label (nm) | Conc             | %RSD     | Unadjusted Conc | Intensity    |
|---------------------|-------------------------------------|--------------------|------------------|----------|-----------------|--------------|
| 10/31/2017 23:08:06 | Interference Check Solution A       | Na (588.995 nm)    | -0.0089 u (ppm)  | 10.86    | -0.0089 (ppm)   | -5863.8095   |
| 10/31/2017 23:08:06 | Interference Check Solution A       | Ni (230.299 nm)    | -0.0024 u (ppm)  | 25.02    | -0.0024 (ppm)   | -37.0568     |
| 10/31/2017 23:08:06 | Interference Check Solution A       | Pb (220.353 nm)    | -0.0027 u (ppm)  | 19.61    | -0.0027 (ppm)   | -0.7319      |
| 10/31/2017 23:08:06 | Interference Check Solution A       | Sb (217.582 nm)    | -0.0016 u (ppm)  | > 100.00 | -0.0016 (ppm)   | -1.3897      |
| 10/31/2017 23:08:06 | Interference Check Solution A       | Se (196.026 nm)    | 0.0011 u (ppm)   | > 100.00 | 0.0011 (ppm)    | 1.7446       |
| 10/31/2017 23:08:06 | Interference Check Solution A       | Sn (189.925 nm)    | -0.0004 u (ppm)  | > 100.00 | -0.0004 (ppm)   | -0.5926      |
| 10/31/2017 23:08:06 | Interference Check Solution A       | Sr (216.596 nm)    | 0.0195 (ppm)     | 4.65     | 0.0195 (ppm)    | 276.8605     |
| 10/31/2017 23:08:06 | Interference Check Solution A       | Ti (336.122 nm)    | 0.0018 (ppm)     | 2.75     | 0.0018 (ppm)    | -98.3541     |
| 10/31/2017 23:08:06 | Interference Check Solution A       | Tl (351.923 nm)    | 0.0051 (ppm)     | 70.25    | 0.0051 (ppm)    | 21.2944      |
| 10/31/2017 23:08:06 | Interference Check Solution A       | V (292.401 nm)     | 0.0032 K (ppm)   | 8.26     | 0.0032 (ppm)    | 222.2335 K   |
| 10/31/2017 23:08:06 | Interference Check Solution A       | Y (360.074 nm)     | 0.90 (Ratio)     | 0.72     | 0.90 (Ratio)    | 767542.30    |
| 10/31/2017 23:08:06 | Interference Check Solution A       | Y_R (360.074 nm)   | 0.90 (Ratio)     | 0.72     | 0.90 (Ratio)    | 767848.03    |
| 10/31/2017 23:08:06 | Interference Check Solution A       | Zn (213.857 nm)    | 0.0110 K (ppm)   | 0.47     | 0.0110 (ppm)    | 281.5480 K   |
| 10/31/2017 23:11:25 | Interference Check Solution AB      | Ag (328.068 nm)    | 0.2088 (ppm)     | 0.47     | 0.2088 (ppm)    | 14818.5995   |
| 10/31/2017 23:11:25 | Interference Check Solution AB      | Al (394.401 nm)    | 253.6878 o (ppm) | 0.50     | 253.6878 (ppm)  | 3246746.0575 |
| 10/31/2017 23:11:25 | Interference Check Solution AB      | As (188.980 nm)    | 0.1013 (ppm)     | 2.88     | 0.1013 (ppm)    | 89.0876      |
| 10/31/2017 23:11:25 | Interference Check Solution AB      | B (249.772 nm)     | 0.0400 (ppm)     | 1.31     | 0.0400 (ppm)    | 1141.4887    |
| 10/31/2017 23:11:25 | Interference Check Solution AB      | Ba (230.424 nm)    | 0.5151 (ppm)     | 0.13     | 0.5151 (ppm)    | 17318.6957   |
| 10/31/2017 23:11:25 | Interference Check Solution AB      | Be (313.107 nm)    | 0.4921 (ppm)     | 0.39     | 0.4921 (ppm)    | 726454.2844  |
| 10/31/2017 23:11:25 | Interference Check Solution AB      | Ca (227.547 nm)    | 255.3673 o (ppm) | 0.41     | 255.3673 (ppm)  | 14380.4213   |
| 10/31/2017 23:11:25 | Interference Check Solution AB      | Cd (214.439 nm)    | 0.9490 (ppm)     | 0.41     | 0.9490 (ppm)    | 20558.5932   |
| 10/31/2017 23:11:25 | Interference Check Solution AB      | Co (230.786 nm)    | 0.4856 (ppm)     | 0.22     | 0.4856 (ppm)    | 4790.9818    |
| 10/31/2017 23:11:25 | Interference Check Solution AB      | Cr (267.716 nm)    | 0.4852 (ppm)     | 0.29     | 0.4852 (ppm)    | 24025.6046   |
| 10/31/2017 23:11:25 | Interference Check Solution AB      | Cu (327.395 nm)    | 0.5039 (ppm)     | 0.63     | 0.5039 (ppm)    | 31296.7658   |
| 10/31/2017 23:11:25 | Interference Check Solution AB      | Fe (234.350 nm)    | 87.1777 o (ppm)  | 0.36     | 87.1777 (ppm)   | 973720.6705  |
| 10/31/2017 23:11:25 | Interference Check Solution AB      | K (766.491 nm)     | 0.0123 (ppm)     | 91.41    | 0.0123 (ppm)    | 28.4037      |
| 10/31/2017 23:11:25 | Interference Check Solution AB      | Mg (279.078 nm)    | 260.8966 o (ppm) | 0.37     | 260.8966 (ppm)  | 503447.2227  |
| 10/31/2017 23:11:25 | Interference Check Solution AB      | Mn (257.610 nm)    | 0.4957 (ppm)     | 0.81     | 0.4957 (ppm)    | 155362.1510  |
| 10/31/2017 23:11:25 | Interference Check Solution AB      | Mo (202.032 nm)    | 0.0008 (ppm)     | 62.94    | 0.0008 (ppm)    | 15.6278      |
| 10/31/2017 23:11:25 | Interference Check Solution AB      | Na (588.995 nm)    | -0.0008 u (ppm)  | > 100.00 | -0.0008 (ppm)   | -5497.3496   |
| 10/31/2017 23:11:25 | Interference Check Solution AB      | Ni (230.299 nm)    | 0.9370 (ppm)     | 0.24     | 0.9370 (ppm)    | 6291.6811    |
| 10/31/2017 23:11:25 | Interference Check Solution AB      | Pb (220.353 nm)    | 0.0466 (ppm)     | 6.95     | 0.0466 (ppm)    | 104.5132     |
| 10/31/2017 23:11:25 | Interference Check Solution AB      | Sb (217.582 nm)    | 0.5955 (ppm)     | 0.40     | 0.5955 (ppm)    | 815.1312     |
| 10/31/2017 23:11:25 | Interference Check Solution AB      | Se (196.026 nm)    | 0.0494 (ppm)     | 5.55     | 0.0494 (ppm)    | 43.0886      |
| 10/31/2017 23:11:25 | Interference Check Solution AB      | Sn (189.925 nm)    | 0.0004 u (ppm)   | > 100.00 | 0.0004 (ppm)    | 0.4000       |
| 10/31/2017 23:11:25 | Interference Check Solution AB      | Sr (216.596 nm)    | 0.0191 (ppm)     | 0.02     | 0.0191 (ppm)    | 270.6744     |
| 10/31/2017 23:11:25 | Interference Check Solution AB      | Ti (336.122 nm)    | 0.0015 (ppm)     | 3.55     | 0.0015 (ppm)    | -171.1558    |
| 10/31/2017 23:11:25 | Interference Check Solution AB      | Tl (351.923 nm)    | 0.1107 (ppm)     | 1.32     | 0.1107 (ppm)    | 311.2948     |
| 10/31/2017 23:11:25 | Interference Check Solution AB      | V (292.401 nm)     | 0.4941 (ppm)     | 0.45     | 0.4941 (ppm)    | 17575.5498   |
| 10/31/2017 23:11:25 | Interference Check Solution AB      | Y (360.074 nm)     | 0.90 (Ratio)     | 0.66     | 0.90 (Ratio)    | 769917.30    |
| 10/31/2017 23:11:25 | Interference Check Solution AB      | Y_R (360.074 nm)   | 0.90 (Ratio)     | 0.66     | 0.90 (Ratio)    | 770228.28    |
| 10/31/2017 23:11:25 | Interference Check Solution AB      | Zn (213.857 nm)    | 1.0121 (ppm)     | 0.37     | 1.0121 (ppm)    | 28287.2534   |
| 10/31/2017 23:14:44 | Continuing Calibration Verification | Ag (328.068 nm)    | 0.4768 (ppm)     | 0.33     | 0.4768 (ppm)    | 33964.7107   |
| 10/31/2017 23:14:44 | Continuing Calibration Verification | Al (394.401 nm)    | 9.2573 (ppm)     | 0.63     | 9.2573 (ppm)    | 118598.5598  |
| 10/31/2017 23:14:44 | Continuing Calibration Verification | As (188.980 nm)    | 0.9474 (ppm)     | 1.01     | 0.9474 (ppm)    | 845.4495     |
| 10/31/2017 23:14:44 | Continuing Calibration Verification | B (249.772 nm)     | 2.3543 (ppm)     | 0.25     | 2.3543 (ppm)    | 65218.5012   |
| 10/31/2017 23:14:44 | Continuing Calibration Verification | Ba (230.424 nm)    | 10.0660 (ppm)    | 0.50     | 10.0660 (ppm)   | 338409.9871  |
| 10/31/2017 23:14:44 | Continuing Calibration Verification | Be (313.107 nm)    | 0.2470 (ppm)     | 0.30     | 0.2470 (ppm)    | 364331.3624  |
| 10/31/2017 23:14:44 | Continuing Calibration Verification | Ca (227.547 nm)    | 23.3744 (ppm)    | 0.26     | 23.3744 (ppm)   | 1320.2873    |
| 10/31/2017 23:14:44 | Continuing Calibration Verification | Cd (214.439 nm)    | 0.4938 (ppm)     | 0.41     | 0.4938 (ppm)    | 10704.5941   |
| 10/31/2017 23:14:44 | Continuing Calibration Verification | Co (230.786 nm)    | 2.5380 (ppm)     | 0.18     | 2.5380 (ppm)    | 25053.7449   |

| Date Time           | Label                               | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity    |
|---------------------|-------------------------------------|--------------------|-----------------|----------|-----------------|--------------|
| 10/31/2017 23:14:44 | Continuing Calibration Verification | Cr (267.716 nm)    | 0.4969 (ppm)    | 0.28     | 0.4969 (ppm)    | 24603.6684   |
| 10/31/2017 23:14:44 | Continuing Calibration Verification | Cu (327.395 nm)    | 1.1524 (ppm)    | 0.36     | 1.1524 (ppm)    | 71557.9072   |
| 10/31/2017 23:14:44 | Continuing Calibration Verification | Fe (234.350 nm)    | 4.7898 (ppm)    | 0.58     | 4.7898 (ppm)    | 53510.7261   |
| 10/31/2017 23:14:44 | Continuing Calibration Verification | K (766.491 nm)     | 23.7213 (ppm)   | 0.32     | 23.7213 (ppm)   | 71565.1789   |
| 10/31/2017 23:14:44 | Continuing Calibration Verification | Mg (279.078 nm)    | 24.7587 (ppm)   | 0.43     | 24.7587 (ppm)   | 47775.8507   |
| 10/31/2017 23:14:44 | Continuing Calibration Verification | Mn (257.610 nm)    | 0.7378 (ppm)    | 0.24     | 0.7378 (ppm)    | 231263.6375  |
| 10/31/2017 23:14:44 | Continuing Calibration Verification | Mo (202.032 nm)    | 2.3539 (ppm)    | 0.29     | 2.3539 (ppm)    | 24001.3742   |
| 10/31/2017 23:14:44 | Continuing Calibration Verification | Na (588.995 nm)    | 23.7408 (ppm)   | 0.47     | 23.7408 (ppm)   | 1074148.3424 |
| 10/31/2017 23:14:44 | Continuing Calibration Verification | Ni (230.299 nm)    | 1.9929 (ppm)    | 0.25     | 1.9929 (ppm)    | 13405.0901   |
| 10/31/2017 23:14:44 | Continuing Calibration Verification | Pb (220.353 nm)    | 0.4899 (ppm)    | 0.80     | 0.4899 (ppm)    | 1051.7748    |
| 10/31/2017 23:14:44 | Continuing Calibration Verification | Sb (217.582 nm)    | 4.7714 (ppm)    | 0.50     | 4.7714 (ppm)    | 6525.8759    |
| 10/31/2017 23:14:44 | Continuing Calibration Verification | Se (196.026 nm)    | 0.4793 (ppm)    | 1.11     | 0.4793 (ppm)    | 411.2495     |
| 10/31/2017 23:14:44 | Continuing Calibration Verification | Sn (189.925 nm)    | 5.0232 (ppm)    | 0.54     | 5.0232 (ppm)    | 6082.7669    |
| 10/31/2017 23:14:44 | Continuing Calibration Verification | Sr (216.596 nm)    | 2.5053 (ppm)    | 0.25     | 2.5053 (ppm)    | 35570.6590   |
| 10/31/2017 23:14:44 | Continuing Calibration Verification | Ti (336.122 nm)    | 2.4250 (ppm)    | 0.27     | 2.4250 (ppm)    | 506909.9923  |
| 10/31/2017 23:14:44 | Continuing Calibration Verification | Tl (351.923 nm)    | 0.9538 (ppm)    | 0.50     | 0.9538 (ppm)    | 2627.1849    |
| 10/31/2017 23:14:44 | Continuing Calibration Verification | V (292.401 nm)     | 2.4541 (ppm)    | 0.32     | 2.4541 (ppm)    | 86854.3263   |
| 10/31/2017 23:14:44 | Continuing Calibration Verification | Y (360.074 nm)     | 0.98 (Ratio)    | 0.71     | 0.98 (Ratio)    | 836982.20    |
| 10/31/2017 23:14:44 | Continuing Calibration Verification | Y_R (360.074 nm)   | 0.98 (Ratio)    | 0.71     | 0.98 (Ratio)    | 837351.59    |
| 10/31/2017 23:14:44 | Continuing Calibration Verification | Zn (213.857 nm)    | 0.9887 (ppm)    | 0.30     | 0.9887 (ppm)    | 27631.5954   |
| 10/31/2017 23:18:03 | Continuing Calibration Blank        | Ag (328.068 nm)    | 0.0004 (ppm)    | 77.07    | 0.0004 (ppm)    | -78.3821     |
| 10/31/2017 23:18:03 | Continuing Calibration Blank        | Al (394.401 nm)    | 0.0923 (ppm)    | 39.45    | 0.0923 (ppm)    | 1306.8067    |
| 10/31/2017 23:18:03 | Continuing Calibration Blank        | As (188.980 nm)    | -0.0019 u (ppm) | 77.97    | -0.0019 (ppm)   | -3.1151      |
| 10/31/2017 23:18:03 | Continuing Calibration Blank        | B (249.772 nm)     | 0.0048 (ppm)    | 36.08    | 0.0048 (ppm)    | 166.6942     |
| 10/31/2017 23:18:03 | Continuing Calibration Blank        | Ba (230.424 nm)    | 0.0083 (ppm)    | 57.92    | 0.0083 (ppm)    | 280.8769     |
| 10/31/2017 23:18:03 | Continuing Calibration Blank        | Be (313.107 nm)    | 0.0004 (ppm)    | 44.76    | 0.0004 (ppm)    | 5.4466       |
| 10/31/2017 23:18:03 | Continuing Calibration Blank        | Ca (227.547 nm)    | 0.0896 (ppm)    | 43.78    | 0.0896 (ppm)    | 9.4581       |
| 10/31/2017 23:18:03 | Continuing Calibration Blank        | Cd (214.439 nm)    | 0.0007 (ppm)    | 48.73    | 0.0007 (ppm)    | 29.4387      |
| 10/31/2017 23:18:03 | Continuing Calibration Blank        | Co (230.786 nm)    | 0.0020 (ppm)    | 52.26    | 0.0020 (ppm)    | 16.5872      |
| 10/31/2017 23:18:03 | Continuing Calibration Blank        | Cr (267.716 nm)    | 0.0005 (ppm)    | 59.76    | 0.0005 (ppm)    | 22.6024      |
| 10/31/2017 23:18:03 | Continuing Calibration Blank        | Cu (327.395 nm)    | 0.0011 (ppm)    | 54.57    | 0.0011 (ppm)    | 80.4623      |
| 10/31/2017 23:18:03 | Continuing Calibration Blank        | Fe (234.350 nm)    | 0.0442 (ppm)    | 38.03    | 0.0442 (ppm)    | 505.0903     |
| 10/31/2017 23:18:03 | Continuing Calibration Blank        | K (766.491 nm)     | 0.0421 (ppm)    | 32.10    | 0.0421 (ppm)    | 118.2469     |
| 10/31/2017 23:18:03 | Continuing Calibration Blank        | Mg (279.078 nm)    | 0.1159 (ppm)    | 40.96    | 0.1159 (ppm)    | 222.9214     |
| 10/31/2017 23:18:03 | Continuing Calibration Blank        | Mn (257.610 nm)    | 0.0037 (ppm)    | 9.63     | 0.0037 (ppm)    | 1174.0533    |
| 10/31/2017 23:18:03 | Continuing Calibration Blank        | Mo (202.032 nm)    | 0.0040 (ppm)    | 22.41    | 0.0040 (ppm)    | 48.3077      |
| 10/31/2017 23:18:03 | Continuing Calibration Blank        | Na (588.995 nm)    | 0.0030 u (ppm)  | > 100.00 | 0.0030 (ppm)    | -5322.9705   |
| 10/31/2017 23:18:03 | Continuing Calibration Blank        | Ni (230.299 nm)    | 0.0016 (ppm)    | 57.56    | 0.0016 (ppm)    | -10.0065     |
| 10/31/2017 23:18:03 | Continuing Calibration Blank        | Pb (220.353 nm)    | 0.0006 (ppm)    | 82.40    | 0.0006 (ppm)    | 6.3582       |
| 10/31/2017 23:18:03 | Continuing Calibration Blank        | Sb (217.582 nm)    | 0.0036 (ppm)    | 28.55    | 0.0036 (ppm)    | 5.6634       |
| 10/31/2017 23:18:03 | Continuing Calibration Blank        | Se (196.026 nm)    | -0.0021 u (ppm) | 87.26    | -0.0021 (ppm)   | -1.0197      |
| 10/31/2017 23:18:03 | Continuing Calibration Blank        | Sn (189.925 nm)    | 0.0048 (ppm)    | 47.82    | 0.0048 (ppm)    | 5.7118       |
| 10/31/2017 23:18:03 | Continuing Calibration Blank        | Sr (216.596 nm)    | 0.0019 (ppm)    | 54.70    | 0.0019 (ppm)    | 26.4154      |
| 10/31/2017 23:18:03 | Continuing Calibration Blank        | Ti (336.122 nm)    | 0.0026 (ppm)    | 34.21    | 0.0026 (ppm)    | 63.2283      |
| 10/31/2017 23:18:03 | Continuing Calibration Blank        | Tl (351.923 nm)    | 0.0030 (ppm)    | 58.13    | 0.0030 (ppm)    | 15.5065      |
| 10/31/2017 23:18:03 | Continuing Calibration Blank        | V (292.401 nm)     | 0.0018 (ppm)    | 55.53    | 0.0018 (ppm)    | 174.3657     |
| 10/31/2017 23:18:03 | Continuing Calibration Blank        | Y (360.074 nm)     | 1.02 (Ratio)    | 0.59     | 1.02 (Ratio)    | 866768.11    |
| 10/31/2017 23:18:03 | Continuing Calibration Blank        | Y_R (360.074 nm)   | 1.02 (Ratio)    | 0.59     | 1.02 (Ratio)    | 867255.41    |
| 10/31/2017 23:18:03 | Continuing Calibration Blank        | Zn (213.857 nm)    | 0.0011 (ppm)    | 49.09    | 0.0011 (ppm)    | 4.1654       |
| 10/31/2017 23:21:22 | PBW-301960                          | Ag (328.068 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | -104.9005    |
| 10/31/2017 23:21:22 | PBW-301960                          | Al (394.401 nm)    | 0.0050 (ppm)    | 26.60    | 0.0050 (ppm)    | 189.4618     |

| Date Time           | Label       | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity   |
|---------------------|-------------|--------------------|-----------------|----------|-----------------|-------------|
| 10/31/2017 23:21:22 | PBW-301960  | As (188.980 nm)    | -0.0009 u (ppm) | 53.87    | -0.0009 (ppm)   | -2.2205     |
| 10/31/2017 23:21:22 | PBW-301960  | B (249.772 nm)     | 0.0019 (ppm)    | 2.85     | 0.0019 (ppm)    | 85.0640     |
| 10/31/2017 23:21:22 | PBW-301960  | Ba (230.424 nm)    | 0.0002 (ppm)    | 29.96    | 0.0002 (ppm)    | 10.2857     |
| 10/31/2017 23:21:22 | PBW-301960  | Be (313.107 nm)    | 0.0000 (ppm)    | 42.03    | 0.0000 (ppm)    | -488.0186   |
| 10/31/2017 23:21:22 | PBW-301960  | Ca (227.547 nm)    | 0.0412 (ppm)    | 58.57    | 0.0412 (ppm)    | 6.7353      |
| 10/31/2017 23:21:22 | PBW-301960  | Cd (214.439 nm)    | -0.0001 u (ppm) | 83.62    | -0.0001 (ppm)   | 10.6146     |
| 10/31/2017 23:21:22 | PBW-301960  | Co (230.786 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | -4.3342     |
| 10/31/2017 23:21:22 | PBW-301960  | Cr (267.716 nm)    | -0.0001 u (ppm) | 34.85    | -0.0001 (ppm)   | -6.9004     |
| 10/31/2017 23:21:22 | PBW-301960  | Cu (327.395 nm)    | 0.0003 (ppm)    | 11.50    | 0.0003 (ppm)    | 29.7992     |
| 10/31/2017 23:21:22 | PBW-301960  | Fe (234.350 nm)    | 0.0034 (ppm)    | 14.76    | 0.0034 (ppm)    | 49.8021     |
| 10/31/2017 23:21:22 | PBW-301960  | K (766.491 nm)     | 0.1247 (ppm)    | 2.74     | 0.1247 (ppm)    | 367.4990    |
| 10/31/2017 23:21:22 | PBW-301960  | Mg (279.078 nm)    | 0.0048 (ppm)    | 24.52    | 0.0048 (ppm)    | 8.6481      |
| 10/31/2017 23:21:22 | PBW-301960  | Mn (257.610 nm)    | 0.0061 (ppm)    | 32.65    | 0.0061 (ppm)    | 1913.6579   |
| 10/31/2017 23:21:22 | PBW-301960  | Mo (202.032 nm)    | 0.0005 (ppm)    | 24.18    | 0.0005 (ppm)    | 12.0715     |
| 10/31/2017 23:21:22 | PBW-301960  | Na (588.995 nm)    | 0.0177 (ppm)    | 1.27     | 0.0177 (ppm)    | -4655.6198  |
| 10/31/2017 23:21:22 | PBW-301960  | Ni (230.299 nm)    | 0.0006 (ppm)    | 69.14    | 0.0006 (ppm)    | -16.6298    |
| 10/31/2017 23:21:22 | PBW-301960  | Pb (220.353 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | 4.9333      |
| 10/31/2017 23:21:22 | PBW-301960  | Sb (217.582 nm)    | 0.0002 u (ppm)  | > 100.00 | 0.0002 (ppm)    | 1.0242      |
| 10/31/2017 23:21:22 | PBW-301960  | Se (196.026 nm)    | 0.0008 u (ppm)  | > 100.00 | 0.0008 (ppm)    | 1.4942      |
| 10/31/2017 23:21:22 | PBW-301960  | Sn (189.925 nm)    | 0.0018 (ppm)    | 32.37    | 0.0018 (ppm)    | 2.1335      |
| 10/31/2017 23:21:22 | PBW-301960  | Sr (216.596 nm)    | 0.0001 (ppm)    | > 100.00 | 0.0001 (ppm)    | 0.4480      |
| 10/31/2017 23:21:22 | PBW-301960  | Ti (336.122 nm)    | 0.0009 (ppm)    | 14.10    | 0.0009 (ppm)    | -291.9403   |
| 10/31/2017 23:21:22 | PBW-301960  | Tl (351.923 nm)    | 0.0011 (ppm)    | 65.27    | 0.0011 (ppm)    | 10.4192     |
| 10/31/2017 23:21:22 | PBW-301960  | V (292.401 nm)     | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | 110.1225    |
| 10/31/2017 23:21:22 | PBW-301960  | Y (360.074 nm)     | 1.02 (Ratio)    | 0.69     | 1.02 (Ratio)    | 871603.67   |
| 10/31/2017 23:21:22 | PBW-301960  | Y_R (360.074 nm)   | 1.02 (Ratio)    | 0.69     | 1.02 (Ratio)    | 872084.64   |
| 10/31/2017 23:21:22 | PBW-301960  | Zn (213.857 nm)    | 0.0061 (ppm)    | 0.81     | 0.0061 (ppm)    | 145.3204    |
| 10/31/2017 23:24:41 | LCSW-301960 | Ag (328.068 nm)    | 0.0486 (ppm)    | 0.39     | 0.0486 (ppm)    | 3366.5469   |
| 10/31/2017 23:24:41 | LCSW-301960 | Al (394.401 nm)    | 1.8072 (ppm)    | 0.56     | 1.8072 (ppm)    | 23254.3843  |
| 10/31/2017 23:24:41 | LCSW-301960 | As (188.980 nm)    | 0.0377 (ppm)    | 5.04     | 0.0377 (ppm)    | 32.2773     |
| 10/31/2017 23:24:41 | LCSW-301960 | B (249.772 nm)     | 0.9501 (ppm)    | 0.28     | 0.9501 (ppm)    | 26338.7150  |
| 10/31/2017 23:24:41 | LCSW-301960 | Ba (230.424 nm)    | 2.0396 (ppm)    | 0.21     | 2.0396 (ppm)    | 68571.3256  |
| 10/31/2017 23:24:41 | LCSW-301960 | Be (313.107 nm)    | 0.0494 (ppm)    | 0.41     | 0.0494 (ppm)    | 72462.1765  |
| 10/31/2017 23:24:41 | LCSW-301960 | Ca (227.547 nm)    | 1.8970 (ppm)    | 1.80     | 1.8970 (ppm)    | 111.2092    |
| 10/31/2017 23:24:41 | LCSW-301960 | Cd (214.439 nm)    | 0.0508 (ppm)    | 0.45     | 0.0508 (ppm)    | 1114.2608   |
| 10/31/2017 23:24:41 | LCSW-301960 | Co (230.786 nm)    | 0.5071 (ppm)    | 0.26     | 0.5071 (ppm)    | 5003.2729   |
| 10/31/2017 23:24:41 | LCSW-301960 | Cr (267.716 nm)    | 0.1969 (ppm)    | 0.39     | 0.1969 (ppm)    | 9749.6903   |
| 10/31/2017 23:24:41 | LCSW-301960 | Cu (327.395 nm)    | 0.2356 (ppm)    | 0.57     | 0.2356 (ppm)    | 14638.6058  |
| 10/31/2017 23:24:41 | LCSW-301960 | Fe (234.350 nm)    | 0.9671 (ppm)    | 0.42     | 0.9671 (ppm)    | 10813.4991  |
| 10/31/2017 23:24:41 | LCSW-301960 | K (766.491 nm)     | 18.7323 (ppm)   | 0.57     | 18.7323 (ppm)   | 56511.7054  |
| 10/31/2017 23:24:41 | LCSW-301960 | Mg (279.078 nm)    | 1.9808 (ppm)    | 0.51     | 1.9808 (ppm)    | 3821.5946   |
| 10/31/2017 23:24:41 | LCSW-301960 | Mn (257.610 nm)    | 0.4928 (ppm)    | 0.36     | 0.4928 (ppm)    | 154453.8811 |
| 10/31/2017 23:24:41 | LCSW-301960 | Mo (202.032 nm)    | 0.4719 (ppm)    | 0.30     | 0.4719 (ppm)    | 4817.8239   |
| 10/31/2017 23:24:41 | LCSW-301960 | Na (588.995 nm)    | 18.9528 (ppm)   | 0.54     | 18.9528 (ppm)   | 856414.6330 |
| 10/31/2017 23:24:41 | LCSW-301960 | Ni (230.299 nm)    | 0.5040 (ppm)    | 0.52     | 0.5040 (ppm)    | 3374.9832   |
| 10/31/2017 23:24:41 | LCSW-301960 | Pb (220.353 nm)    | 0.5095 (ppm)    | 0.15     | 0.5095 (ppm)    | 1093.5685   |
| 10/31/2017 23:24:41 | LCSW-301960 | Sb (217.582 nm)    | 0.4851 (ppm)    | 1.17     | 0.4851 (ppm)    | 664.2715    |
| 10/31/2017 23:24:41 | LCSW-301960 | Se (196.026 nm)    | 1.0505 (ppm)    | 0.50     | 1.0505 (ppm)    | 900.4687    |
| 10/31/2017 23:24:41 | LCSW-301960 | Sn (189.925 nm)    | 5.0203 (ppm)    | 0.39     | 5.0203 (ppm)    | 6079.1715   |
| 10/31/2017 23:24:41 | LCSW-301960 | Sr (216.596 nm)    | 2.0317 (ppm)    | 0.30     | 2.0317 (ppm)    | 28847.2005  |
| 10/31/2017 23:24:41 | LCSW-301960 | Ti (336.122 nm)    | 0.4799 (ppm)    | 0.41     | 0.4799 (ppm)    | 99934.4694  |

| Date Time           | Label         | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity    |
|---------------------|---------------|--------------------|-----------------|----------|-----------------|--------------|
| 10/31/2017 23:24:41 | LCSW-301960   | Tl (351.923 nm)    | 1.8180 (ppm)    | 0.51     | 1.8180 (ppm)    | 5000.8419    |
| 10/31/2017 23:24:41 | LCSW-301960   | V (292.401 nm)     | 0.4902 (ppm)    | 0.38     | 0.4902 (ppm)    | 17436.0564   |
| 10/31/2017 23:24:41 | LCSW-301960   | Y (360.074 nm)     | 0.99 (Ratio)    | 0.80     | 0.99 (Ratio)    | 848386.70    |
| 10/31/2017 23:24:41 | LCSW-301960   | Y_R (360.074 nm)   | 0.99 (Ratio)    | 0.80     | 0.99 (Ratio)    | 848837.71    |
| 10/31/2017 23:24:41 | LCSW-301960   | Zn (213.857 nm)    | 0.5083 (ppm)    | 0.21     | 0.5083 (ppm)    | 14194.5123   |
| 10/31/2017 23:28:00 | R1710054-001  | Ag (328.068 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | -106.5390    |
| 10/31/2017 23:28:00 | R1710054-001  | Al (394.401 nm)    | 0.0330 (ppm)    | 3.79     | 0.0330 (ppm)    | 547.8515     |
| 10/31/2017 23:28:00 | R1710054-001  | As (188.980 nm)    | -0.0028 u (ppm) | 84.93    | -0.0028 (ppm)   | -3.9602      |
| 10/31/2017 23:28:00 | R1710054-001  | B (249.772 nm)     | 0.0376 (ppm)    | 1.83     | 0.0376 (ppm)    | 1074.4309    |
| 10/31/2017 23:28:00 | R1710054-001  | Ba (230.424 nm)    | 0.0717 (ppm)    | 0.45     | 0.0717 (ppm)    | 2411.1645    |
| 10/31/2017 23:28:00 | R1710054-001  | Be (313.107 nm)    | 0.0000 (ppm)    | 6.30     | 0.0000 (ppm)    | -451.0079    |
| 10/31/2017 23:28:00 | R1710054-001  | Ca (227.547 nm)    | 34.7016 (ppm)   | 0.58     | 34.7016 (ppm)   | 1957.9560    |
| 10/31/2017 23:28:00 | R1710054-001  | Cd (214.439 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | 11.2323      |
| 10/31/2017 23:28:00 | R1710054-001  | Co (230.786 nm)    | 0.0007 (ppm)    | 32.46    | 0.0007 (ppm)    | 3.6558       |
| 10/31/2017 23:28:00 | R1710054-001  | Cr (267.716 nm)    | 0.0000 (ppm)    | 15.08    | 0.0000 (ppm)    | 0.8570       |
| 10/31/2017 23:28:00 | R1710054-001  | Cu (327.395 nm)    | 0.0004 (ppm)    | 45.22    | 0.0004 (ppm)    | 37.7559      |
| 10/31/2017 23:28:00 | R1710054-001  | Fe (234.350 nm)    | 0.0720 (ppm)    | 1.33     | 0.0720 (ppm)    | 816.5423     |
| 10/31/2017 23:28:00 | R1710054-001  | K (766.491 nm)     | 3.8781 (ppm)    | 0.91     | 3.8781 (ppm)    | 11692.5361   |
| 10/31/2017 23:28:00 | R1710054-001  | Mg (279.078 nm)    | 19.4599 (ppm)   | 0.35     | 19.4599 (ppm)   | 37550.8109   |
| 10/31/2017 23:28:00 | R1710054-001  | Mn (257.610 nm)    | 0.0120 (ppm)    | 27.49    | 0.0120 (ppm)    | 3766.2300    |
| 10/31/2017 23:28:00 | R1710054-001  | Mo (202.032 nm)    | 0.0016 (ppm)    | 11.33    | 0.0016 (ppm)    | 23.1437      |
| 10/31/2017 23:28:00 | R1710054-001  | Na (588.995 nm)    | 45.4604 (ppm)   | 0.89     | 45.4604 (ppm)   | 2061840.5511 |
| 10/31/2017 23:28:00 | R1710054-001  | Ni (230.299 nm)    | -0.0022 u (ppm) | 54.25    | -0.0022 (ppm)   | -35.2641     |
| 10/31/2017 23:28:00 | R1710054-001  | Pb (220.353 nm)    | -0.0019 u (ppm) | 61.54    | -0.0019 (ppm)   | 0.9321       |
| 10/31/2017 23:28:00 | R1710054-001  | Sb (217.582 nm)    | 0.0014 u (ppm)  | > 100.00 | 0.0014 (ppm)    | 2.6574       |
| 10/31/2017 23:28:00 | R1710054-001  | Se (196.026 nm)    | 0.0002 u (ppm)  | > 100.00 | 0.0002 (ppm)    | 0.9691       |
| 10/31/2017 23:28:00 | R1710054-001  | Sn (189.925 nm)    | 0.0032 (ppm)    | 40.32    | 0.0032 (ppm)    | 3.8206       |
| 10/31/2017 23:28:00 | R1710054-001  | Sr (216.596 nm)    | 0.3880 (ppm)    | 0.60     | 0.3880 (ppm)    | 5508.5307    |
| 10/31/2017 23:28:00 | R1710054-001  | Ti (336.122 nm)    | 0.0015 (ppm)    | 4.37     | 0.0015 (ppm)    | -168.0750    |
| 10/31/2017 23:28:00 | R1710054-001  | Tl (351.923 nm)    | 0.0031 (ppm)    | 85.29    | 0.0031 (ppm)    | 15.7738      |
| 10/31/2017 23:28:00 | R1710054-001  | V (292.401 nm)     | 0.0005 (ppm)    | 40.55    | 0.0005 (ppm)    | 126.9260     |
| 10/31/2017 23:28:00 | R1710054-001  | Y (360.074 nm)     | 0.97 (Ratio)    | 0.70     | 0.97 (Ratio)    | 831367.78    |
| 10/31/2017 23:28:00 | R1710054-001  | Y_R (360.074 nm)   | 0.97 (Ratio)    | 0.70     | 0.97 (Ratio)    | 831772.64    |
| 10/31/2017 23:28:00 | R1710054-001  | Zn (213.857 nm)    | 0.0068 (ppm)    | 0.35     | 0.0068 (ppm)    | 162.5836     |
| 10/31/2017 23:31:19 | R1710054-001S | Ag (328.068 nm)    | 0.0495 (ppm)    | 0.58     | 0.0495 (ppm)    | 3434.2891    |
| 10/31/2017 23:31:19 | R1710054-001S | Al (394.401 nm)    | 1.9431 (ppm)    | 0.54     | 1.9431 (ppm)    | 24993.6445   |
| 10/31/2017 23:31:19 | R1710054-001S | As (188.980 nm)    | 0.0415 (ppm)    | 7.11     | 0.0415 (ppm)    | 35.5977      |
| 10/31/2017 23:31:19 | R1710054-001S | B (249.772 nm)     | 1.0146 (ppm)    | 0.33     | 1.0146 (ppm)    | 28124.1756   |
| 10/31/2017 23:31:19 | R1710054-001S | Ba (230.424 nm)    | 2.0930 (ppm)    | 0.50     | 2.0930 (ppm)    | 70366.1416   |
| 10/31/2017 23:31:19 | R1710054-001S | Be (313.107 nm)    | 0.0504 (ppm)    | 0.35     | 0.0504 (ppm)    | 73909.3514   |
| 10/31/2017 23:31:19 | R1710054-001S | Ca (227.547 nm)    | 37.6239 (ppm)   | 0.43     | 37.6239 (ppm)   | 2122.4664    |
| 10/31/2017 23:31:19 | R1710054-001S | Cd (214.439 nm)    | 0.0506 (ppm)    | 0.25     | 0.0506 (ppm)    | 1108.4373    |
| 10/31/2017 23:31:19 | R1710054-001S | Co (230.786 nm)    | 0.5037 (ppm)    | 0.21     | 0.5037 (ppm)    | 4968.9100    |
| 10/31/2017 23:31:19 | R1710054-001S | Cr (267.716 nm)    | 0.1976 (ppm)    | 0.46     | 0.1976 (ppm)    | 9780.5529    |
| 10/31/2017 23:31:19 | R1710054-001S | Cu (327.395 nm)    | 0.2415 (ppm)    | 0.65     | 0.2415 (ppm)    | 15007.9087   |
| 10/31/2017 23:31:19 | R1710054-001S | Fe (234.350 nm)    | 1.0360 (ppm)    | 0.35     | 1.0360 (ppm)    | 11583.2042   |
| 10/31/2017 23:31:19 | R1710054-001S | K (766.491 nm)     | 23.7997 (ppm)   | 0.59     | 23.7997 (ppm)   | 71801.6330   |
| 10/31/2017 23:31:19 | R1710054-001S | Mg (279.078 nm)    | 21.6898 (ppm)   | 0.36     | 21.6898 (ppm)   | 41853.8594   |
| 10/31/2017 23:31:19 | R1710054-001S | Mn (257.610 nm)    | 0.4992 (ppm)    | 0.42     | 0.4992 (ppm)    | 156462.6976  |
| 10/31/2017 23:31:19 | R1710054-001S | Mo (202.032 nm)    | 0.4824 (ppm)    | 0.21     | 0.4824 (ppm)    | 4924.6115    |
| 10/31/2017 23:31:19 | R1710054-001S | Na (588.995 nm)    | 65.0557 o (ppm) | 0.68     | 65.0557 (ppm)   | 2952929.0117 |

| Date Time           | Label          | Element Label (nm) | Conc          | %RSD  | Unadjusted Conc | Intensity    |
|---------------------|----------------|--------------------|---------------|-------|-----------------|--------------|
| 10/31/2017 23:31:19 | R1710054-001S  | Ni (230.299 nm)    | 0.4959 (ppm)  | 0.40  | 0.4959 (ppm)    | 3319.9820    |
| 10/31/2017 23:31:19 | R1710054-001S  | Pb (220.353 nm)    | 0.5023 (ppm)  | 0.97  | 0.5023 (ppm)    | 1078.3108    |
| 10/31/2017 23:31:19 | R1710054-001S  | Sb (217.582 nm)    | 0.5061 (ppm)  | 1.03  | 0.5061 (ppm)    | 692.8934     |
| 10/31/2017 23:31:19 | R1710054-001S  | Se (196.026 nm)    | 1.0842 (ppm)  | 0.15  | 1.0842 (ppm)    | 929.3052     |
| 10/31/2017 23:31:19 | R1710054-001S  | Sn (189.925 nm)    | 5.0728 (ppm)  | 0.57  | 5.0728 (ppm)    | 6142.7989    |
| 10/31/2017 23:31:19 | R1710054-001S  | Sr (216.596 nm)    | 2.4051 (ppm)  | 0.17  | 2.4051 (ppm)    | 34148.4359   |
| 10/31/2017 23:31:19 | R1710054-001S  | Ti (336.122 nm)    | 0.4892 (ppm)  | 0.41  | 0.4892 (ppm)    | 101877.0148  |
| 10/31/2017 23:31:19 | R1710054-001S  | Tl (351.923 nm)    | 1.9091 (ppm)  | 0.47  | 1.9091 (ppm)    | 5250.9763    |
| 10/31/2017 23:31:19 | R1710054-001S  | V (292.401 nm)     | 0.4990 (ppm)  | 0.46  | 0.4990 (ppm)    | 17745.3236   |
| 10/31/2017 23:31:19 | R1710054-001S  | Y (360.074 nm)     | 0.96 (Ratio)  | 0.68  | 0.96 (Ratio)    | 821696.23    |
| 10/31/2017 23:31:19 | R1710054-001S  | Y_R (360.074 nm)   | 0.96 (Ratio)  | 0.68  | 0.96 (Ratio)    | 822148.32    |
| 10/31/2017 23:31:19 | R1710054-001S  | Zn (213.857 nm)    | 0.5082 (ppm)  | 0.27  | 0.5082 (ppm)    | 14190.9149   |
| 10/31/2017 23:34:38 | R1710054-001SD | Ag (328.068 nm)    | 0.0493 (ppm)  | 1.99  | 0.0493 (ppm)    | 3419.0359    |
| 10/31/2017 23:34:38 | R1710054-001SD | Al (394.401 nm)    | 1.9245 (ppm)  | 1.81  | 1.9245 (ppm)    | 24755.6387   |
| 10/31/2017 23:34:38 | R1710054-001SD | As (188.980 nm)    | 0.0401 (ppm)  | 5.27  | 0.0401 (ppm)    | 34.3572      |
| 10/31/2017 23:34:38 | R1710054-001SD | B (249.772 nm)     | 1.0089 (ppm)  | 1.71  | 1.0089 (ppm)    | 27967.8050   |
| 10/31/2017 23:34:38 | R1710054-001SD | Ba (230.424 nm)    | 2.0840 (ppm)  | 1.49  | 2.0840 (ppm)    | 70065.0284   |
| 10/31/2017 23:34:38 | R1710054-001SD | Be (313.107 nm)    | 0.0501 (ppm)  | 1.66  | 0.0501 (ppm)    | 73523.6295   |
| 10/31/2017 23:34:38 | R1710054-001SD | Ca (227.547 nm)    | 36.7320 (ppm) | 1.68  | 36.7320 (ppm)   | 2072.2550    |
| 10/31/2017 23:34:38 | R1710054-001SD | Cd (214.439 nm)    | 0.0504 (ppm)  | 1.76  | 0.0504 (ppm)    | 1104.3983    |
| 10/31/2017 23:34:38 | R1710054-001SD | Co (230.786 nm)    | 0.5020 (ppm)  | 1.53  | 0.5020 (ppm)    | 4953.0518    |
| 10/31/2017 23:34:38 | R1710054-001SD | Cr (267.716 nm)    | 0.1966 (ppm)  | 1.68  | 0.1966 (ppm)    | 9735.0673    |
| 10/31/2017 23:34:38 | R1710054-001SD | Cu (327.395 nm)    | 0.2398 (ppm)  | 2.05  | 0.2398 (ppm)    | 14898.1448   |
| 10/31/2017 23:34:38 | R1710054-001SD | Fe (234.350 nm)    | 1.0305 (ppm)  | 1.58  | 1.0305 (ppm)    | 11522.0313   |
| 10/31/2017 23:34:38 | R1710054-001SD | K (766.491 nm)     | 23.5521 (ppm) | 1.84  | 23.5521 (ppm)   | 71054.4315   |
| 10/31/2017 23:34:38 | R1710054-001SD | Mg (279.078 nm)    | 21.2107 (ppm) | 1.64  | 21.2107 (ppm)   | 40929.3501   |
| 10/31/2017 23:34:38 | R1710054-001SD | Mn (257.610 nm)    | 0.4964 (ppm)  | 1.51  | 0.4964 (ppm)    | 155602.4119  |
| 10/31/2017 23:34:38 | R1710054-001SD | Mo (202.032 nm)    | 0.4787 (ppm)  | 1.72  | 0.4787 (ppm)    | 4886.8053    |
| 10/31/2017 23:34:38 | R1710054-001SD | Na (588.995 nm)    | 63.6784 (ppm) | 1.89  | 63.6784 (ppm)   | 2890298.7150 |
| 10/31/2017 23:34:38 | R1710054-001SD | Ni (230.299 nm)    | 0.4940 (ppm)  | 1.55  | 0.4940 (ppm)    | 3307.4038    |
| 10/31/2017 23:34:38 | R1710054-001SD | Pb (220.353 nm)    | 0.5007 (ppm)  | 1.63  | 0.5007 (ppm)    | 1074.7296    |
| 10/31/2017 23:34:38 | R1710054-001SD | Sb (217.582 nm)    | 0.5008 (ppm)  | 2.05  | 0.5008 (ppm)    | 685.6808     |
| 10/31/2017 23:34:38 | R1710054-001SD | Se (196.026 nm)    | 1.0805 (ppm)  | 2.30  | 1.0805 (ppm)    | 926.1437     |
| 10/31/2017 23:34:38 | R1710054-001SD | Sn (189.925 nm)    | 5.0788 (ppm)  | 0.77  | 5.0788 (ppm)    | 6150.0374    |
| 10/31/2017 23:34:38 | R1710054-001SD | Sr (216.596 nm)    | 2.3831 (ppm)  | 1.27  | 2.3831 (ppm)    | 33836.5624   |
| 10/31/2017 23:34:38 | R1710054-001SD | Ti (336.122 nm)    | 0.4860 (ppm)  | 1.69  | 0.4860 (ppm)    | 101199.3294  |
| 10/31/2017 23:34:38 | R1710054-001SD | Tl (351.923 nm)    | 1.8988 (ppm)  | 2.05  | 1.8988 (ppm)    | 5222.6798    |
| 10/31/2017 23:34:38 | R1710054-001SD | V (292.401 nm)     | 0.4965 (ppm)  | 1.66  | 0.4965 (ppm)    | 17657.5869   |
| 10/31/2017 23:34:38 | R1710054-001SD | Y (360.074 nm)     | 0.96 (Ratio)  | 1.36  | 0.96 (Ratio)    | 821003.56    |
| 10/31/2017 23:34:38 | R1710054-001SD | Y_R (360.074 nm)   | 0.96 (Ratio)  | 1.35  | 0.96 (Ratio)    | 821484.09    |
| 10/31/2017 23:34:38 | R1710054-001SD | Zn (213.857 nm)    | 0.5020 (ppm)  | 1.01  | 0.5020 (ppm)    | 14015.8791   |
| 10/31/2017 23:37:57 | R1710054-001A  | Ag (328.068 nm)    | 0.0468 (ppm)  | 0.49  | 0.0468 (ppm)    | 3243.6680    |
| 10/31/2017 23:37:57 | R1710054-001A  | Al (394.401 nm)    | 1.8511 (ppm)  | 0.61  | 1.8511 (ppm)    | 23815.6114   |
| 10/31/2017 23:37:57 | R1710054-001A  | As (188.980 nm)    | 0.0381 (ppm)  | 12.68 | 0.0381 (ppm)    | 32.6197      |
| 10/31/2017 23:37:57 | R1710054-001A  | B (249.772 nm)     | 1.0966 (ppm)  | 0.43  | 1.0966 (ppm)    | 30396.1354   |
| 10/31/2017 23:37:57 | R1710054-001A  | Ba (230.424 nm)    | 1.9945 (ppm)  | 0.36  | 1.9945 (ppm)    | 67053.9366   |
| 10/31/2017 23:37:57 | R1710054-001A  | Be (313.107 nm)    | 0.0479 (ppm)  | 0.40  | 0.0479 (ppm)    | 70191.9233   |
| 10/31/2017 23:37:57 | R1710054-001A  | Ca (227.547 nm)    | 36.1024 (ppm) | 0.60  | 36.1024 (ppm)   | 2036.8139    |
| 10/31/2017 23:37:57 | R1710054-001A  | Cd (214.439 nm)    | 0.0483 (ppm)  | 0.77  | 0.0483 (ppm)    | 1058.8571    |
| 10/31/2017 23:37:57 | R1710054-001A  | Co (230.786 nm)    | 0.4798 (ppm)  | 0.55  | 0.4798 (ppm)    | 4732.9294    |
| 10/31/2017 23:37:57 | R1710054-001A  | Cr (267.716 nm)    | 0.1881 (ppm)  | 0.41  | 0.1881 (ppm)    | 9314.9733    |

| Date Time           | Label         | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity    |
|---------------------|---------------|--------------------|-----------------|----------|-----------------|--------------|
| 10/31/2017 23:37:57 | R1710054-001A | Cu (327.395 nm)    | 0.2287 (ppm)    | 0.52     | 0.2287 (ppm)    | 14211.1489   |
| 10/31/2017 23:37:57 | R1710054-001A | Fe (234.350 nm)    | 0.9860 (ppm)    | 0.36     | 0.9860 (ppm)    | 11024.2945   |
| 10/31/2017 23:37:57 | R1710054-001A | K (766.491 nm)     | 22.5535 (ppm)   | 0.53     | 22.5535 (ppm)   | 68041.4446   |
| 10/31/2017 23:37:57 | R1710054-001A | Mg (279.078 nm)    | 20.8845 (ppm)   | 0.45     | 20.8845 (ppm)   | 40299.7271   |
| 10/31/2017 23:37:57 | R1710054-001A | Mn (257.610 nm)    | 0.4891 (ppm)    | 0.94     | 0.4891 (ppm)    | 153315.0866  |
| 10/31/2017 23:37:57 | R1710054-001A | Mo (202.032 nm)    | 0.4601 (ppm)    | 0.46     | 0.4601 (ppm)    | 4697.4506    |
| 10/31/2017 23:37:57 | R1710054-001A | Na (588.995 nm)    | 62.2395 o (ppm) | 0.70     | 62.2395 (ppm)   | 2824862.1460 |
| 10/31/2017 23:37:57 | R1710054-001A | Ni (230.299 nm)    | 0.4716 (ppm)    | 0.30     | 0.4716 (ppm)    | 3156.2356    |
| 10/31/2017 23:37:57 | R1710054-001A | Pb (220.353 nm)    | 0.4759 (ppm)    | 1.04     | 0.4759 (ppm)    | 1021.7851    |
| 10/31/2017 23:37:57 | R1710054-001A | Sb (217.582 nm)    | 0.4808 (ppm)    | 0.79     | 0.4808 (ppm)    | 658.3462     |
| 10/31/2017 23:37:57 | R1710054-001A | Se (196.026 nm)    | 1.1307 o (ppm)  | 0.31     | 1.1307 (ppm)    | 969.1214     |
| 10/31/2017 23:37:57 | R1710054-001A | Sn (189.925 nm)    | 4.8592 (ppm)    | 0.62     | 4.8592 (ppm)    | 5884.1176    |
| 10/31/2017 23:37:57 | R1710054-001A | Sr (216.596 nm)    | 2.3759 (ppm)    | 0.57     | 2.3759 (ppm)    | 33733.8672   |
| 10/31/2017 23:37:57 | R1710054-001A | Ti (336.122 nm)    | 0.4666 (ppm)    | 0.51     | 0.4666 (ppm)    | 97146.7068   |
| 10/31/2017 23:37:57 | R1710054-001A | Tl (351.923 nm)    | 1.8095 (ppm)    | 0.58     | 1.8095 (ppm)    | 4977.5599    |
| 10/31/2017 23:37:57 | R1710054-001A | V (292.401 nm)     | 0.4739 (ppm)    | 0.46     | 0.4739 (ppm)    | 16859.7159   |
| 10/31/2017 23:37:57 | R1710054-001A | Y (360.074 nm)     | 0.96 (Ratio)    | 0.98     | 0.96 (Ratio)    | 820202.32    |
| 10/31/2017 23:37:57 | R1710054-001A | Y_R (360.074 nm)   | 0.96 (Ratio)    | 0.97     | 0.96 (Ratio)    | 820651.50    |
| 10/31/2017 23:37:57 | R1710054-001A | Zn (213.857 nm)    | 0.4819 (ppm)    | 0.48     | 0.4819 (ppm)    | 13455.1799   |
| 10/31/2017 23:41:15 | R1710054-001L | Ag (328.068 nm)    | -0.0001 u (ppm) | 65.05    | -0.0001 (ppm)   | -113.8551    |
| 10/31/2017 23:41:15 | R1710054-001L | Al (394.401 nm)    | 0.0070 (ppm)    | 27.04    | 0.0070 (ppm)    | 215.1399     |
| 10/31/2017 23:41:15 | R1710054-001L | As (188.980 nm)    | -0.0004 u (ppm) | > 100.00 | -0.0004 (ppm)   | -1.8107      |
| 10/31/2017 23:41:15 | R1710054-001L | B (249.772 nm)     | 0.0097 (ppm)    | 9.20     | 0.0097 (ppm)    | 302.2134     |
| 10/31/2017 23:41:15 | R1710054-001L | Ba (230.424 nm)    | 0.0154 (ppm)    | 6.69     | 0.0154 (ppm)    | 519.8952     |
| 10/31/2017 23:41:15 | R1710054-001L | Be (313.107 nm)    | 0.0000 (ppm)    | 39.10    | 0.0000 (ppm)    | -459.6055    |
| 10/31/2017 23:41:15 | R1710054-001L | Ca (227.547 nm)    | 6.5662 (ppm)    | 0.52     | 6.5662 (ppm)    | 374.0625     |
| 10/31/2017 23:41:15 | R1710054-001L | Cd (214.439 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | 14.2996      |
| 10/31/2017 23:41:15 | R1710054-001L | Co (230.786 nm)    | 0.0002 u (ppm)  | > 100.00 | 0.0002 (ppm)    | -1.5616      |
| 10/31/2017 23:41:15 | R1710054-001L | Cr (267.716 nm)    | 0.0002 (ppm)    | 22.84    | 0.0002 (ppm)    | 9.2522       |
| 10/31/2017 23:41:15 | R1710054-001L | Cu (327.395 nm)    | 0.0003 (ppm)    | 36.95    | 0.0003 (ppm)    | 31.2919      |
| 10/31/2017 23:41:15 | R1710054-001L | Fe (234.350 nm)    | 0.0151 (ppm)    | 6.27     | 0.0151 (ppm)    | 180.9508     |
| 10/31/2017 23:41:15 | R1710054-001L | K (766.491 nm)     | 0.7477 (ppm)    | 1.99     | 0.7477 (ppm)    | 2247.2822    |
| 10/31/2017 23:41:15 | R1710054-001L | Mg (279.078 nm)    | 3.7702 (ppm)    | 0.32     | 3.7702 (ppm)    | 7274.6046    |
| 10/31/2017 23:41:15 | R1710054-001L | Mn (257.610 nm)    | 0.0045 (ppm)    | 9.92     | 0.0045 (ppm)    | 1426.1791    |
| 10/31/2017 23:41:15 | R1710054-001L | Mo (202.032 nm)    | 0.0010 (ppm)    | 14.23    | 0.0010 (ppm)    | 17.0179      |
| 10/31/2017 23:41:15 | R1710054-001L | Na (588.995 nm)    | 9.0020 (ppm)    | 0.66     | 9.0020 (ppm)    | 403904.5836  |
| 10/31/2017 23:41:15 | R1710054-001L | Ni (230.299 nm)    | 0.0001 (ppm)    | > 100.00 | 0.0001 (ppm)    | -19.7546     |
| 10/31/2017 23:41:15 | R1710054-001L | Pb (220.353 nm)    | -0.0007 u (ppm) | > 100.00 | -0.0007 (ppm)   | 3.6154       |
| 10/31/2017 23:41:15 | R1710054-001L | Sb (217.582 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | 0.8048       |
| 10/31/2017 23:41:15 | R1710054-001L | Se (196.026 nm)    | 0.0005 u (ppm)  | > 100.00 | 0.0005 (ppm)    | 1.1835       |
| 10/31/2017 23:41:15 | R1710054-001L | Sn (189.925 nm)    | 0.0039 (ppm)    | 44.36    | 0.0039 (ppm)    | 4.5927       |
| 10/31/2017 23:41:15 | R1710054-001L | Sr (216.596 nm)    | 0.0780 (ppm)    | 1.14     | 0.0780 (ppm)    | 1107.4413    |
| 10/31/2017 23:41:15 | R1710054-001L | Ti (336.122 nm)    | 0.0007 (ppm)    | 27.43    | 0.0007 (ppm)    | -325.6204    |
| 10/31/2017 23:41:15 | R1710054-001L | Tl (351.923 nm)    | 0.0015 u (ppm)  | > 100.00 | 0.0015 (ppm)    | 11.4015      |
| 10/31/2017 23:41:15 | R1710054-001L | V (292.401 nm)     | 0.0002 (ppm)    | 42.17    | 0.0002 (ppm)    | 116.1252     |
| 10/31/2017 23:41:15 | R1710054-001L | Y (360.074 nm)     | 1.01 (Ratio)    | 0.79     | 1.01 (Ratio)    | 858440.34    |
| 10/31/2017 23:41:15 | R1710054-001L | Y_R (360.074 nm)   | 1.01 (Ratio)    | 0.79     | 1.01 (Ratio)    | 858908.12    |
| 10/31/2017 23:41:15 | R1710054-001L | Zn (213.857 nm)    | 0.0028 (ppm)    | 3.05     | 0.0028 (ppm)    | 52.4995      |
| 10/31/2017 23:44:35 | R1710054-002  | Ag (328.068 nm)    | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | -101.7748    |
| 10/31/2017 23:44:35 | R1710054-002  | Al (394.401 nm)    | 0.0378 (ppm)    | 1.43     | 0.0378 (ppm)    | 609.5133     |
| 10/31/2017 23:44:35 | R1710054-002  | As (188.980 nm)    | -0.0003 u (ppm) | > 100.00 | -0.0003 (ppm)   | -1.7468      |



| Date Time           | Label        | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity    |
|---------------------|--------------|--------------------|-----------------|----------|-----------------|--------------|
| 10/31/2017 23:44:35 | R1710054-002 | B (249.772 nm)     | 0.0634 (ppm)    | 0.59     | 0.0634 (ppm)    | 1789.4881    |
| 10/31/2017 23:44:35 | R1710054-002 | Ba (230.424 nm)    | 0.0362 (ppm)    | 0.92     | 0.0362 (ppm)    | 1217.6532    |
| 10/31/2017 23:44:35 | R1710054-002 | Be (313.107 nm)    | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | -529.5395    |
| 10/31/2017 23:44:35 | R1710054-002 | Ca (227.547 nm)    | 249.3209 (ppm)  | 0.38     | 249.3209 (ppm)  | 14040.0349   |
| 10/31/2017 23:44:35 | R1710054-002 | Cd (214.439 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | 11.4405      |
| 10/31/2017 23:44:35 | R1710054-002 | Co (230.786 nm)    | 0.0001 u (ppm)  | > 100.00 | 0.0001 (ppm)    | -2.8797      |
| 10/31/2017 23:44:35 | R1710054-002 | Cr (267.716 nm)    | -0.0003 u (ppm) | 26.84    | -0.0003 (ppm)   | -13.7085     |
| 10/31/2017 23:44:35 | R1710054-002 | Cu (327.395 nm)    | 0.0002 (ppm)    | 67.70    | 0.0002 (ppm)    | 28.2564      |
| 10/31/2017 23:44:35 | R1710054-002 | Fe (234.350 nm)    | 0.0072 (ppm)    | 2.53     | 0.0072 (ppm)    | 92.0296      |
| 10/31/2017 23:44:35 | R1710054-002 | K (766.491 nm)     | 2.4787 (ppm)    | 0.70     | 2.4787 (ppm)    | 7469.9821    |
| 10/31/2017 23:44:35 | R1710054-002 | Mg (279.078 nm)    | 36.1702 (ppm)   | 0.29     | 36.1702 (ppm)   | 69796.4383   |
| 10/31/2017 23:44:35 | R1710054-002 | Mn (257.610 nm)    | 0.0048 (ppm)    | 28.62    | 0.0048 (ppm)    | 1506.5598    |
| 10/31/2017 23:44:35 | R1710054-002 | Mo (202.032 nm)    | 0.0013 (ppm)    | 13.41    | 0.0013 (ppm)    | 20.4166      |
| 10/31/2017 23:44:35 | R1710054-002 | Na (588.995 nm)    | 59.9628 (ppm)   | 0.52     | 59.9628 (ppm)   | 2721331.5842 |
| 10/31/2017 23:44:35 | R1710054-002 | Ni (230.299 nm)    | -0.0015 u (ppm) | 29.92    | -0.0015 (ppm)   | -30.3840     |
| 10/31/2017 23:44:35 | R1710054-002 | Pb (220.353 nm)    | -0.0013 u (ppm) | 15.03    | -0.0013 (ppm)   | 2.3022       |
| 10/31/2017 23:44:35 | R1710054-002 | Sb (217.582 nm)    | -0.0004 u (ppm) | > 100.00 | -0.0004 (ppm)   | 0.2441       |
| 10/31/2017 23:44:35 | R1710054-002 | Se (196.026 nm)    | -0.0013 u (ppm) | > 100.00 | -0.0013 (ppm)   | -0.3333      |
| 10/31/2017 23:44:35 | R1710054-002 | Sn (189.925 nm)    | 0.0011 u (ppm)  | > 100.00 | 0.0011 (ppm)    | 1.2151       |
| 10/31/2017 23:44:35 | R1710054-002 | Sr (216.596 nm)    | 3.2546 (ppm)    | 0.08     | 3.2546 (ppm)    | 46210.0821   |
| 10/31/2017 23:44:35 | R1710054-002 | Ti (336.122 nm)    | 0.0021 (ppm)    | 2.53     | 0.0021 (ppm)    | -44.8978     |
| 10/31/2017 23:44:35 | R1710054-002 | Tl (351.923 nm)    | 0.0047 (ppm)    | 55.43    | 0.0047 (ppm)    | 20.2775      |
| 10/31/2017 23:44:35 | R1710054-002 | V (202.401 nm)     | 0.0004 (ppm)    | 19.02    | 0.0004 (ppm)    | 123.3439     |
| 10/31/2017 23:44:35 | R1710054-002 | Y (360.074 nm)     | 0.92 (Ratio)    | 0.23     | 0.92 (Ratio)    | 786441.30    |
| 10/31/2017 23:44:35 | R1710054-002 | Y_R (360.074 nm)   | 0.92 (Ratio)    | 0.23     | 0.92 (Ratio)    | 786843.44    |
| 10/31/2017 23:44:35 | R1710054-002 | Zn (213.857 nm)    | 0.0034 (ppm)    | 2.32     | 0.0034 (ppm)    | 67.2610      |
| 10/31/2017 23:47:53 | R1710054-004 | Ag (328.068 nm)    | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | -102.6580    |
| 10/31/2017 23:47:53 | R1710054-004 | Al (394.401 nm)    | 0.1957 (ppm)    | 0.50     | 0.1957 (ppm)    | 2630.5907    |
| 10/31/2017 23:47:53 | R1710054-004 | As (188.980 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | -1.5467      |
| 10/31/2017 23:47:53 | R1710054-004 | B (249.772 nm)     | 0.0529 (ppm)    | 0.24     | 0.0529 (ppm)    | 1497.9008    |
| 10/31/2017 23:47:53 | R1710054-004 | Ba (230.424 nm)    | 0.2077 (ppm)    | 0.60     | 0.2077 (ppm)    | 6985.2330    |
| 10/31/2017 23:47:53 | R1710054-004 | Be (313.107 nm)    | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | -526.3444    |
| 10/31/2017 23:47:53 | R1710054-004 | Ca (227.547 nm)    | 175.0528 (ppm)  | 0.63     | 175.0528 (ppm)  | 9859.0821    |
| 10/31/2017 23:47:53 | R1710054-004 | Cd (214.439 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | 12.2760      |
| 10/31/2017 23:47:53 | R1710054-004 | Co (230.786 nm)    | 0.0041 (ppm)    | 14.88    | 0.0041 (ppm)    | 36.6441      |
| 10/31/2017 23:47:53 | R1710054-004 | Cr (267.716 nm)    | -0.0002 u (ppm) | 46.90    | -0.0002 (ppm)   | -12.7759     |
| 10/31/2017 23:47:53 | R1710054-004 | Cu (327.395 nm)    | 0.0024 (ppm)    | 6.15     | 0.0024 (ppm)    | 162.3126     |
| 10/31/2017 23:47:53 | R1710054-004 | Fe (234.350 nm)    | 0.2141 (ppm)    | 0.84     | 0.2141 (ppm)    | 2403.2856    |
| 10/31/2017 23:47:53 | R1710054-004 | K (766.491 nm)     | 4.8485 (ppm)    | 0.63     | 4.8485 (ppm)    | 14620.3613   |
| 10/31/2017 23:47:53 | R1710054-004 | Mg (279.078 nm)    | 28.6555 (ppm)   | 0.44     | 28.6555 (ppm)   | 55295.4783   |
| 10/31/2017 23:47:53 | R1710054-004 | Mn (257.610 nm)    | 0.7676 (ppm)    | 0.24     | 0.7676 (ppm)    | 240593.9478  |
| 10/31/2017 23:47:53 | R1710054-004 | Mo (202.032 nm)    | 0.0005 (ppm)    | 65.74    | 0.0005 (ppm)    | 11.9293      |
| 10/31/2017 23:47:53 | R1710054-004 | Na (588.995 nm)    | 42.3089 (ppm)   | 0.42     | 42.3089 (ppm)   | 1918524.5498 |
| 10/31/2017 23:47:53 | R1710054-004 | Ni (230.299 nm)    | 0.0064 (ppm)    | 3.13     | 0.0064 (ppm)    | 22.7404      |
| 10/31/2017 23:47:53 | R1710054-004 | Pb (220.353 nm)    | -0.0013 u (ppm) | > 100.00 | -0.0013 (ppm)   | 2.2771       |
| 10/31/2017 23:47:53 | R1710054-004 | Sb (217.582 nm)    | -0.0022 u (ppm) | 58.16    | -0.0022 (ppm)   | -2.2179      |
| 10/31/2017 23:47:53 | R1710054-004 | Se (196.026 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | 0.6515       |
| 10/31/2017 23:47:53 | R1710054-004 | Sn (189.925 nm)    | -0.0008 u (ppm) | > 100.00 | -0.0008 (ppm)   | -0.9972      |
| 10/31/2017 23:47:53 | R1710054-004 | Sr (216.596 nm)    | 9.8646 (ppm)    | 1.14     | 9.8646 (ppm)    | 140063.4755  |
| 10/31/2017 23:47:53 | R1710054-004 | Ti (336.122 nm)    | 0.0055 (ppm)    | 4.53     | 0.0055 (ppm)    | 659.8897     |
| 10/31/2017 23:47:53 | R1710054-004 | Tl (351.923 nm)    | 0.0043 (ppm)    | 39.07    | 0.0043 (ppm)    | 19.2155      |

| Date Time           | Label                               | Element Label (nm) | Conc             | %RSD     | Unadjusted Conc | Intensity    |
|---------------------|-------------------------------------|--------------------|------------------|----------|-----------------|--------------|
| 10/31/2017 23:47:53 | R1710054-004                        | V (292.401 nm)     | 0.0007 (ppm)     | 2.66     | 0.0007 (ppm)    | 133.0140     |
| 10/31/2017 23:47:53 | R1710054-004                        | Y (360.074 nm)     | 0.92 (Ratio)     | 0.79     | 0.92 (Ratio)    | 784190.59    |
| 10/31/2017 23:47:53 | R1710054-004                        | Y_R (360.074 nm)   | 0.92 (Ratio)     | 0.79     | 0.92 (Ratio)    | 784567.56    |
| 10/31/2017 23:47:53 | R1710054-004                        | Zn (213.857 nm)    | 0.0041 (ppm)     | 1.42     | 0.0041 (ppm)    | 87.6779      |
| 10/31/2017 23:51:13 | R1710054-006                        | Ag (328.068 nm)    | 0.0001 (ppm)     | 62.19    | 0.0001 (ppm)    | -94.9271     |
| 10/31/2017 23:51:13 | R1710054-006                        | Al (394.401 nm)    | 0.1735 (ppm)     | 0.83     | 0.1735 (ppm)    | 2346.1375    |
| 10/31/2017 23:51:13 | R1710054-006                        | As (188.980 nm)    | 0.0011 u (ppm)   | > 100.00 | 0.0011 (ppm)    | -0.4843      |
| 10/31/2017 23:51:13 | R1710054-006                        | B (249.772 nm)     | 0.1565 (ppm)     | 0.20     | 0.1565 (ppm)    | 4367.1164    |
| 10/31/2017 23:51:13 | R1710054-006                        | Ba (230.424 nm)    | 0.3337 (ppm)     | 0.49     | 0.3337 (ppm)    | 11221.6325   |
| 10/31/2017 23:51:13 | R1710054-006                        | Be (313.107 nm)    | 0.0000 (ppm)     | 68.34    | 0.0000 (ppm)    | -549.3239    |
| 10/31/2017 23:51:13 | R1710054-006                        | Ca (227.547 nm)    | 246.9227 o (ppm) | 0.20     | 246.9227 (ppm)  | 13905.0297   |
| 10/31/2017 23:51:13 | R1710054-006                        | Cd (214.439 nm)    | 0.0001 u (ppm)   | > 100.00 | 0.0001 (ppm)    | 15.0878      |
| 10/31/2017 23:51:13 | R1710054-006                        | Co (230.786 nm)    | 0.0022 (ppm)     | 7.09     | 0.0022 (ppm)    | 17.6759      |
| 10/31/2017 23:51:13 | R1710054-006                        | Cr (267.716 nm)    | -0.0001 u (ppm)  | > 100.00 | -0.0001 (ppm)   | -6.4728      |
| 10/31/2017 23:51:13 | R1710054-006                        | Cu (327.395 nm)    | 0.0008 (ppm)     | 10.02    | 0.0008 (ppm)    | 60.3672      |
| 10/31/2017 23:51:13 | R1710054-006                        | Fe (234.350 nm)    | 3.6985 (ppm)     | 0.24     | 3.6985 (ppm)    | 41321.4267   |
| 10/31/2017 23:51:13 | R1710054-006                        | K (766.491 nm)     | 7.9687 (ppm)     | 0.51     | 7.9687 (ppm)    | 24034.9538   |
| 10/31/2017 23:51:13 | R1710054-006                        | Mg (279.078 nm)    | 50.9411 (ppm)    | 0.19     | 50.9411 (ppm)   | 98299.4950   |
| 10/31/2017 23:51:13 | R1710054-006                        | Mn (257.610 nm)    | 0.3175 (ppm)     | 0.64     | 0.3175 (ppm)    | 99519.7968   |
| 10/31/2017 23:51:13 | R1710054-006                        | Mo (202.032 nm)    | 0.0016 (ppm)     | 15.79    | 0.0016 (ppm)    | 23.4176      |
| 10/31/2017 23:51:13 | R1710054-006                        | Na (588.995 nm)    | 122.0460 o (ppm) | 0.53     | 122.0460 (ppm)  | 5544547.5955 |
| 10/31/2017 23:51:13 | R1710054-006                        | Ni (230.299 nm)    | 0.0118 (ppm)     | 10.66    | 0.0118 (ppm)    | 59.0988      |
| 10/31/2017 23:51:13 | R1710054-006                        | Pb (220.353 nm)    | -0.0020 u (ppm)  | 57.15    | -0.0020 (ppm)   | 0.8641       |
| 10/31/2017 23:51:13 | R1710054-006                        | Sb (217.582 nm)    | 0.0005 u (ppm)   | > 100.00 | 0.0005 (ppm)    | 1.4286       |
| 10/31/2017 23:51:13 | R1710054-006                        | Se (196.026 nm)    | -0.0037 u (ppm)  | > 100.00 | -0.0037 (ppm)   | -2.3968      |
| 10/31/2017 23:51:13 | R1710054-006                        | Sn (189.925 nm)    | -0.0028 u (ppm)  | 37.01    | -0.0028 (ppm)   | -3.4321      |
| 10/31/2017 23:51:13 | R1710054-006                        | Sr (216.596 nm)    | 25.9002 o (ppm)  | 0.65     | 25.9002 (ppm)   | 367748.1229  |
| 10/31/2017 23:51:13 | R1710054-006                        | Ti (336.122 nm)    | 0.0050 (ppm)     | 6.40     | 0.0050 (ppm)    | 565.7172     |
| 10/31/2017 23:51:13 | R1710054-006                        | Tl (351.923 nm)    | 0.0075 (ppm)     | 8.73     | 0.0075 (ppm)    | 27.9281      |
| 10/31/2017 23:51:13 | R1710054-006                        | V (292.401 nm)     | 0.0009 (ppm)     | 37.66    | 0.0009 (ppm)    | 142.4655     |
| 10/31/2017 23:51:13 | R1710054-006                        | Y (360.074 nm)     | 0.87 (Ratio)     | 0.07     | 0.87 (Ratio)    | 742097.81    |
| 10/31/2017 23:51:13 | R1710054-006                        | Y_R (360.074 nm)   | 0.87 (Ratio)     | 0.07     | 0.87 (Ratio)    | 742374.17    |
| 10/31/2017 23:51:13 | R1710054-006                        | Zn (213.857 nm)    | 0.0033 (ppm)     | 2.78     | 0.0033 (ppm)    | 65.4871      |
| 10/31/2017 23:54:32 | Continuing Calibration Verification | Ag (328.068 nm)    | 0.4935 (ppm)     | 0.31     | 0.4935 (ppm)    | 35157.0893   |
| 10/31/2017 23:54:32 | Continuing Calibration Verification | Al (394.401 nm)    | 9.5301 (ppm)     | 0.46     | 9.5301 (ppm)    | 122089.6685  |
| 10/31/2017 23:54:32 | Continuing Calibration Verification | As (188.980 nm)    | 0.9736 (ppm)     | 1.24     | 0.9736 (ppm)    | 868.8812     |
| 10/31/2017 23:54:32 | Continuing Calibration Verification | B (249.772 nm)     | 2.4395 (ppm)     | 0.26     | 2.4395 (ppm)    | 67576.2339   |
| 10/31/2017 23:54:32 | Continuing Calibration Verification | Be (313.107 nm)    | 10.4566 (ppm)    | 0.14     | 10.4566 (ppm)   | 351542.0247  |
| 10/31/2017 23:54:32 | Continuing Calibration Verification | Be (313.107 nm)    | 0.2556 (ppm)     | 0.37     | 0.2556 (ppm)    | 377026.5832  |
| 10/31/2017 23:54:32 | Continuing Calibration Verification | Ca (227.547 nm)    | 24.2811 (ppm)    | 0.76     | 24.2811 (ppm)   | 1371.3290    |
| 10/31/2017 23:54:32 | Continuing Calibration Verification | Cd (214.439 nm)    | 0.5117 (ppm)     | 0.21     | 0.5117 (ppm)    | 11092.0605   |
| 10/31/2017 23:54:32 | Continuing Calibration Verification | Co (230.786 nm)    | 2.6355 (ppm)     | 0.30     | 2.6355 (ppm)    | 26015.9023   |
| 10/31/2017 23:54:32 | Continuing Calibration Verification | Cr (267.716 nm)    | 0.5164 (ppm)     | 0.20     | 0.5164 (ppm)    | 25567.4759   |
| 10/31/2017 23:54:32 | Continuing Calibration Verification | Cu (327.395 nm)    | 1.1937 (ppm)     | 0.46     | 1.1937 (ppm)    | 74124.4909   |
| 10/31/2017 23:54:32 | Continuing Calibration Verification | Fe (234.350 nm)    | 4.9259 (ppm)     | 0.30     | 4.9259 (ppm)    | 55030.6955   |
| 10/31/2017 23:54:32 | Continuing Calibration Verification | K (766.491 nm)     | 24.5931 (ppm)    | 0.52     | 24.5931 (ppm)   | 74195.4422   |
| 10/31/2017 23:54:32 | Continuing Calibration Verification | Mg (279.078 nm)    | 25.6294 (ppm)    | 0.28     | 25.6294 (ppm)   | 49456.0534   |
| 10/31/2017 23:54:32 | Continuing Calibration Verification | Mn (257.610 nm)    | 0.7658 (ppm)     | 0.21     | 0.7658 (ppm)    | 240028.6919  |
| 10/31/2017 23:54:32 | Continuing Calibration Verification | Mo (202.032 nm)    | 2.4459 (ppm)     | 0.28     | 2.4459 (ppm)    | 24939.2203   |
| 10/31/2017 23:54:32 | Continuing Calibration Verification | Na (588.995 nm)    | 24.6207 (ppm)    | 0.57     | 24.6207 (ppm)   | 1114160.7730 |
| 10/31/2017 23:54:32 | Continuing Calibration Verification | Ni (230.299 nm)    | 2.0736 (ppm)     | 0.39     | 2.0736 (ppm)    | 13948.5300   |

| Date Time           | Label                               | Element Label (nm) | Conc             | %RSD     | Unadjusted Conc | Intensity   |
|---------------------|-------------------------------------|--------------------|------------------|----------|-----------------|-------------|
| 10/31/2017 23:54:32 | Continuing Calibration Verification | Pb (220.353 nm)    | 0.5073 (ppm)     | 0.31     | 0.5073 (ppm)    | 1088.8286   |
| 10/31/2017 23:54:32 | Continuing Calibration Verification | Sb (217.582 nm)    | 4.9429 (ppm)     | 0.53     | 4.9429 (ppm)    | 6760.4536   |
| 10/31/2017 23:54:32 | Continuing Calibration Verification | Se (196.026 nm)    | 0.5033 (ppm)     | 0.57     | 0.5033 (ppm)    | 431.7758    |
| 10/31/2017 23:54:32 | Continuing Calibration Verification | Sn (189.925 nm)    | 5.2111 (ppm)     | 0.20     | 5.2111 (ppm)    | 6310.2188   |
| 10/31/2017 23:54:32 | Continuing Calibration Verification | Sr (216.596 nm)    | 2.6121 (ppm)     | 0.22     | 2.6121 (ppm)    | 37087.8915  |
| 10/31/2017 23:54:32 | Continuing Calibration Verification | Ti (336.122 nm)    | 2.5168 (ppm)     | 0.38     | 2.5168 (ppm)    | 526122.8215 |
| 10/31/2017 23:54:32 | Continuing Calibration Verification | Ti (351.923 nm)    | 0.9889 (ppm)     | 0.29     | 0.9889 (ppm)    | 2723.4042   |
| 10/31/2017 23:54:32 | Continuing Calibration Verification | V (292.401 nm)     | 2.5481 (ppm)     | 0.33     | 2.5481 (ppm)    | 90174.4776  |
| 10/31/2017 23:54:32 | Continuing Calibration Verification | Y (360.074 nm)     | 0.94 (Ratio)     | 0.73     | 0.94 (Ratio)    | 804370.00   |
| 10/31/2017 23:54:32 | Continuing Calibration Verification | Y_R (360.074 nm)   | 0.94 (Ratio)     | 0.73     | 0.94 (Ratio)    | 804659.15   |
| 10/31/2017 23:54:32 | Continuing Calibration Verification | Zn (213.857 nm)    | 1.0264 (ppm)     | 0.32     | 1.0264 (ppm)    | 28688.5605  |
| 10/31/2017 23:57:50 | Continuing Calibration Blank        | Ag (328.068 nm)    | 0.0001 (ppm)     | 92.58    | 0.0001 (ppm)    | -94.8327    |
| 10/31/2017 23:57:50 | Continuing Calibration Blank        | Al (394.401 nm)    | 0.0045 (ppm)     | 33.99    | 0.0045 (ppm)    | 183.8829    |
| 10/31/2017 23:57:50 | Continuing Calibration Blank        | As (188.980 nm)    | 0.0005 u (ppm)   | > 100.00 | 0.0005 (ppm)    | -1.0493     |
| 10/31/2017 23:57:50 | Continuing Calibration Blank        | B (249.772 nm)     | 0.0046 (ppm)     | 29.16    | 0.0046 (ppm)    | 161.0690    |
| 10/31/2017 23:57:50 | Continuing Calibration Blank        | Ba (230.424 nm)    | 0.0067 (ppm)     | 46.41    | 0.0067 (ppm)    | 227.8337    |
| 10/31/2017 23:57:50 | Continuing Calibration Blank        | Be (313.107 nm)    | 0.0002 (ppm)     | 30.16    | 0.0002 (ppm)    | -301.0083   |
| 10/31/2017 23:57:50 | Continuing Calibration Blank        | Ca (227.547 nm)    | 0.0840 (ppm)     | 67.63    | 0.0840 (ppm)    | 9.1431      |
| 10/31/2017 23:57:50 | Continuing Calibration Blank        | Cd (214.439 nm)    | 0.0004 (ppm)     | 30.53    | 0.0004 (ppm)    | 22.4715     |
| 10/31/2017 23:57:50 | Continuing Calibration Blank        | Co (230.786 nm)    | 0.0016 (ppm)     | 27.65    | 0.0016 (ppm)    | 12.3591     |
| 10/31/2017 23:57:50 | Continuing Calibration Blank        | Cr (267.716 nm)    | 0.0003 (ppm)     | 21.86    | 0.0003 (ppm)    | 15.0797     |
| 10/31/2017 23:57:50 | Continuing Calibration Blank        | Cu (327.395 nm)    | 0.0008 (ppm)     | 49.70    | 0.0008 (ppm)    | 61.9880     |
| 10/31/2017 23:57:50 | Continuing Calibration Blank        | Fe (234.350 nm)    | 0.0034 (ppm)     | 35.56    | 0.0034 (ppm)    | 50.3457     |
| 10/31/2017 23:57:50 | Continuing Calibration Blank        | K (766.491 nm)     | 0.0317 (ppm)     | 31.97    | 0.0317 (ppm)    | 86.7949     |
| 10/31/2017 23:57:50 | Continuing Calibration Blank        | Mg (279.078 nm)    | 0.0132 (ppm)     | 39.03    | 0.0132 (ppm)    | 24.7244     |
| 10/31/2017 23:57:50 | Continuing Calibration Blank        | Mn (257.610 nm)    | 0.0024 (ppm)     | 16.74    | 0.0024 (ppm)    | 767.5780    |
| 10/31/2017 23:57:50 | Continuing Calibration Blank        | Mo (202.032 nm)    | 0.0033 (ppm)     | 16.32    | 0.0033 (ppm)    | 41.2232     |
| 10/31/2017 23:57:50 | Continuing Calibration Blank        | Na (588.995 nm)    | -0.0032 u (ppm)  | > 100.00 | -0.0032 (ppm)   | -5605.9982  |
| 10/31/2017 23:57:50 | Continuing Calibration Blank        | Ni (230.299 nm)    | 0.0011 (ppm)     | 31.76    | 0.0011 (ppm)    | -13.0001    |
| 10/31/2017 23:57:50 | Continuing Calibration Blank        | Pb (220.353 nm)    | 0.0002 (ppm)     | > 100.00 | 0.0002 (ppm)    | 5.5293      |
| 10/31/2017 23:57:50 | Continuing Calibration Blank        | Sb (217.582 nm)    | 0.0050 (ppm)     | 43.26    | 0.0050 (ppm)    | 7.6348      |
| 10/31/2017 23:57:50 | Continuing Calibration Blank        | Se (196.026 nm)    | -0.0005 u (ppm)  | > 100.00 | -0.0005 (ppm)   | 0.3785      |
| 10/31/2017 23:57:50 | Continuing Calibration Blank        | Sn (189.925 nm)    | 0.0030 (ppm)     | 59.27    | 0.0030 (ppm)    | 3.5836      |
| 10/31/2017 23:57:50 | Continuing Calibration Blank        | Sr (216.596 nm)    | 0.0015 (ppm)     | 48.31    | 0.0015 (ppm)    | 20.3280     |
| 10/31/2017 23:57:50 | Continuing Calibration Blank        | Ti (336.122 nm)    | 0.0022 (ppm)     | 25.22    | 0.0022 (ppm)    | -24.0030    |
| 10/31/2017 23:57:50 | Continuing Calibration Blank        | Ti (351.923 nm)    | 0.0019 (ppm)     | > 100.00 | 0.0019 (ppm)    | 12.5348     |
| 10/31/2017 23:57:50 | Continuing Calibration Blank        | V (292.401 nm)     | 0.0014 (ppm)     | 41.40    | 0.0014 (ppm)    | 157.8279    |
| 10/31/2017 23:57:50 | Continuing Calibration Blank        | Y (360.074 nm)     | 0.98 (Ratio)     | 0.60     | 0.98 (Ratio)    | 840353.32   |
| 10/31/2017 23:57:50 | Continuing Calibration Blank        | Y_R (360.074 nm)   | 0.98 (Ratio)     | 0.60     | 0.98 (Ratio)    | 840711.75   |
| 10/31/2017 23:57:50 | Continuing Calibration Blank        | Zn (213.857 nm)    | 0.0006 (ppm)     | 18.89    | 0.0006 (ppm)    | -10.9536    |
| 11/1/2017 00:01:09  | R1710054-008                        | Ag (328.068 nm)    | 0.0000 u (ppm)   | > 100.00 | 0.0000 (ppm)    | -100.1947   |
| 11/1/2017 00:01:09  | R1710054-008                        | Al (394.401 nm)    | 0.4877 (ppm)     | 0.36     | 0.4877 (ppm)    | 6367.7262   |
| 11/1/2017 00:01:09  | R1710054-008                        | As (188.980 nm)    | -0.0013 u (ppm)  | 47.54    | -0.0013 (ppm)   | -2.6233     |
| 11/1/2017 00:01:09  | R1710054-008                        | B (249.772 nm)     | 0.1401 (ppm)     | 0.79     | 0.1401 (ppm)    | 3911.6459   |
| 11/1/2017 00:01:09  | R1710054-008                        | Ba (230.424 nm)    | 0.1029 (ppm)     | 1.36     | 0.1029 (ppm)    | 3462.5851   |
| 11/1/2017 00:01:09  | R1710054-008                        | Be (313.107 nm)    | 0.0000 (ppm)     | > 100.00 | 0.0000 (ppm)    | -517.6560   |
| 11/1/2017 00:01:09  | R1710054-008                        | Ca (227.547 nm)    | 293.7708 u (ppm) | 0.63     | 293.7708 (ppm)  | 16542.3598  |
| 11/1/2017 00:01:09  | R1710054-008                        | Cd (214.439 nm)    | 0.0000 u (ppm)   | > 100.00 | 0.0000 (ppm)    | 13.1105     |
| 11/1/2017 00:01:09  | R1710054-008                        | Co (230.786 nm)    | 0.0009 (ppm)     | 69.74    | 0.0009 (ppm)    | 4.9310      |
| 11/1/2017 00:01:09  | R1710054-008                        | Cr (267.716 nm)    | 0.0004 (ppm)     | 29.92    | 0.0004 (ppm)    | 20.9176     |
| 11/1/2017 00:01:09  | R1710054-008                        | Cu (327.395 nm)    | 0.0024 (ppm)     | 12.01    | 0.0024 (ppm)    | 161.2574    |

| Date Time          | Label        | Element Label (nm) | Conc             | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|--------------|--------------------|------------------|----------|-----------------|--------------|
| 11/1/2017 00:01:09 | R1710054-008 | Fe (234.350 nm)    | 0.3756 (ppm)     | 1.04     | 0.3756 (ppm)    | 4206.6631    |
| 11/1/2017 00:01:09 | R1710054-008 | K (766.491 nm)     | 21.3274 (ppm)    | 0.35     | 21.3274 (ppm)   | 64341.8739   |
| 11/1/2017 00:01:09 | R1710054-008 | Mg (279.078 nm)    | 84.1431 o (ppm)  | 0.95     | 84.1431 (ppm)   | 162368.8907  |
| 11/1/2017 00:01:09 | R1710054-008 | Mn (257.610 nm)    | 0.0531 (ppm)     | 2.84     | 0.0531 (ppm)    | 16662.4400   |
| 11/1/2017 00:01:09 | R1710054-008 | Mo (202.032 nm)    | 0.0036 (ppm)     | 3.64     | 0.0036 (ppm)    | 43.4372      |
| 11/1/2017 00:01:09 | R1710054-008 | Na (588.995 nm)    | 86.7073 o (ppm)  | 0.35     | 86.7073 (ppm)   | 3937531.8277 |
| 11/1/2017 00:01:09 | R1710054-008 | Ni (230.299 nm)    | -0.0002 u (ppm)  | 27.68    | -0.0002 (ppm)   | -22.2469     |
| 11/1/2017 00:01:09 | R1710054-008 | Pb (220.353 nm)    | -0.0026 u (ppm)  | 18.86    | -0.0026 (ppm)   | -0.5566      |
| 11/1/2017 00:01:09 | R1710054-008 | Sb (217.582 nm)    | -0.0021 u (ppm)  | 74.96    | -0.0021 (ppm)   | -2.0498      |
| 11/1/2017 00:01:09 | R1710054-008 | Se (196.026 nm)    | 0.0008 u (ppm)   | > 100.00 | 0.0008 (ppm)    | 1.4352       |
| 11/1/2017 00:01:09 | R1710054-008 | Sn (189.925 nm)    | 0.0001 u (ppm)   | > 100.00 | 0.0001 (ppm)    | 0.0293       |
| 11/1/2017 00:01:09 | R1710054-008 | Sr (216.596 nm)    | 28.5781 o (ppm)  | 1.28     | 28.5781 (ppm)   | 405770.8223  |
| 11/1/2017 00:01:09 | R1710054-008 | Ti (336.122 nm)    | 0.0132 (ppm)     | 0.72     | 0.0132 (ppm)    | 2282.3329    |
| 11/1/2017 00:01:09 | R1710054-008 | Tl (351.923 nm)    | 0.0081 (ppm)     | 83.09    | 0.0081 (ppm)    | 29.5511      |
| 11/1/2017 00:01:09 | R1710054-008 | V (292.401 nm)     | 0.0012 (ppm)     | 11.22    | 0.0012 (ppm)    | 151.5186     |
| 11/1/2017 00:01:09 | R1710054-008 | Y (360.074 nm)     | 0.87 (Ratio)     | 1.01     | 0.87 (Ratio)    | 746125.41    |
| 11/1/2017 00:01:09 | R1710054-008 | Y_R (360.074 nm)   | 0.87 (Ratio)     | 1.01     | 0.87 (Ratio)    | 746298.60    |
| 11/1/2017 00:01:09 | R1710054-008 | Zn (213.857 nm)    | 0.0057 (ppm)     | 1.62     | 0.0057 (ppm)    | 132.5214     |
| 11/1/2017 00:04:28 | R1710054-010 | Ag (328.068 nm)    | 0.0000 u (ppm)   | > 100.00 | 0.0000 (ppm)    | -103.4006    |
| 11/1/2017 00:04:28 | R1710054-010 | Al (394.401 nm)    | 0.1915 (ppm)     | 1.44     | 0.1915 (ppm)    | 2577.2379    |
| 11/1/2017 00:04:28 | R1710054-010 | As (188.980 nm)    | 0.0012 (ppm)     | 69.29    | 0.0012 (ppm)    | -0.3828      |
| 11/1/2017 00:04:28 | R1710054-010 | B (249.772 nm)     | 0.0868 (ppm)     | 1.02     | 0.0868 (ppm)    | 2436.6346    |
| 11/1/2017 00:04:28 | R1710054-010 | Ba (230.424 nm)    | 0.3005 (ppm)     | 1.21     | 0.3005 (ppm)    | 10103.2059   |
| 11/1/2017 00:04:28 | R1710054-010 | Be (313.107 nm)    | 0.0000 (ppm)     | 57.50    | 0.0000 (ppm)    | -505.1940    |
| 11/1/2017 00:04:28 | R1710054-010 | Ca (227.547 nm)    | 174.9293 o (ppm) | 1.21     | 174.9293 (ppm)  | 9852.1289    |
| 11/1/2017 00:04:28 | R1710054-010 | Cd (214.439 nm)    | 0.0000 (ppm)     | > 100.00 | 0.0000 (ppm)    | 13.9519      |
| 11/1/2017 00:04:28 | R1710054-010 | Co (230.786 nm)    | 0.0036 (ppm)     | 0.51     | 0.0036 (ppm)    | 31.9191      |
| 11/1/2017 00:04:28 | R1710054-010 | Cr (267.716 nm)    | 0.0004 (ppm)     | 12.66    | 0.0004 (ppm)    | 19.0306      |
| 11/1/2017 00:04:28 | R1710054-010 | Cu (327.395 nm)    | 0.0058 (ppm)     | 1.89     | 0.0058 (ppm)    | 372.4943     |
| 11/1/2017 00:04:28 | R1710054-010 | Fe (234.350 nm)    | 0.3019 (ppm)     | 1.14     | 0.3019 (ppm)    | 3384.0433    |
| 11/1/2017 00:04:28 | R1710054-010 | K (766.491 nm)     | 6.6798 (ppm)     | 1.13     | 6.6798 (ppm)    | 20145.8794   |
| 11/1/2017 00:04:28 | R1710054-010 | Mg (279.078 nm)    | 32.0900 (ppm)    | 0.87     | 32.0900 (ppm)   | 61922.9453   |
| 11/1/2017 00:04:28 | R1710054-010 | Mn (257.610 nm)    | 0.1082 (ppm)     | 1.04     | 0.1082 (ppm)    | 33933.8749   |
| 11/1/2017 00:04:28 | R1710054-010 | Mo (202.032 nm)    | 0.0017 (ppm)     | 22.45    | 0.0017 (ppm)    | 24.7610      |
| 11/1/2017 00:04:28 | R1710054-010 | Na (588.995 nm)    | 68.8243 o (ppm)  | 1.19     | 68.8243 (ppm)   | 3124304.2081 |
| 11/1/2017 00:04:28 | R1710054-010 | Ni (230.299 nm)    | 0.0066 (ppm)     | 5.13     | 0.0066 (ppm)    | 24.1308      |
| 11/1/2017 00:04:28 | R1710054-010 | Pb (220.353 nm)    | -0.0006 u (ppm)  | > 100.00 | -0.0006 (ppm)   | 3.8184       |
| 11/1/2017 00:04:28 | R1710054-010 | Sb (217.582 nm)    | -0.0006 u (ppm)  | > 100.00 | -0.0006 (ppm)   | 0.0526       |
| 11/1/2017 00:04:28 | R1710054-010 | Se (196.026 nm)    | -0.0024 u (ppm)  | 34.09    | -0.0024 (ppm)   | -1.3186      |
| 11/1/2017 00:04:28 | R1710054-010 | Sn (189.925 nm)    | -0.0016 u (ppm)  | 62.66    | -0.0016 (ppm)   | -2.0410      |
| 11/1/2017 00:04:28 | R1710054-010 | Sr (216.596 nm)    | 19.3374 o (ppm)  | 0.15     | 19.3374 (ppm)   | 274564.3488  |
| 11/1/2017 00:04:28 | R1710054-010 | Ti (336.122 nm)    | 0.0049 (ppm)     | 1.07     | 0.0049 (ppm)    | 553.9025     |
| 11/1/2017 00:04:28 | R1710054-010 | Tl (351.923 nm)    | 0.0035 u (ppm)   | > 100.00 | 0.0035 (ppm)    | 16.8134      |
| 11/1/2017 00:04:28 | R1710054-010 | V (292.401 nm)     | 0.0007 (ppm)     | 16.43    | 0.0007 (ppm)    | 131.9699     |
| 11/1/2017 00:04:28 | R1710054-010 | Y (360.074 nm)     | 0.92 (Ratio)     | 1.24     | 0.92 (Ratio)    | 783581.17    |
| 11/1/2017 00:04:28 | R1710054-010 | Y_R (360.074 nm)   | 0.92 (Ratio)     | 1.24     | 0.92 (Ratio)    | 783755.74    |
| 11/1/2017 00:04:28 | R1710054-010 | Zn (213.857 nm)    | 0.0082 (ppm)     | 1.37     | 0.0082 (ppm)    | 201.8688     |
| 11/1/2017 00:07:46 | R1710054-012 | Ag (328.068 nm)    | 0.0000 (ppm)     | > 100.00 | 0.0000 (ppm)    | -101.9649    |
| 11/1/2017 00:07:46 | R1710054-012 | Al (394.401 nm)    | 2.8629 (ppm)     | 1.13     | 2.8629 (ppm)    | 36764.3823   |
| 11/1/2017 00:07:46 | R1710054-012 | As (188.980 nm)    | 0.0012 u (ppm)   | > 100.00 | 0.0012 (ppm)    | -0.3734      |
| 11/1/2017 00:07:46 | R1710054-012 | B (249.772 nm)     | 0.1371 (ppm)     | 0.94     | 0.1371 (ppm)    | 3828.2850    |

| Date Time          | Label        | Element Label (nm) | Conc             | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|--------------|--------------------|------------------|----------|-----------------|--------------|
| 11/1/2017 00:07:46 | R1710054-012 | Ba (230.424 nm)    | 0.0803 (ppm)     | 0.56     | 0.0803 (ppm)    | 2702.1904    |
| 11/1/2017 00:07:46 | R1710054-012 | Be (313.107 nm)    | 0.0001 (ppm)     | 11.20    | 0.0001 (ppm)    | -377.6810    |
| 11/1/2017 00:07:46 | R1710054-012 | Ca (227.547 nm)    | 391.4117 o (ppm) | 0.99     | 391.4117 (ppm)  | 22039.0962   |
| 11/1/2017 00:07:46 | R1710054-012 | Cd (214.439 nm)    | 0.0001 (ppm)     | 80.59    | 0.0001 (ppm)    | 16.2594      |
| 11/1/2017 00:07:46 | R1710054-012 | Co (230.786 nm)    | 0.0008 (ppm)     | 15.46    | 0.0008 (ppm)    | 4.5304       |
| 11/1/2017 00:07:46 | R1710054-012 | Cr (267.716 nm)    | 0.0056 (ppm)     | 3.12     | 0.0056 (ppm)    | 275.3924     |
| 11/1/2017 00:07:46 | R1710054-012 | Cu (327.395 nm)    | 0.0141 (ppm)     | 1.54     | 0.0141 (ppm)    | 890.0161     |
| 11/1/2017 00:07:46 | R1710054-012 | Fe (234.350 nm)    | 1.8219 (ppm)     | 0.93     | 1.8219 (ppm)    | 20360.7446   |
| 11/1/2017 00:07:46 | R1710054-012 | K (766.491 nm)     | 52.4528 (ppm)    | 0.84     | 52.4528 (ppm)   | 158256.0626  |
| 11/1/2017 00:07:46 | R1710054-012 | Mg (279.078 nm)    | 87.7471 o (ppm)  | 0.91     | 87.7471 (ppm)   | 169323.4521  |
| 11/1/2017 00:07:46 | R1710054-012 | Mn (257.610 nm)    | 0.0435 (ppm)     | 2.79     | 0.0435 (ppm)    | 13641.1680   |
| 11/1/2017 00:07:46 | R1710054-012 | Mo (202.032 nm)    | 0.0044 (ppm)     | 3.19     | 0.0044 (ppm)    | 51.8686      |
| 11/1/2017 00:07:46 | R1710054-012 | Na (588.995 nm)    | 24.7816 (ppm)    | 1.14     | 24.7816 (ppm)   | 1121476.1157 |
| 11/1/2017 00:07:46 | R1710054-012 | Ni (230.299 nm)    | -0.0074 u (ppm)  | 27.12    | -0.0074 (ppm)   | -70.2503     |
| 11/1/2017 00:07:46 | R1710054-012 | Pb (220.353 nm)    | 0.0013 (ppm)     | 34.54    | 0.0013 (ppm)    | 7.7882       |
| 11/1/2017 00:07:46 | R1710054-012 | Sb (217.582 nm)    | -0.0008 u (ppm)  | > 100.00 | -0.0008 (ppm)   | -0.2328      |
| 11/1/2017 00:07:46 | R1710054-012 | Se (196.026 nm)    | 0.0020 (ppm)     | > 100.00 | 0.0020 (ppm)    | 2.4655       |
| 11/1/2017 00:07:46 | R1710054-012 | Sn (189.925 nm)    | 0.0001 u (ppm)   | > 100.00 | 0.0001 (ppm)    | 0.0870       |
| 11/1/2017 00:07:46 | R1710054-012 | Sr (216.596 nm)    | 18.2731 o (ppm)  | 0.40     | 18.2731 (ppm)   | 259453.3353  |
| 11/1/2017 00:07:46 | R1710054-012 | Ti (336.122 nm)    | 0.0592 (ppm)     | 5.16     | 0.0592 (ppm)    | 11914.5118   |
| 11/1/2017 00:07:46 | R1710054-012 | Tl (351.923 nm)    | 0.0086 (ppm)     | 37.84    | 0.0086 (ppm)    | 30.8942      |
| 11/1/2017 00:07:46 | R1710054-012 | V (292.401 nm)     | 0.0053 (ppm)     | 2.06     | 0.0053 (ppm)    | 294.8922     |
| 11/1/2017 00:07:46 | R1710054-012 | Y (360.074 nm)     | 0.89 (Ratio)     | 1.35     | 0.89 (Ratio)    | 757715.48    |
| 11/1/2017 00:07:46 | R1710054-012 | Y_R (360.074 nm)   | 0.89 (Ratio)     | 1.35     | 0.89 (Ratio)    | 757864.89    |
| 11/1/2017 00:07:46 | R1710054-012 | Zn (213.857 nm)    | 0.0096 (ppm)     | 1.15     | 0.0096 (ppm)    | 240.5174     |
| 11/1/2017 00:11:05 | R1710054-013 | Ag (328.068 nm)    | 0.0000 u (ppm)   | > 100.00 | 0.0000 (ppm)    | -105.5739    |
| 11/1/2017 00:11:05 | R1710054-013 | Al (394.401 nm)    | 0.2318 (ppm)     | 0.99     | 0.2318 (ppm)    | 3092.6453    |
| 11/1/2017 00:11:05 | R1710054-013 | As (188.980 nm)    | -0.0022 u (ppm)  | > 100.00 | -0.0022 (ppm)   | -3.4428      |
| 11/1/2017 00:11:05 | R1710054-013 | B (249.772 nm)     | 0.0544 (ppm)     | 0.61     | 0.0544 (ppm)    | 1539.5443    |
| 11/1/2017 00:11:05 | R1710054-013 | Ba (230.424 nm)    | 0.2104 (ppm)     | 0.51     | 0.2104 (ppm)    | 7075.9815    |
| 11/1/2017 00:11:05 | R1710054-013 | Be (313.107 nm)    | 0.0000 (ppm)     | > 100.00 | 0.0000 (ppm)    | -520.2753    |
| 11/1/2017 00:11:05 | R1710054-013 | Ca (227.547 nm)    | 180.2544 o (ppm) | 0.68     | 180.2544 (ppm)  | 10151.9067   |
| 11/1/2017 00:11:05 | R1710054-013 | Cd (214.439 nm)    | -0.0002 u (ppm)  | 86.43    | -0.0002 (ppm)   | 9.1906       |
| 11/1/2017 00:11:05 | R1710054-013 | Co (230.786 nm)    | 0.0049 (ppm)     | 12.27    | 0.0049 (ppm)    | 44.6525      |
| 11/1/2017 00:11:05 | R1710054-013 | Cr (267.716 nm)    | -0.0003 u (ppm)  | 68.14    | -0.0003 (ppm)   | -14.7881     |
| 11/1/2017 00:11:05 | R1710054-013 | Cu (327.395 nm)    | 0.0022 (ppm)     | 8.96     | 0.0022 (ppm)    | 150.5009     |
| 11/1/2017 00:11:05 | R1710054-013 | Fe (234.350 nm)    | 0.2694 (ppm)     | 0.66     | 0.2694 (ppm)    | 3020.7497    |
| 11/1/2017 00:11:05 | R1710054-013 | K (766.491 nm)     | 4.9814 (ppm)     | 1.32     | 4.9814 (ppm)    | 15021.4396   |
| 11/1/2017 00:11:05 | R1710054-013 | Mg (279.078 nm)    | 29.3811 (ppm)    | 0.42     | 29.3811 (ppm)   | 56695.5448   |
| 11/1/2017 00:11:05 | R1710054-013 | Mn (257.610 nm)    | 0.8189 (ppm)     | 0.47     | 0.8189 (ppm)    | 256675.5258  |
| 11/1/2017 00:11:05 | R1710054-013 | Mo (202.032 nm)    | 0.0006 (ppm)     | 30.63    | 0.0006 (ppm)    | 12.7156      |
| 11/1/2017 00:11:05 | R1710054-013 | Na (588.995 nm)    | 43.2103 (ppm)    | 0.69     | 43.2103 (ppm)   | 1959518.5973 |
| 11/1/2017 00:11:05 | R1710054-013 | Ni (230.299 nm)    | 0.0067 (ppm)     | 12.72    | 0.0067 (ppm)    | 24.7743      |
| 11/1/2017 00:11:05 | R1710054-013 | Pb (220.353 nm)    | -0.0013 u (ppm)  | 30.55    | -0.0013 (ppm)   | 2.2673       |
| 11/1/2017 00:11:05 | R1710054-013 | Sb (217.582 nm)    | -0.0013 u (ppm)  | > 100.00 | -0.0013 (ppm)   | -0.9455      |
| 11/1/2017 00:11:05 | R1710054-013 | Se (196.026 nm)    | 0.0021 (ppm)     | 82.66    | 0.0021 (ppm)    | 2.5543       |
| 11/1/2017 00:11:05 | R1710054-013 | Sn (189.925 nm)    | -0.0007 u (ppm)  | 21.22    | -0.0007 (ppm)   | -0.8851      |
| 11/1/2017 00:11:05 | R1710054-013 | Sr (216.596 nm)    | 10.0714 o (ppm)  | 1.01     | 10.0714 (ppm)   | 143000.2477  |
| 11/1/2017 00:11:05 | R1710054-013 | Ti (336.122 nm)    | 0.0062 (ppm)     | 3.13     | 0.0062 (ppm)    | 818.7207     |
| 11/1/2017 00:11:05 | R1710054-013 | Tl (351.923 nm)    | 0.0024 (ppm)     | 92.24    | 0.0024 (ppm)    | 13.9935      |
| 11/1/2017 00:11:05 | R1710054-013 | V (292.401 nm)     | 0.0008 (ppm)     | 34.13    | 0.0008 (ppm)    | 136.3082     |

| Date Time          | Label        | Element Label (nm)   | Conc             | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|--------------|----------------------|------------------|----------|-----------------|--------------|
| 11/1/2017 00:11:05 | R1710054-013 | Y (360.074 nm)       | 0.92 (Ratio)     | 0.66     | 0.92 (Ratio)    | 785957.63    |
| 11/1/2017 00:11:05 | R1710054-013 | Y_R (360.074 nm)     | 0.92 (Ratio)     | 0.66     | 0.92 (Ratio)    | 786153.14    |
| 11/1/2017 00:11:05 | R1710054-013 | Zn (213.857 nm)      | 0.0054 (ppm)     | 1.32     | 0.0054 (ppm)    | 124.3982     |
| 11/1/2017 00:14:23 | R1710113-001 | Ag (328.068 nm)      | 0.0000 (ppm)     | 79.88    | 0.0000 (ppm)    | -100.3476    |
| 11/1/2017 00:14:23 | R1710113-001 | Al (394.401 nm)      | 1.1246 (ppm)     | 0.20     | 1.1246 (ppm)    | 14518.7293   |
| 11/1/2017 00:14:23 | R1710113-001 | As (188.980 nm)      | 0.0036 (ppm)     | 71.90    | 0.0036 (ppm)    | 1.7672       |
| 11/1/2017 00:14:23 | R1710113-001 | B (249.772 nm)       | 0.3025 (ppm)     | 0.74     | 0.3025 (ppm)    | 8410.1949    |
| 11/1/2017 00:14:23 | R1710113-001 | Ba (230.424 nm)      | 0.0235 (ppm)     | 0.35     | 0.0235 (ppm)    | 793.3073     |
| 11/1/2017 00:14:23 | R1710113-001 | Be (313.107 nm)      | 0.0000 (ppm)     | 29.03    | 0.0000 (ppm)    | -485.8960    |
| 11/1/2017 00:14:23 | R1710113-001 | Ca (227.547 nm)      | 431.1331 o (ppm) | 0.55     | 431.1331 (ppm)  | 24275.2277   |
| 11/1/2017 00:14:23 | R1710113-001 | Cd (214.439 nm)      | 0.0001 (ppm)     | 60.18    | 0.0001 (ppm)    | 16.1361      |
| 11/1/2017 00:14:23 | R1710113-001 | Co (230.786 nm)      | 0.0074 (ppm)     | 5.20     | 0.0074 (ppm)    | 69.3037      |
| 11/1/2017 00:14:23 | R1710113-001 | Cr (267.716 nm)      | -0.0001 u (ppm)  | > 100.00 | -0.0001 (ppm)   | -4.2962      |
| 11/1/2017 00:14:23 | R1710113-001 | Cu (327.395 nm)      | 0.0071 (ppm)     | 1.27     | 0.0071 (ppm)    | 453.3959     |
| 11/1/2017 00:14:23 | R1710113-001 | Fe (234.350 nm)      | 4.1079 (ppm)     | 0.58     | 4.1079 (ppm)    | 45894.4815   |
| 11/1/2017 00:14:23 | R1710113-001 | K (766.491 nm)       | 18.6737 (ppm)    | 0.34     | 18.6737 (ppm)   | 56334.9675   |
| 11/1/2017 00:14:23 | R1710113-001 | Mg (279.078 nm)      | 77.6815 o (ppm)  | 0.49     | 77.6815 (ppm)   | 149900.1599  |
| 11/1/2017 00:14:23 | R1710113-001 | Mn (257.610 nm)      | 2.9096 o (ppm)   | 0.84     | 2.9096 (ppm)    | 912002.0984  |
| 11/1/2017 00:14:23 | R1710113-001 | Mo (202.032 nm)      | 0.0030 (ppm)     | 6.61     | 0.0030 (ppm)    | 37.4548      |
| 11/1/2017 00:14:23 | R1710113-001 | Na (588.995 nm)      | 35.1227 (ppm)    | 0.51     | 35.1227 (ppm)   | 1591732.7692 |
| 11/1/2017 00:14:23 | R1710113-001 | Ni (230.299 nm)      | -0.0082 u (ppm)  | 5.42     | -0.0082 (ppm)   | -76.0005     |
| 11/1/2017 00:14:23 | R1710113-001 | Pb (220.353 nm)      | -0.0001 u (ppm)  | > 100.00 | -0.0001 (ppm)   | 4.9158       |
| 11/1/2017 00:14:23 | R1710113-001 | Sb (217.582 nm)      | 0.0013 (ppm)     | 94.34    | 0.0013 (ppm)    | 2.5179       |
| 11/1/2017 00:14:23 | R1710113-001 | Se (196.026 nm)      | 0.0056 (ppm)     | 25.51    | 0.0056 (ppm)    | 5.6126       |
| 11/1/2017 00:14:23 | R1710113-001 | Sn (189.925 nm)      | -0.0024 u (ppm)  | 48.36    | -0.0024 (ppm)   | -3.0063      |
| 11/1/2017 00:14:23 | R1710113-001 | Sr (216.596 nm)      | 1.0390 (ppm)     | 0.46     | 1.0390 (ppm)    | 14752.3829   |
| 11/1/2017 00:14:23 | R1710113-001 | Ti (336.122 nm)      | 0.0308 (ppm)     | 2.26     | 0.0308 (ppm)    | 5959.5082    |
| 11/1/2017 00:14:23 | R1710113-001 | Tl (351.923 nm)      | 0.0107 (ppm)     | 39.73    | 0.0107 (ppm)    | 36.5607      |
| 11/1/2017 00:14:23 | R1710113-001 | V (292.401 nm)       | 0.0028 (ppm)     | 4.89     | 0.0028 (ppm)    | 209.1403     |
| 11/1/2017 00:14:23 | R1710113-001 | Y (360.074 nm)       | 0.87 (Ratio)     | 0.17     | 0.87 (Ratio)    | 739290.41    |
| 11/1/2017 00:14:23 | R1710113-001 | Y_R (360.074 nm)     | 0.87 (Ratio)     | 0.18     | 0.87 (Ratio)    | 739456.52    |
| 11/1/2017 00:14:23 | R1710113-001 | Zn (213.857 nm)      | 0.0189 (ppm)     | 1.67     | 0.0189 (ppm)    | 502.4475     |
| 11/1/2017 00:17:42 | R1710113-002 | -003 Ag (328.068 nm) | -0.0002 u (ppm)  | 46.43    | -0.0002 (ppm)   | -118.4692    |
| 11/1/2017 00:17:42 | R1710113-002 | Al (394.401 nm)      | 224.5825 o (ppm) | 0.59     | 224.5825 (ppm)  | 2874264.6712 |
| 11/1/2017 00:17:42 | R1710113-002 | As (188.980 nm)      | -0.0025 u (ppm)  | > 100.00 | -0.0025 (ppm)   | -3.7044      |
| 11/1/2017 00:17:42 | R1710113-002 | B (249.772 nm)       | 1.3346 (ppm)     | 0.31     | 1.3346 (ppm)    | 36985.5409   |
| 11/1/2017 00:17:42 | R1710113-002 | Ba (230.424 nm)      | 0.0247 (ppm)     | 1.47     | 0.0247 (ppm)    | 831.4728     |
| 11/1/2017 00:17:42 | R1710113-002 | Be (313.107 nm)      | 0.0143 (ppm)     | 0.60     | 0.0143 (ppm)    | 20625.9306   |
| 11/1/2017 00:17:42 | R1710113-002 | Ca (227.547 nm)      | 412.7032 o (ppm) | 0.52     | 412.7032 (ppm)  | 23237.7085   |
| 11/1/2017 00:17:42 | R1710113-002 | Cd (214.439 nm)      | 0.0145 (ppm)     | 1.32     | 0.0145 (ppm)    | 327.2968     |
| 11/1/2017 00:17:42 | R1710113-002 | Co (230.786 nm)      | 0.0227 (ppm)     | 1.59     | 0.0227 (ppm)    | 220.7420     |
| 11/1/2017 00:17:42 | R1710113-002 | Cr (267.716 nm)      | 0.0135 (ppm)     | 1.18     | 0.0135 (ppm)    | 665.4275     |
| 11/1/2017 00:17:42 | R1710113-002 | Cu (327.395 nm)      | 0.0016 (ppm)     | 19.04    | 0.0016 (ppm)    | 114.9388     |
| 11/1/2017 00:17:42 | R1710113-002 | Fe (234.350 nm)      | 627.0902 o (ppm) | 0.81     | 627.0902 (ppm)  | 7004137.1331 |
| 11/1/2017 00:17:42 | R1710113-002 | K (766.491 nm)       | 131.4586 o (ppm) | 0.54     | 131.4586 (ppm)  | 396639.2570  |
| 11/1/2017 00:17:42 | R1710113-002 | Mg (279.078 nm)      | 526.7143 o (ppm) | 0.61     | 526.7143 (ppm)  | 1016391.5240 |
| 11/1/2017 00:17:42 | R1710113-002 | Mn (257.610 nm)      | 15.8196 o (ppm)  | 0.61     | 15.8196 (ppm)   | 4958468.6052 |
| 11/1/2017 00:17:42 | R1710113-002 | Mo (202.032 nm)      | 0.0013 (ppm)     | 18.06    | 0.0013 (ppm)    | 20.4504      |
| 11/1/2017 00:17:42 | R1710113-002 | Na (588.995 nm)      | 101.3665 o (ppm) | 0.88     | 101.3665 (ppm)  | 4604152.8692 |
| 11/1/2017 00:17:42 | R1710113-002 | Ni (230.299 nm)      | 0.0375 (ppm)     | 3.92     | 0.0375 (ppm)    | 231.8462     |
| 11/1/2017 00:17:42 | R1710113-002 | Pb (220.353 nm)      | 0.0120 (ppm)     | 35.89    | 0.0120 (ppm)    | 30.6215      |

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| Date Time          | Label             | Element Label (nm) | Conc             | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|-------------------|--------------------|------------------|----------|-----------------|--------------|
| 11/1/2017 00:17:42 | R1710113-002 -003 | Sb (217.582 nm)    | -0.0302 u (ppm)  | 10.19    | -0.0302 (ppm)   | -40.5141     |
| 11/1/2017 00:17:42 | R1710113-002      | Se (196.026 nm)    | 0.0313 (ppm)     | 9.32     | 0.0313 (ppm)    | 27.5856      |
| 11/1/2017 00:17:42 | R1710113-002      | Sn (189.925 nm)    | 0.0018 (ppm)     | 56.68    | 0.0018 (ppm)    | 2.1006       |
| 11/1/2017 00:17:42 | R1710113-002      | Sr (216.596 nm)    | 1.0664 (ppm)     | 0.50     | 1.0664 (ppm)    | 15140.3137   |
| 11/1/2017 00:17:42 | R1710113-002      | Ti (336.122 nm)    | 0.0375 (ppm)     | 3.76     | 0.0375 (ppm)    | 7371.7428    |
| 11/1/2017 00:17:42 | R1710113-002      | Tl (351.923 nm)    | -0.0395 u (ppm)  | 8.09     | -0.0395 (ppm)   | -101.1897    |
| 11/1/2017 00:17:42 | R1710113-002      | V (292.401 nm)     | 0.0686 (ppm)     | 0.68     | 0.0686 (ppm)    | 2532.1074    |
| 11/1/2017 00:17:42 | R1710113-002      | Y (360.074 nm)     | 0.94 (Ratio)     | 1.05     | 0.94 (Ratio)    | 803905.96    |
| 11/1/2017 00:17:42 | R1710113-002      | Y_R (360.074 nm)   | 0.94 (Ratio)     | 1.05     | 0.94 (Ratio)    | 804081.87    |
| 11/1/2017 00:17:42 | R1710113-002      | Zn (213.857 nm)    | 0.2107 (ppm)     | 0.35     | 0.2107 (ppm)    | 5869.1480    |
| 11/1/2017 00:21:00 | R1710113-003 -002 | Ag (328.068 nm)    | -0.0002 u (ppm)  | 41.76    | -0.0002 (ppm)   | -114.5160    |
| 11/1/2017 00:21:00 | R1710113-003      | Al (394.401 nm)    | 214.3441 o (ppm) | 0.51     | 214.3441 (ppm)  | 2743237.0000 |
| 11/1/2017 00:21:00 | R1710113-003      | As (188.980 nm)    | 0.0017 u (ppm)   | > 100.00 | 0.0017 (ppm)    | 0.0990       |
| 11/1/2017 00:21:00 | R1710113-003      | B (249.772 nm)     | 1.2423 (ppm)     | 0.58     | 1.2423 (ppm)    | 34430.2341   |
| 11/1/2017 00:21:00 | R1710113-003      | Ba (230.424 nm)    | 0.0705 (ppm)     | 0.83     | 0.0705 (ppm)    | 2370.9226    |
| 11/1/2017 00:21:00 | R1710113-003      | Be (313.107 nm)    | 0.0128 (ppm)     | 0.54     | 0.0128 (ppm)    | 18333.3617   |
| 11/1/2017 00:21:00 | R1710113-003      | Ca (227.547 nm)    | 398.1992 o (ppm) | 0.53     | 398.1992 (ppm)  | 22421.2007   |
| 11/1/2017 00:21:00 | R1710113-003      | Cd (214.439 nm)    | 0.0124 (ppm)     | 2.51     | 0.0124 (ppm)    | 282.2744     |
| 11/1/2017 00:21:00 | R1710113-003      | Co (230.786 nm)    | 0.0255 (ppm)     | 5.80     | 0.0255 (ppm)    | 247.8480     |
| 11/1/2017 00:21:00 | R1710113-003      | Cr (267.716 nm)    | 0.0234 (ppm)     | 1.61     | 0.0234 (ppm)    | 1156.3891    |
| 11/1/2017 00:21:00 | R1710113-003      | Cu (327.395 nm)    | 0.0102 (ppm)     | 1.42     | 0.0102 (ppm)    | 647.0355     |
| 11/1/2017 00:21:00 | R1710113-003      | Fe (234.350 nm)    | 584.3525 o (ppm) | 0.95     | 584.3525 (ppm)  | 6526789.3448 |
| 11/1/2017 00:21:00 | R1710113-003      | K (766.491 nm)     | 123.0052 o (ppm) | 0.42     | 123.0052 (ppm)  | 371132.8855  |
| 11/1/2017 00:21:00 | R1710113-003      | Mg (279.078 nm)    | 478.4606 o (ppm) | 0.60     | 478.4606 (ppm)  | 923277.0635  |
| 11/1/2017 00:21:00 | R1710113-003      | Mn (257.610 nm)    | 14.1274 o (ppm)  | 0.85     | 14.1274 (ppm)   | 4428085.5239 |
| 11/1/2017 00:21:00 | R1710113-003      | Mo (202.032 nm)    | 0.0018 (ppm)     | 3.62     | 0.0018 (ppm)    | 25.4317      |
| 11/1/2017 00:21:00 | R1710113-003      | Na (588.995 nm)    | 93.0697 o (ppm)  | 0.62     | 93.0697 (ppm)   | 4226861.1772 |
| 11/1/2017 00:21:00 | R1710113-003      | Ni (230.299 nm)    | 0.0395 (ppm)     | 2.59     | 0.0395 (ppm)    | 245.7595     |
| 11/1/2017 00:21:00 | R1710113-003      | Pb (220.353 nm)    | 0.0232 (ppm)     | 2.00     | 0.0232 (ppm)    | 54.5360      |
| 11/1/2017 00:21:00 | R1710113-003      | Sb (217.582 nm)    | -0.0297 u (ppm)  | 15.86    | -0.0297 (ppm)   | -39.8380     |
| 11/1/2017 00:21:00 | R1710113-003      | Se (196.026 nm)    | 0.0254 (ppm)     | 29.35    | 0.0254 (ppm)    | 22.4871      |
| 11/1/2017 00:21:00 | R1710113-003      | Sn (189.925 nm)    | 0.0022 (ppm)     | 82.87    | 0.0022 (ppm)    | 2.5440       |
| 11/1/2017 00:21:00 | R1710113-003      | Sr (216.596 nm)    | 1.0385 (ppm)     | 0.62     | 1.0385 (ppm)    | 14745.1030   |
| 11/1/2017 00:21:00 | R1710113-003      | Ti (336.122 nm)    | 0.2612 (ppm)     | 2.07     | 0.2612 (ppm)    | 54160.0775   |
| 11/1/2017 00:21:00 | R1710113-003      | Tl (351.923 nm)    | -0.0324 u (ppm)  | 7.50     | -0.0324 (ppm)   | -81.8116     |
| 11/1/2017 00:21:00 | R1710113-003      | V (292.401 nm)     | 0.0805 (ppm)     | 0.81     | 0.0805 (ppm)    | 2955.2603    |
| 11/1/2017 00:21:00 | R1710113-003      | Y (360.074 nm)     | 0.94 (Ratio)     | 1.21     | 0.94 (Ratio)    | 802461.71    |
| 11/1/2017 00:21:00 | R1710113-003      | Y_R (360.074 nm)   | 0.94 (Ratio)     | 1.21     | 0.94 (Ratio)    | 802632.23    |
| 11/1/2017 00:21:00 | R1710113-003      | Zn (213.857 nm)    | 0.2939 (ppm)     | 0.61     | 0.2939 (ppm)    | 8195.4207    |
| 11/1/2017 00:24:19 | R1710113-004      | Ag (328.068 nm)    | -0.0002 u (ppm)  | 68.47    | -0.0002 (ppm)   | -119.2329    |
| 11/1/2017 00:24:19 | R1710113-004      | Al (394.401 nm)    | 217.0488 o (ppm) | 0.51     | 217.0488 (ppm)  | 2777850.7206 |
| 11/1/2017 00:24:19 | R1710113-004      | As (188.980 nm)    | 0.0057 (ppm)     | 82.72    | 0.0057 (ppm)    | 3.6648       |
| 11/1/2017 00:24:19 | R1710113-004      | B (249.772 nm)     | 1.2445 (ppm)     | 0.50     | 1.2445 (ppm)    | 34490.7002   |
| 11/1/2017 00:24:19 | R1710113-004      | Ba (230.424 nm)    | 0.0757 (ppm)     | 1.18     | 0.0757 (ppm)    | 2546.2858    |
| 11/1/2017 00:24:19 | R1710113-004      | Be (313.107 nm)    | 0.0129 (ppm)     | 0.47     | 0.0129 (ppm)    | 18562.1621   |
| 11/1/2017 00:24:19 | R1710113-004      | Ca (227.547 nm)    | 396.7977 o (ppm) | 0.46     | 396.7977 (ppm)  | 22342.3007   |
| 11/1/2017 00:24:19 | R1710113-004      | Cd (214.439 nm)    | 0.0125 (ppm)     | 0.34     | 0.0125 (ppm)    | 283.2012     |
| 11/1/2017 00:24:19 | R1710113-004      | Co (230.786 nm)    | 0.0250 (ppm)     | 2.14     | 0.0250 (ppm)    | 243.1916     |
| 11/1/2017 00:24:19 | R1710113-004      | Cr (267.716 nm)    | 0.0243 (ppm)     | 1.04     | 0.0243 (ppm)    | 1201.3905    |
| 11/1/2017 00:24:19 | R1710113-004      | Cu (327.395 nm)    | 0.0109 (ppm)     | 1.28     | 0.0109 (ppm)    | 690.3000     |
| 11/1/2017 00:24:19 | R1710113-004      | Fe (234.350 nm)    | 589.9946 o (ppm) | 0.63     | 589.9946 (ppm)  | 6589807.4667 |

| Date Time          | Label        | Element Label (nm) | Conc             | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|--------------|--------------------|------------------|----------|-----------------|--------------|
| 11/1/2017 00:24:19 | R1710113-004 | K (766.491 nm)     | 122.4514 o (ppm) | 0.40     | 122.4514 (ppm)  | 369461.8997  |
| 11/1/2017 00:24:19 | R1710113-004 | Mg (279.078 nm)    | 481.0679 o (ppm) | 0.44     | 481.0679 (ppm)  | 928308.3641  |
| 11/1/2017 00:24:19 | R1710113-004 | Mn (257.610 nm)    | 14.2155 o (ppm)  | 0.46     | 14.2155 (ppm)   | 4455687.8690 |
| 11/1/2017 00:24:19 | R1710113-004 | Mo (202.032 nm)    | 0.0016 (ppm)     | 30.06    | 0.0016 (ppm)    | 23.8156      |
| 11/1/2017 00:24:19 | R1710113-004 | Na (588.995 nm)    | 92.5068 o (ppm)  | 0.38     | 92.5068 (ppm)   | 4201260.2988 |
| 11/1/2017 00:24:19 | R1710113-004 | Ni (230.299 nm)    | 0.0315 (ppm)     | 3.68     | 0.0315 (ppm)    | 191.5561     |
| 11/1/2017 00:24:19 | R1710113-004 | Pb (220.353 nm)    | 0.0255 (ppm)     | 12.69    | 0.0255 (ppm)    | 59.4687      |
| 11/1/2017 00:24:19 | R1710113-004 | Sb (217.582 nm)    | -0.0320 u (ppm)  | 22.06    | -0.0320 (ppm)   | -42.9280     |
| 11/1/2017 00:24:19 | R1710113-004 | Se (196.026 nm)    | 0.0287 (ppm)     | 14.94    | 0.0287 (ppm)    | 25.3208      |
| 11/1/2017 00:24:19 | R1710113-004 | Sn (189.925 nm)    | -0.0008 u (ppm)  | > 100.00 | -0.0008 (ppm)   | -0.9983      |
| 11/1/2017 00:24:19 | R1710113-004 | Sr (216.596 nm)    | 1.0326 (ppm)     | 0.36     | 1.0326 (ppm)    | 14660.1697   |
| 11/1/2017 00:24:19 | R1710113-004 | Ti (336.122 nm)    | 0.2825 (ppm)     | 1.98     | 0.2825 (ppm)    | 58633.3961   |
| 11/1/2017 00:24:19 | R1710113-004 | Tl (351.923 nm)    | -0.0337 u (ppm)  | 6.38     | -0.0337 (ppm)   | -85.1540     |
| 11/1/2017 00:24:19 | R1710113-004 | V (292.401 nm)     | 0.0819 (ppm)     | 0.75     | 0.0819 (ppm)    | 3003.1482    |
| 11/1/2017 00:24:19 | R1710113-004 | Y (360.074 nm)     | 0.94 (Ratio)     | 1.21     | 0.94 (Ratio)    | 804179.86    |
| 11/1/2017 00:24:19 | R1710113-004 | Y_R (360.074 nm)   | 0.94 (Ratio)     | 1.21     | 0.94 (Ratio)    | 804396.83    |
| 11/1/2017 00:24:19 | R1710113-004 | Zn (213.857 nm)    | 0.3061 (ppm)     | 1.27     | 0.3061 (ppm)    | 8537.7084    |
| 11/1/2017 00:27:38 | R1710113-005 | Ag (328.068 nm)    | 0.0000 (ppm)     | > 100.00 | 0.0000 (ppm)    | -104.4390    |
| 11/1/2017 00:27:38 | R1710113-005 | Al (394.401 nm)    | 176.0286 o (ppm) | 0.43     | 176.0286 (ppm)  | 2252886.1963 |
| 11/1/2017 00:27:38 | R1710113-005 | As (188.980 nm)    | 0.0026 u (ppm)   | > 100.00 | 0.0026 (ppm)    | 0.9074       |
| 11/1/2017 00:27:38 | R1710113-005 | B (249.772 nm)     | 1.2548 (ppm)     | 0.41     | 1.2548 (ppm)    | 34775.5993   |
| 11/1/2017 00:27:38 | R1710113-005 | Ba (230.424 nm)    | 0.0289 (ppm)     | 0.85     | 0.0289 (ppm)    | 973.6459     |
| 11/1/2017 00:27:38 | R1710113-005 | Be (313.107 nm)    | 0.0112 (ppm)     | 0.45     | 0.0112 (ppm)    | 16081.8512   |
| 11/1/2017 00:27:38 | R1710113-005 | Ce (227.547 nm)    | 423.0979 o (ppm) | 0.34     | 423.0979 (ppm)  | 23822.8811   |
| 11/1/2017 00:27:38 | R1710113-005 | Cd (214.439 nm)    | 0.0110 (ppm)     | 1.38     | 0.0110 (ppm)    | 250.8729     |
| 11/1/2017 00:27:38 | R1710113-005 | Co (230.786 nm)    | 0.0236 (ppm)     | 2.83     | 0.0236 (ppm)    | 229.9221     |
| 11/1/2017 00:27:38 | R1710113-005 | Cr (267.716 nm)    | 0.0113 (ppm)     | 2.54     | 0.0113 (ppm)    | 558.7189     |
| 11/1/2017 00:27:38 | R1710113-005 | Cu (327.395 nm)    | 0.0014 (ppm)     | 12.20    | 0.0014 (ppm)    | 100.4994     |
| 11/1/2017 00:27:38 | R1710113-005 | Fe (234.350 nm)    | 567.8471 o (ppm) | 0.34     | 567.8471 (ppm)  | 6342436.8521 |
| 11/1/2017 00:27:38 | R1710113-005 | K (766.491 nm)     | 123.3889 o (ppm) | 0.58     | 123.3889 (ppm)  | 372290.5351  |
| 11/1/2017 00:27:38 | R1710113-005 | Mg (279.078 nm)    | 470.1525 o (ppm) | 0.70     | 470.1525 (ppm)  | 907245.0408  |
| 11/1/2017 00:27:38 | R1710113-005 | Mn (257.610 nm)    | 13.6053 o (ppm)  | 0.34     | 13.6053 (ppm)   | 4264449.9976 |
| 11/1/2017 00:27:38 | R1710113-005 | Mo (202.032 nm)    | 0.0014 (ppm)     | 34.62    | 0.0014 (ppm)    | 21.1674      |
| 11/1/2017 00:27:38 | R1710113-005 | Na (588.995 nm)    | 93.1867 o (ppm)  | 0.70     | 93.1867 (ppm)   | 4232181.2330 |
| 11/1/2017 00:27:38 | R1710113-005 | Ni (230.299 nm)    | 0.0369 (ppm)     | 9.08     | 0.0369 (ppm)    | 228.0072     |
| 11/1/2017 00:27:38 | R1710113-005 | Pb (220.353 nm)    | 0.0114 (ppm)     | 14.25    | 0.0114 (ppm)    | 29.4740      |
| 11/1/2017 00:27:38 | R1710113-005 | Sb (217.582 nm)    | -0.0266 u (ppm)  | 8.63     | -0.0266 (ppm)   | -35.5460     |
| 11/1/2017 00:27:38 | R1710113-005 | Se (196.026 nm)    | 0.0239 (ppm)     | 29.06    | 0.0239 (ppm)    | 21.2579      |
| 11/1/2017 00:27:38 | R1710113-005 | Sn (189.925 nm)    | 0.0015 u (ppm)   | > 100.00 | 0.0015 (ppm)    | 1.7214       |
| 11/1/2017 00:27:38 | R1710113-005 | Sr (216.596 nm)    | 1.1105 (ppm)     | 0.40     | 1.1105 (ppm)    | 15766.5613   |
| 11/1/2017 00:27:38 | R1710113-005 | Ti (336.122 nm)    | 0.0339 (ppm)     | 1.11     | 0.0339 (ppm)    | 6608.8353    |
| 11/1/2017 00:27:38 | R1710113-005 | Tl (351.923 nm)    | -0.0266 u (ppm)  | 6.93     | -0.0266 (ppm)   | -65.8887     |
| 11/1/2017 00:27:38 | R1710113-005 | V (292.401 nm)     | 0.0585 (ppm)     | 0.47     | 0.0585 (ppm)    | 2177.8040    |
| 11/1/2017 00:27:38 | R1710113-005 | Y (360.074 nm)     | 0.93 (Ratio)     | 0.87     | 0.93 (Ratio)    | 792198.04    |
| 11/1/2017 00:27:38 | R1710113-005 | Y_R (360.074 nm)   | 0.93 (Ratio)     | 0.88     | 0.93 (Ratio)    | 792419.67    |
| 11/1/2017 00:27:38 | R1710113-005 | Zn (213.857 nm)    | 0.1953 (ppm)     | 0.58     | 0.1953 (ppm)    | 5437.0784    |
| 11/1/2017 00:30:57 | R1710113-006 | Ag (328.068 nm)    | 0.0144 (ppm)     | 1.61     | 0.0144 (ppm)    | 928.3544     |
| 11/1/2017 00:30:57 | R1710113-006 | Al (394.401 nm)    | 199.8678 o (ppm) | 0.39     | 199.8678 (ppm)  | 2557973.7882 |
| 11/1/2017 00:30:57 | R1710113-006 | As (188.980 nm)    | 0.5807 (ppm)     | 1.41     | 0.5807 (ppm)    | 517.6323     |
| 11/1/2017 00:30:57 | R1710113-006 | B (249.772 nm)     | 1.0323 (ppm)     | 0.27     | 1.0323 (ppm)    | 28614.9323   |
| 11/1/2017 00:30:57 | R1710113-006 | Ba (230.424 nm)    | 4.2226 (ppm)     | 0.60     | 4.2226 (ppm)    | 141962.9050  |



| Date Time          | Label                               | Element Label (nm) | Conc              | %RSD | Unadjusted Conc | Intensity    |
|--------------------|-------------------------------------|--------------------|-------------------|------|-----------------|--------------|
| 11/1/2017 00:30:57 | R1710113-006                        | Be (313.107 nm)    | 0.0069 (ppm)      | 0.44 | 0.0069 (ppm)    | 9716.9540    |
| 11/1/2017 00:30:57 | R1710113-006                        | Ca (227.547 nm)    | 1203.5786 o (ppm) | 0.25 | 1203.5786 (ppm) | 67760.3608   |
| 11/1/2017 00:30:57 | R1710113-006                        | Cd (214.439 nm)    | 0.0079 (ppm)      | 0.97 | 0.0079 (ppm)    | 184.0350     |
| 11/1/2017 00:30:57 | R1710113-006                        | Co (230.786 nm)    | 0.0485 (ppm)      | 1.67 | 0.0485 (ppm)    | 475.1876     |
| 11/1/2017 00:30:57 | R1710113-006                        | Cr (267.716 nm)    | 0.3746 (ppm)      | 0.56 | 0.3746 (ppm)    | 18545.8120   |
| 11/1/2017 00:30:57 | R1710113-006                        | Cu (327.395 nm)    | 1.0845 (ppm)      | 0.21 | 1.0845 (ppm)    | 67344.8801   |
| 11/1/2017 00:30:57 | R1710113-006                        | Fe (234.350 nm)    | 192.0864 o (ppm)  | 0.39 | 192.0864 (ppm)  | 2145472.5518 |
| 11/1/2017 00:30:57 | R1710113-006                        | K (766.491 nm)     | 121.9171 o (ppm)  | 0.32 | 121.9171 (ppm)  | 367849.8368  |
| 11/1/2017 00:30:57 | R1710113-006                        | Mg (279.078 nm)    | 227.1176 o (ppm)  | 0.39 | 227.1176 (ppm)  | 438264.5497  |
| 11/1/2017 00:30:57 | R1710113-006                        | Mn (257.610 nm)    | 3.2240 o (ppm)    | 0.63 | 3.2240 (ppm)    | 1010531.5773 |
| 11/1/2017 00:30:57 | R1710113-006                        | Mo (202.032 nm)    | 0.0588 (ppm)      | 0.52 | 0.0588 (ppm)    | 606.0407     |
| 11/1/2017 00:30:57 | R1710113-006                        | Na (588.995 nm)    | 39.0581 (ppm)     | 0.44 | 39.0581 (ppm)   | 1770697.5517 |
| 11/1/2017 00:30:57 | R1710113-006                        | Ni (230.299 nm)    | 0.1767 (ppm)      | 2.28 | 0.1767 (ppm)    | 1169.7680    |
| 11/1/2017 00:30:57 | R1710113-006                        | Pb (220.353 nm)    | 25.2203 o (ppm)   | 0.28 | 25.2203 (ppm)   | 53889.7061   |
| 11/1/2017 00:30:57 | R1710113-006                        | Sb (217.582 nm)    | 0.0685 (ppm)      | 6.41 | 0.0685 (ppm)    | 94.4547      |
| 11/1/2017 00:30:57 | R1710113-006                        | Se (196.026 nm)    | 0.0272 (ppm)      | 8.33 | 0.0272 (ppm)    | 24.0985      |
| 11/1/2017 00:30:57 | R1710113-006                        | Sn (189.925 nm)    | 0.2584 (ppm)      | 0.69 | 0.2584 (ppm)    | 312.7874     |
| 11/1/2017 00:30:57 | R1710113-006                        | Sr (216.596 nm)    | 2.6833 (ppm)      | 0.49 | 2.6833 (ppm)    | 38098.3297   |
| 11/1/2017 00:30:57 | R1710113-006                        | Ti (336.122 nm)    | 6.0631 o (ppm)    | 0.85 | 6.0631 (ppm)    | 1268118.9216 |
| 11/1/2017 00:30:57 | R1710113-006                        | Tl (351.923 nm)    | 0.0388 (ppm)      | 7.46 | 0.0388 (ppm)    | 113.7424     |
| 11/1/2017 00:30:57 | R1710113-006                        | V (292.401 nm)     | 0.4048 (ppm)      | 0.38 | 0.4048 (ppm)    | 14418.4481   |
| 11/1/2017 00:30:57 | R1710113-006                        | Y (360.074 nm)     | 0.85 (Ratio)      | 0.87 | 0.85 (Ratio)    | 724599.39    |
| 11/1/2017 00:30:57 | R1710113-006                        | Y_R (360.074 nm)   | 0.85 (Ratio)      | 0.87 | 0.85 (Ratio)    | 724816.94    |
| 11/1/2017 00:30:57 | R1710113-006                        | Zn (213.857 nm)    | 3.1527 o (ppm)    | 0.67 | 3.1527 (ppm)    | 88172.8197   |
| 11/1/2017 00:34:16 | Continuing Calibration Verification | Ag (328.068 nm)    | 0.5014 (ppm)      | 0.27 | 0.5014 (ppm)    | 35719.7592   |
| 11/1/2017 00:34:16 | Continuing Calibration Verification | Al (394.401 nm)    | 9.6697 (ppm)      | 0.76 | 9.6697 (ppm)    | 123876.1478  |
| 11/1/2017 00:34:16 | Continuing Calibration Verification | As (188.980 nm)    | 1.0034 (ppm)      | 0.88 | 1.0034 (ppm)    | 895.4947     |
| 11/1/2017 00:34:16 | Continuing Calibration Verification | B (249.772 nm)     | 2.4787 (ppm)      | 0.36 | 2.4787 (ppm)    | 68663.1423   |
| 11/1/2017 00:34:16 | Continuing Calibration Verification | Ba (230.424 nm)    | 10.6551 (ppm)     | 0.28 | 10.6551 (ppm)   | 358215.0417  |
| 11/1/2017 00:34:16 | Continuing Calibration Verification | Be (313.107 nm)    | 0.2600 (ppm)      | 0.42 | 0.2600 (ppm)    | 383564.4642  |
| 11/1/2017 00:34:16 | Continuing Calibration Verification | Ca (227.547 nm)    | 24.6537 (ppm)     | 1.41 | 24.6537 (ppm)   | 1392.3020    |
| 11/1/2017 00:34:16 | Continuing Calibration Verification | Cd (214.439 nm)    | 0.5242 (ppm)      | 0.22 | 0.5242 (ppm)    | 11362.1640   |
| 11/1/2017 00:34:16 | Continuing Calibration Verification | Co (230.786 nm)    | 2.6884 (ppm)      | 0.44 | 2.6884 (ppm)    | 26538.0175   |
| 11/1/2017 00:34:16 | Continuing Calibration Verification | Cr (267.716 nm)    | 0.5266 (ppm)      | 0.22 | 0.5266 (ppm)    | 26074.7348   |
| 11/1/2017 00:34:16 | Continuing Calibration Verification | Cu (327.395 nm)    | 1.2068 (ppm)      | 0.53 | 1.2068 (ppm)    | 74939.1631   |
| 11/1/2017 00:34:16 | Continuing Calibration Verification | Fe (234.350 nm)    | 5.3472 (ppm)      | 2.43 | 5.3472 (ppm)    | 59735.9395   |
| 11/1/2017 00:34:16 | Continuing Calibration Verification | K (766.491 nm)     | 24.6451 (ppm)     | 0.83 | 24.6451 (ppm)   | 74352.4748   |
| 11/1/2017 00:34:16 | Continuing Calibration Verification | Mg (279.078 nm)    | 26.2777 (ppm)     | 0.48 | 26.2777 (ppm)   | 50707.0184   |
| 11/1/2017 00:34:16 | Continuing Calibration Verification | Mn (257.610 nm)    | 0.7847 (ppm)      | 0.49 | 0.7847 (ppm)    | 245955.9444  |
| 11/1/2017 00:34:16 | Continuing Calibration Verification | Mo (202.032 nm)    | 2.4950 (ppm)      | 0.33 | 2.4950 (ppm)    | 25440.5743   |
| 11/1/2017 00:34:16 | Continuing Calibration Verification | Na (588.995 nm)    | 24.6538 (ppm)     | 0.77 | 24.6538 (ppm)   | 1115666.3448 |
| 11/1/2017 00:34:16 | Continuing Calibration Verification | Ni (230.299 nm)    | 2.1108 (ppm)      | 0.31 | 2.1108 (ppm)    | 14198.8534   |
| 11/1/2017 00:34:16 | Continuing Calibration Verification | Pb (220.353 nm)    | 0.5245 (ppm)      | 0.61 | 0.5245 (ppm)    | 1125.7360    |
| 11/1/2017 00:34:16 | Continuing Calibration Verification | Sb (217.582 nm)    | 5.0254 (ppm)      | 0.38 | 5.0254 (ppm)    | 6873.3660    |
| 11/1/2017 00:34:16 | Continuing Calibration Verification | Se (196.026 nm)    | 0.5117 (ppm)      | 0.65 | 0.5117 (ppm)    | 438.9809     |
| 11/1/2017 00:34:16 | Continuing Calibration Verification | Sn (189.925 nm)    | 5.3421 (ppm)      | 0.75 | 5.3421 (ppm)    | 6468.9350    |
| 11/1/2017 00:34:16 | Continuing Calibration Verification | Sr (216.596 nm)    | 2.6597 (ppm)      | 0.44 | 2.6597 (ppm)    | 37764.1415   |
| 11/1/2017 00:34:16 | Continuing Calibration Verification | Ti (336.122 nm)    | 2.5556 (ppm)      | 0.39 | 2.5556 (ppm)    | 534235.9644  |
| 11/1/2017 00:34:16 | Continuing Calibration Verification | Tl (351.923 nm)    | 0.9967 (ppm)      | 0.31 | 0.9967 (ppm)    | 2744.8805    |
| 11/1/2017 00:34:16 | Continuing Calibration Verification | V (292.401 nm)     | 2.5858 (ppm)      | 0.38 | 2.5858 (ppm)    | 91510.1548   |
| 11/1/2017 00:34:16 | Continuing Calibration Verification | Y (360.074 nm)     | 0.91 (Ratio)      | 0.82 | 0.91 (Ratio)    | 772504.80    |

| Date Time          | Label                               | Element Label (nm) | Conc             | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|-------------------------------------|--------------------|------------------|----------|-----------------|--------------|
| 11/1/2017 00:34:16 | Continuing Calibration Verification | Y_R (360.074 nm)   | 0.90 (Ratio)     | 0.82     | 0.90 (Ratio)    | 772815.90    |
| 11/1/2017 00:34:16 | Continuing Calibration Verification | Zn (213.857 nm)    | 1.0497 (ppm)     | 0.31     | 1.0497 (ppm)    | 29337.9977   |
| 11/1/2017 00:37:35 | Continuing Calibration Blank        | Ag (328.068 nm)    | 0.0002 (ppm)     | 23.04    | 0.0002 (ppm)    | -87.0338     |
| 11/1/2017 00:37:35 | Continuing Calibration Blank        | Al (394.401 nm)    | 0.0117 (ppm)     | 16.69    | 0.0117 (ppm)    | 275.7915     |
| 11/1/2017 00:37:35 | Continuing Calibration Blank        | As (188.980 nm)    | 0.0011 u (ppm)   | > 100.00 | 0.0011 (ppm)    | -0.4367      |
| 11/1/2017 00:37:35 | Continuing Calibration Blank        | B (249.772 nm)     | 0.0061 (ppm)     | 18.96    | 0.0061 (ppm)    | 201.8080     |
| 11/1/2017 00:37:35 | Continuing Calibration Blank        | Ba (230.424 nm)    | 0.0089 (ppm)     | 22.46    | 0.0089 (ppm)    | 301.5962     |
| 11/1/2017 00:37:35 | Continuing Calibration Blank        | Be (313.107 nm)    | 0.0002 (ppm)     | 24.45    | 0.0002 (ppm)    | -231.3769    |
| 11/1/2017 00:37:35 | Continuing Calibration Blank        | Ca (227.547 nm)    | 0.0700 (ppm)     | 81.86    | 0.0700 (ppm)    | 8.3569       |
| 11/1/2017 00:37:35 | Continuing Calibration Blank        | Cd (214.439 nm)    | 0.0004 (ppm)     | 18.25    | 0.0004 (ppm)    | 21.8526      |
| 11/1/2017 00:37:35 | Continuing Calibration Blank        | Co (230.786 nm)    | 0.0024 (ppm)     | 22.80    | 0.0024 (ppm)    | 20.1161      |
| 11/1/2017 00:37:35 | Continuing Calibration Blank        | Cr (267.716 nm)    | 0.0004 (ppm)     | 18.69    | 0.0004 (ppm)    | 19.4503      |
| 11/1/2017 00:37:35 | Continuing Calibration Blank        | Cu (327.395 nm)    | 0.0009 (ppm)     | 20.88    | 0.0009 (ppm)    | 70.6019      |
| 11/1/2017 00:37:35 | Continuing Calibration Blank        | Fe (234.350 nm)    | 0.0290 (ppm)     | 15.54    | 0.0290 (ppm)    | 335.2470     |
| 11/1/2017 00:37:35 | Continuing Calibration Blank        | K (766.491 nm)     | 0.0916 (ppm)     | 13.73    | 0.0916 (ppm)    | 267.4078     |
| 11/1/2017 00:37:35 | Continuing Calibration Blank        | Mg (279.078 nm)    | 0.0285 (ppm)     | 18.89    | 0.0285 (ppm)    | 54.2890      |
| 11/1/2017 00:37:35 | Continuing Calibration Blank        | Mn (257.610 nm)    | 0.0026 (ppm)     | 11.40    | 0.0026 (ppm)    | 832.3182     |
| 11/1/2017 00:37:35 | Continuing Calibration Blank        | Mo (202.032 nm)    | 0.0041 (ppm)     | 2.41     | 0.0041 (ppm)    | 48.7908      |
| 11/1/2017 00:37:35 | Continuing Calibration Blank        | Na (588.995 nm)    | -0.0107 u (ppm)  | 47.55    | -0.0107 (ppm)   | -5947.4422   |
| 11/1/2017 00:37:35 | Continuing Calibration Blank        | Ni (230.299 nm)    | 0.0010 (ppm)     | 42.44    | 0.0010 (ppm)    | -13.7219     |
| 11/1/2017 00:37:35 | Continuing Calibration Blank        | Pb (220.353 nm)    | 0.0007 u (ppm)   | > 100.00 | 0.0007 (ppm)    | 6.5859       |
| 11/1/2017 00:37:35 | Continuing Calibration Blank        | Sb (217.582 nm)    | 0.0050 (ppm)     | 53.81    | 0.0050 (ppm)    | 7.6292       |
| 11/1/2017 00:37:35 | Continuing Calibration Blank        | Se (196.026 nm)    | -0.0029 u (ppm)  | > 100.00 | -0.0029 (ppm)   | -1.6672      |
| 11/1/2017 00:37:35 | Continuing Calibration Blank        | Sn (189.925 nm)    | 0.0042 (ppm)     | 34.42    | 0.0042 (ppm)    | 4.9677       |
| 11/1/2017 00:37:35 | Continuing Calibration Blank        | Sr (216.596 nm)    | 0.0021 (ppm)     | 25.01    | 0.0021 (ppm)    | 29.1385      |
| 11/1/2017 00:37:35 | Continuing Calibration Blank        | Ti (336.122 nm)    | 0.0032 (ppm)     | 10.49    | 0.0032 (ppm)    | 188.3380     |
| 11/1/2017 00:37:35 | Continuing Calibration Blank        | Tl (351.923 nm)    | 0.0032 (ppm)     | 67.73    | 0.0032 (ppm)    | 16.1957      |
| 11/1/2017 00:37:35 | Continuing Calibration Blank        | V (292.401 nm)     | 0.0022 (ppm)     | 16.14    | 0.0022 (ppm)    | 185.5737     |
| 11/1/2017 00:37:35 | Continuing Calibration Blank        | Y (360.074 nm)     | 0.94 (Ratio)     | 0.74     | 0.94 (Ratio)    | 802471.11    |
| 11/1/2017 00:37:35 | Continuing Calibration Blank        | Y_R (360.074 nm)   | 0.94 (Ratio)     | 0.74     | 0.94 (Ratio)    | 802858.22    |
| 11/1/2017 00:37:35 | Continuing Calibration Blank        | Zn (213.857 nm)    | 0.0008 (ppm)     | 15.18    | 0.0008 (ppm)    | -5.5571      |
| 11/1/2017 00:40:54 | R1710113-007                        | Ag (328.068 nm)    | 0.0070 (ppm)     | 0.94     | 0.0070 (ppm)    | 396.0046     |
| 11/1/2017 00:40:54 | R1710113-007                        | Al (394.401 nm)    | 88.9908 o (ppm)  | 0.60     | 88.9908 (ppm)   | 1139002.7114 |
| 11/1/2017 00:40:54 | R1710113-007                        | As (188.980 nm)    | 0.3466 (ppm)     | 2.18     | 0.3466 (ppm)    | 308.3466     |
| 11/1/2017 00:40:54 | R1710113-007                        | B (249.772 nm)     | 0.7957 (ppm)     | 0.66     | 0.7957 (ppm)    | 22064.1283   |
| 11/1/2017 00:40:54 | R1710113-007                        | Ba (230.424 nm)    | 1.9661 (ppm)     | 0.75     | 1.9661 (ppm)    | 66099.9354   |
| 11/1/2017 00:40:54 | R1710113-007                        | Be (313.107 nm)    | 0.0030 (ppm)     | 0.57     | 0.0030 (ppm)    | 3885.0566    |
| 11/1/2017 00:40:54 | R1710113-007                        | Ca (227.547 nm)    | 961.0433 o (ppm) | 0.61     | 961.0433 (ppm)  | 54106.7372   |
| 11/1/2017 00:40:54 | R1710113-007                        | Cd (214.439 nm)    | 0.0035 (ppm)     | 10.76    | 0.0035 (ppm)    | 90.0611      |
| 11/1/2017 00:40:54 | R1710113-007                        | Co (230.786 nm)    | 0.0231 (ppm)     | 4.23     | 0.0231 (ppm)    | 224.0961     |
| 11/1/2017 00:40:54 | R1710113-007                        | Cr (267.716 nm)    | 0.1630 (ppm)     | 0.76     | 0.1630 (ppm)    | 8070.1245    |
| 11/1/2017 00:40:54 | R1710113-007                        | Cu (327.395 nm)    | 0.4870 (ppm)     | 0.99     | 0.4870 (ppm)    | 30250.7601   |
| 11/1/2017 00:40:54 | R1710113-007                        | Fe (234.350 nm)    | 94.8956 o (ppm)  | 0.66     | 94.8956 (ppm)   | 1059924.7426 |
| 11/1/2017 00:40:54 | R1710113-007                        | K (766.491 nm)     | 89.2508 o (ppm)  | 0.60     | 89.2508 (ppm)   | 269286.2495  |
| 11/1/2017 00:40:54 | R1710113-007                        | Mg (279.078 nm)    | 210.3130 o (ppm) | 0.71     | 210.3130 (ppm)  | 405836.9207  |
| 11/1/2017 00:40:54 | R1710113-007                        | Mn (257.610 nm)    | 1.9059 o (ppm)   | 0.37     | 1.9059 (ppm)    | 597379.3812  |
| 11/1/2017 00:40:54 | R1710113-007                        | Mo (202.032 nm)    | 0.0428 (ppm)     | 1.92     | 0.0428 (ppm)    | 443.2310     |
| 11/1/2017 00:40:54 | R1710113-007                        | Na (588.995 nm)    | 39.1787 (ppm)    | 0.73     | 39.1787 (ppm)   | 1776181.9673 |
| 11/1/2017 00:40:54 | R1710113-007                        | Ni (230.299 nm)    | 0.0776 (ppm)     | 1.90     | 0.0776 (ppm)    | 502.2027     |
| 11/1/2017 00:40:54 | R1710113-007                        | Pb (220.353 nm)    | 12.0916 o (ppm)  | 0.71     | 12.0916 (ppm)   | 25839.5189   |
| 11/1/2017 00:40:54 | R1710113-007                        | Sb (217.582 nm)    | 0.0485 (ppm)     | 2.36     | 0.0485 (ppm)    | 67.1215      |

| Date Time          | Label         | Element Label (nm) | Conc           | %RSD     | Unadjusted Conc | Intensity   |
|--------------------|---------------|--------------------|----------------|----------|-----------------|-------------|
| 11/1/2017 00:40:54 | R1710113-007  | Se (196.026 nm)    | 0.0133 (ppm)   | 23.40    | 0.0133 (ppm)    | 12.1947     |
| 11/1/2017 00:40:54 | R1710113-007  | Sn (189.925 nm)    | 0.1168 (ppm)   | 1.30     | 0.1168 (ppm)    | 141.3992    |
| 11/1/2017 00:40:54 | R1710113-007  | Sr (216.596 nm)    | 2.0825 (ppm)   | 0.94     | 2.0825 (ppm)    | 29567.4324  |
| 11/1/2017 00:40:54 | R1710113-007  | Ti (336.122 nm)    | 3.0735 (ppm)   | 0.62     | 3.0735 (ppm)    | 642604.2294 |
| 11/1/2017 00:40:54 | R1710113-007  | Tl (351.923 nm)    | 0.0260 (ppm)   | 6.51     | 0.0260 (ppm)    | 78.6357     |
| 11/1/2017 00:40:54 | R1710113-007  | V (292.401 nm)     | 0.1814 (ppm)   | 0.53     | 0.1814 (ppm)    | 6520.1916   |
| 11/1/2017 00:40:54 | R1710113-007  | Y (360.074 nm)     | 0.84 (Ratio)   | 1.10     | 0.84 (Ratio)    | 720095.98   |
| 11/1/2017 00:40:54 | R1710113-007  | Y_R (360.074 nm)   | 0.84 (Ratio)   | 1.10     | 0.84 (Ratio)    | 720371.47   |
| 11/1/2017 00:40:54 | R1710113-007  | Zn (213.857 nm)    | 1.4357 (ppm)   | 0.75     | 1.4357 (ppm)    | 40137.6885  |
| 11/1/2017 00:44:13 | R1710113-007L | Ag (328.068 nm)    | 0.0014 (ppm)   | 10.26    | 0.0014 (ppm)    | -1.9097     |
| 11/1/2017 00:44:13 | R1710113-007L | Al (394.401 nm)    | 16.6784 (ppm)  | 0.28     | 16.6784 (ppm)   | 213571.3052 |
| 11/1/2017 00:44:13 | R1710113-007L | As (188.980 nm)    | 0.0683 (ppm)   | 5.72     | 0.0683 (ppm)    | 59.5995     |
| 11/1/2017 00:44:13 | R1710113-007L | B (249.772 nm)     | 0.1562 (ppm)   | 0.69     | 0.1562 (ppm)    | 4359.4785   |
| 11/1/2017 00:44:13 | R1710113-007L | Ba (230.424 nm)    | 0.4196 (ppm)   | 0.56     | 0.4196 (ppm)    | 14108.5505  |
| 11/1/2017 00:44:13 | R1710113-007L | Be (313.107 nm)    | 0.0006 (ppm)   | 2.66     | 0.0006 (ppm)    | 414.8477    |
| 11/1/2017 00:44:13 | R1710113-007L | Ca (227.547 nm)    | 181.0533 (ppm) | 0.43     | 181.0533 (ppm)  | 10196.8806  |
| 11/1/2017 00:44:13 | R1710113-007L | Cd (214.439 nm)    | 0.0010 (ppm)   | 17.09    | 0.0010 (ppm)    | 35.5583     |
| 11/1/2017 00:44:13 | R1710113-007L | Co (230.786 nm)    | 0.0047 (ppm)   | 16.13    | 0.0047 (ppm)    | 42.8121     |
| 11/1/2017 00:44:13 | R1710113-007L | Cr (267.716 nm)    | 0.0358 (ppm)   | 0.72     | 0.0358 (ppm)    | 1772.2300   |
| 11/1/2017 00:44:13 | R1710113-007L | Cu (327.395 nm)    | 0.0924 (ppm)   | 0.81     | 0.0924 (ppm)    | 5752.5601   |
| 11/1/2017 00:44:13 | R1710113-007L | Fe (234.350 nm)    | 21.1365 (ppm)  | 0.36     | 21.1365 (ppm)   | 236090.8677 |
| 11/1/2017 00:44:13 | R1710113-007L | K (766.491 nm)     | 16.6686 (ppm)  | 0.55     | 16.6686 (ppm)   | 50285.0688  |
| 11/1/2017 00:44:13 | R1710113-007L | Mg (279.078 nm)    | 41.7621 (ppm)  | 0.37     | 41.7621 (ppm)   | 80586.9246  |
| 11/1/2017 00:44:13 | R1710113-007L | Mn (257.610 nm)    | 0.4051 (ppm)   | 0.29     | 0.4051 (ppm)    | 126973.9553 |
| 11/1/2017 00:44:13 | R1710113-007L | Mo (202.032 nm)    | 0.0093 (ppm)   | 5.86     | 0.0093 (ppm)    | 101.5220    |
| 11/1/2017 00:44:13 | R1710113-007L | Na (588.995 nm)    | 7.4916 (ppm)   | 0.60     | 7.4916 (ppm)    | 335217.7125 |
| 11/1/2017 00:44:13 | R1710113-007L | Ni (230.299 nm)    | 0.0122 (ppm)   | 2.95     | 0.0122 (ppm)    | 61.5063     |
| 11/1/2017 00:44:13 | R1710113-007L | Pb (220.353 nm)    | 2.5860 (ppm)   | 0.20     | 2.5860 (ppm)    | 5530.1769   |
| 11/1/2017 00:44:13 | R1710113-007L | Sb (217.582 nm)    | 0.0084 (ppm)   | 51.19    | 0.0084 (ppm)    | 12.2909     |
| 11/1/2017 00:44:13 | R1710113-007L | Se (196.026 nm)    | -0.0001 (ppm)  | > 100.00 | -0.0001 (ppm)   | 0.6881      |
| 11/1/2017 00:44:13 | R1710113-007L | Sn (189.925 nm)    | 0.0241 (ppm)   | 12.98    | 0.0241 (ppm)    | 29.0851     |
| 11/1/2017 00:44:13 | R1710113-007L | Sr (216.596 nm)    | 0.4469 (ppm)   | 0.45     | 0.4469 (ppm)    | 6344.4143   |
| 11/1/2017 00:44:13 | R1710113-007L | Ti (336.122 nm)    | 0.6756 (ppm)   | 0.44     | 0.6756 (ppm)    | 140873.3063 |
| 11/1/2017 00:44:13 | R1710113-007L | Tl (351.923 nm)    | 0.0060 (ppm)   | 39.69    | 0.0060 (ppm)    | 23.6937     |
| 11/1/2017 00:44:13 | R1710113-007L | V (292.401 nm)     | 0.0389 (ppm)   | 0.88     | 0.0389 (ppm)    | 1482.2784   |
| 11/1/2017 00:44:13 | R1710113-007L | Y (360.074 nm)     | 0.89 (Ratio)   | 0.65     | 0.89 (Ratio)    | 757670.61   |
| 11/1/2017 00:44:13 | R1710113-007L | Y_R (360.074 nm)   | 0.89 (Ratio)   | 0.65     | 0.89 (Ratio)    | 757987.23   |
| 11/1/2017 00:44:13 | R1710113-007L | Zn (213.857 nm)    | 0.2900 (ppm)   | 0.45     | 0.2900 (ppm)    | 8086.8014   |
| 11/1/2017 00:47:33 | R1710200-001  | Ag (328.068 nm)    | 0.0000 (ppm)   | > 100.00 | 0.0000 (ppm)    | -102.6720   |
| 11/1/2017 00:47:33 | R1710200-001  | Al (394.401 nm)    | 0.0484 (ppm)   | 1.84     | 0.0484 (ppm)    | 744.9204    |
| 11/1/2017 00:47:33 | R1710200-001  | As (188.980 nm)    | 0.0031 (ppm)   | > 100.00 | 0.0031 (ppm)    | 1.3549      |
| 11/1/2017 00:47:33 | R1710200-001  | B (249.772 nm)     | 1.1659 (ppm)   | 0.69     | 1.1659 (ppm)    | 32315.3339  |
| 11/1/2017 00:47:33 | R1710200-001  | Ba (230.424 nm)    | 0.2337 (ppm)   | 0.72     | 0.2337 (ppm)    | 7859.4372   |
| 11/1/2017 00:47:33 | R1710200-001  | Be (313.107 nm)    | 0.0000 (ppm)   | 35.76    | 0.0000 (ppm)    | -573.1324   |
| 11/1/2017 00:47:33 | R1710200-001  | Ca (227.547 nm)    | 109.2567 (ppm) | 0.81     | 109.2567 (ppm)  | 6155.0623   |
| 11/1/2017 00:47:33 | R1710200-001  | Cd (214.439 nm)    | 0.0001 (ppm)   | 51.82    | 0.0001 (ppm)    | 16.4877     |
| 11/1/2017 00:47:33 | R1710200-001  | Co (230.786 nm)    | 0.0035 (ppm)   | 21.60    | 0.0035 (ppm)    | 30.5631     |
| 11/1/2017 00:47:33 | R1710200-001  | Cr (267.716 nm)    | -0.0001 (ppm)  | 75.67    | -0.0001 (ppm)   | -4.5727     |
| 11/1/2017 00:47:33 | R1710200-001  | Cu (327.395 nm)    | 0.0036 (ppm)   | 3.60     | 0.0036 (ppm)    | 238.6527    |
| 11/1/2017 00:47:33 | R1710200-001  | Fe (234.350 nm)    | 3.1677 (ppm)   | 0.67     | 3.1677 (ppm)    | 35393.1888  |
| 11/1/2017 00:47:33 | R1710200-001  | K (766.491 nm)     | 149.0887 (ppm) | 1.01     | 149.0887 (ppm)  | 449834.1238 |

| Date Time          | Label                               | Element Label (nm) | Conc             | %RSD     | Unadjusted Conc | Intensity     |
|--------------------|-------------------------------------|--------------------|------------------|----------|-----------------|---------------|
| 11/1/2017 00:47:33 | R1710200-001                        | Mg (279.078 nm)    | 39.4531 (ppm)    | 0.69     | 39.4531 (ppm)   | 76131.3820    |
| 11/1/2017 00:47:33 | R1710200-001                        | Mn (257.610 nm)    | 0.7909 (ppm)     | 0.53     | 0.7909 (ppm)    | 247900.5380   |
| 11/1/2017 00:47:33 | R1710200-001                        | Mo (202.032 nm)    | 0.0067 (ppm)     | 7.57     | 0.0067 (ppm)    | 74.9442       |
| 11/1/2017 00:47:33 | R1710200-001                        | Na (588.995 nm)    | 459.9199 o (ppm) | 1.08     | 459.9199 (ppm)  | 20909273.8110 |
| 11/1/2017 00:47:33 | R1710200-001                        | Ni (230.299 nm)    | 0.0131 (ppm)     | 6.06     | 0.0131 (ppm)    | 67.6916       |
| 11/1/2017 00:47:33 | R1710200-001                        | Pb (220.353 nm)    | 0.0009 u (ppm)   | > 100.00 | 0.0009 (ppm)    | 6.9263        |
| 11/1/2017 00:47:33 | R1710200-001                        | Sb (217.582 nm)    | 0.0003 u (ppm)   | > 100.00 | 0.0003 (ppm)    | 1.2476        |
| 11/1/2017 00:47:33 | R1710200-001                        | Se (196.026 nm)    | 0.0003 u (ppm)   | > 100.00 | 0.0003 (ppm)    | 1.0433        |
| 11/1/2017 00:47:33 | R1710200-001                        | Sh (189.925 nm)    | 0.0000 u (ppm)   | > 100.00 | 0.0000 (ppm)    | -0.1277       |
| 11/1/2017 00:47:33 | R1710200-001                        | Sr (216.596 nm)    | 0.4432 (ppm)     | 0.82     | 0.4432 (ppm)    | 6282.7212     |
| 11/1/2017 00:47:33 | R1710200-001                        | Ti (336.122 nm)    | 0.0023 (ppm)     | 5.31     | 0.0023 (ppm)    | 7.7345        |
| 11/1/2017 00:47:33 | R1710200-001                        | Tl (351.923 nm)    | 0.0012 u (ppm)   | > 100.00 | 0.0012 (ppm)    | 10.6285       |
| 11/1/2017 00:47:33 | R1710200-001                        | V (292.401 nm)     | 0.0012 (ppm)     | 13.48    | 0.0012 (ppm)    | 153.0520      |
| 11/1/2017 00:47:33 | R1710200-001                        | Y (360.074 nm)     | 0.85 (Ratio)     | 0.91     | 0.85 (Ratio)    | 720980.54     |
| 11/1/2017 00:47:33 | R1710200-001                        | Y_R (360.074 nm)   | 0.84 (Ratio)     | 0.90     | 0.84 (Ratio)    | 721210.27     |
| 11/1/2017 00:47:33 | R1710200-001                        | Zn (213.857 nm)    | 0.0098 (ppm)     | 1.66     | 0.0098 (ppm)    | 246.7232      |
| 11/1/2017 00:50:52 | R1710200-003                        | Ag (328.068 nm)    | 0.0000 (ppm)     | > 100.00 | 0.0000 (ppm)    | -101.9848     |
| 11/1/2017 00:50:52 | R1710200-003                        | Al (394.401 nm)    | 0.0757 (ppm)     | 4.09     | 0.0757 (ppm)    | 1094.3851     |
| 11/1/2017 00:50:52 | R1710200-003                        | As (188.980 nm)    | 0.0032 u (ppm)   | > 100.00 | 0.0032 (ppm)    | 1.4018        |
| 11/1/2017 00:50:52 | R1710200-003                        | B (249.772 nm)     | 0.0290 (ppm)     | 2.21     | 0.0290 (ppm)    | 837.1550      |
| 11/1/2017 00:50:52 | R1710200-003                        | Ba (230.424 nm)    | 0.0361 (ppm)     | 1.65     | 0.0361 (ppm)    | 1214.8837     |
| 11/1/2017 00:50:52 | R1710200-003                        | Be (313.107 nm)    | 0.0000 (ppm)     | 46.53    | 0.0000 (ppm)    | -544.9112     |
| 11/1/2017 00:50:52 | R1710200-003                        | Ce (227.547 nm)    | 113.8125 o (ppm) | 0.53     | 113.8125 (ppm)  | 6411.5326     |
| 11/1/2017 00:50:52 | R1710200-003                        | Cd (214.439 nm)    | 0.0000 (ppm)     | > 100.00 | 0.0000 (ppm)    | 13.6908       |
| 11/1/2017 00:50:52 | R1710200-003                        | Co (230.786 nm)    | -0.0001 u (ppm)  | 47.89    | -0.0001 (ppm)   | -4.8638       |
| 11/1/2017 00:50:52 | R1710200-003                        | Cr (267.716 nm)    | 0.0002 (ppm)     | 50.87    | 0.0002 (ppm)    | 10.0976       |
| 11/1/2017 00:50:52 | R1710200-003                        | Cu (327.395 nm)    | 0.0053 (ppm)     | 1.73     | 0.0053 (ppm)    | 341.5937      |
| 11/1/2017 00:50:52 | R1710200-003                        | Fe (234.350 nm)    | 0.0734 (ppm)     | 5.09     | 0.0734 (ppm)    | 831.9057      |
| 11/1/2017 00:50:52 | R1710200-003                        | K (766.491 nm)     | 4.3625 (ppm)     | 1.79     | 4.3625 (ppm)    | 13154.0971    |
| 11/1/2017 00:50:52 | R1710200-003                        | Mg (279.078 nm)    | 17.2344 (ppm)    | 0.49     | 17.2344 (ppm)   | 33256.1936    |
| 11/1/2017 00:50:52 | R1710200-003                        | Mn (257.610 nm)    | 0.0096 (ppm)     | 8.03     | 0.0096 (ppm)    | 3000.0409     |
| 11/1/2017 00:50:52 | R1710200-003                        | Mo (202.032 nm)    | 0.0004 (ppm)     | 54.14    | 0.0004 (ppm)    | 10.6713       |
| 11/1/2017 00:50:52 | R1710200-003                        | Na (588.995 nm)    | 3.8473 (ppm)     | 3.60     | 3.8473 (ppm)    | 169495.9543   |
| 11/1/2017 00:50:52 | R1710200-003                        | Ni (230.299 nm)    | -0.0030 u (ppm)  | 22.20    | -0.0030 (ppm)   | -41.1327      |
| 11/1/2017 00:50:52 | R1710200-003                        | Pb (220.353 nm)    | -0.0004 u (ppm)  | > 100.00 | -0.0004 (ppm)   | 4.2087        |
| 11/1/2017 00:50:52 | R1710200-003                        | Sb (217.582 nm)    | 0.0001 u (ppm)   | > 100.00 | 0.0001 (ppm)    | 0.9038        |
| 11/1/2017 00:50:52 | R1710200-003                        | Se (196.026 nm)    | 0.0021 (ppm)     | 54.25    | 0.0021 (ppm)    | 2.5619        |
| 11/1/2017 00:50:52 | R1710200-003                        | Sh (189.925 nm)    | -0.0012 u (ppm)  | 44.80    | -0.0012 (ppm)   | -1.5746       |
| 11/1/2017 00:50:52 | R1710200-003                        | Sr (216.596 nm)    | 0.7904 (ppm)     | 0.49     | 0.7904 (ppm)    | 11222.1613    |
| 11/1/2017 00:50:52 | R1710200-003                        | Ti (336.122 nm)    | 0.0030 (ppm)     | 2.33     | 0.0030 (ppm)    | 147.8404      |
| 11/1/2017 00:50:52 | R1710200-003                        | Tl (351.923 nm)    | 0.0014 u (ppm)   | > 100.00 | 0.0014 (ppm)    | 11.0779       |
| 11/1/2017 00:50:52 | R1710200-003                        | V (292.401 nm)     | 0.0005 (ppm)     | 26.16    | 0.0005 (ppm)    | 127.5199      |
| 11/1/2017 00:50:52 | R1710200-003                        | Y (360.074 nm)     | 0.91 (Ratio)     | 0.73     | 0.91 (Ratio)    | 774753.33     |
| 11/1/2017 00:50:52 | R1710200-003                        | Y_R (360.074 nm)   | 0.91 (Ratio)     | 0.73     | 0.91 (Ratio)    | 775084.75     |
| 11/1/2017 00:50:52 | R1710200-003                        | Zn (213.857 nm)    | 0.0120 (ppm)     | 0.46     | 0.0120 (ppm)    | 308.8649      |
| 11/1/2017 00:54:10 | Continuing Calibration Verification | Ag (328.068 nm)    | 0.4967 (ppm)     | 0.13     | 0.4967 (ppm)    | 35384.5032    |
| 11/1/2017 00:54:10 | Continuing Calibration Verification | Al (394.401 nm)    | 9.4935 (ppm)     | 0.37     | 9.4935 (ppm)    | 121620.2910   |
| 11/1/2017 00:54:10 | Continuing Calibration Verification | As (188.980 nm)    | 0.9842 (ppm)     | 0.20     | 0.9842 (ppm)    | 878.3329      |
| 11/1/2017 00:54:10 | Continuing Calibration Verification | B (249.772 nm)     | 2.4493 (ppm)     | 0.22     | 2.4493 (ppm)    | 67849.3111    |
| 11/1/2017 00:54:10 | Continuing Calibration Verification | Ba (230.424 nm)    | 10.5317 (ppm)    | 0.51     | 10.5317 (ppm)   | 354068.4400   |
| 11/1/2017 00:54:10 | Continuing Calibration Verification | Be (313.107 nm)    | 0.2571 (ppm)     | 0.28     | 0.2571 (ppm)    | 379207.1092   |

| Date Time          | Label                               | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|-------------------------------------|--------------------|-----------------|----------|-----------------|--------------|
| 11/1/2017 00:54:10 | Continuing Calibration Verification | Ca (227.547 nm)    | 24.1369 (ppm)   | 0.82     | 24.1369 (ppm)   | 1363.2108    |
| 11/1/2017 00:54:10 | Continuing Calibration Verification | Cd (214.439 nm)    | 0.5194 (ppm)    | 0.31     | 0.5194 (ppm)    | 11258.6779   |
| 11/1/2017 00:54:10 | Continuing Calibration Verification | Co (230.786 nm)    | 2.6627 (ppm)    | 0.26     | 2.6627 (ppm)    | 26284.7439   |
| 11/1/2017 00:54:10 | Continuing Calibration Verification | Cr (267.716 nm)    | 0.5204 (ppm)    | 0.30     | 0.5204 (ppm)    | 25767.7415   |
| 11/1/2017 00:54:10 | Continuing Calibration Verification | Cu (327.395 nm)    | 1.1908 (ppm)    | 0.51     | 1.1908 (ppm)    | 73942.4987   |
| 11/1/2017 00:54:10 | Continuing Calibration Verification | Fe (234.350 nm)    | 4.9835 (ppm)    | 0.37     | 4.9835 (ppm)    | 55673.7924   |
| 11/1/2017 00:54:10 | Continuing Calibration Verification | K (766.491 nm)     | 24.2422 (ppm)   | 0.48     | 24.2422 (ppm)   | 73136.8756   |
| 11/1/2017 00:54:10 | Continuing Calibration Verification | Mg (279.078 nm)    | 25.8205 (ppm)   | 0.32     | 25.8205 (ppm)   | 49824.7125   |
| 11/1/2017 00:54:10 | Continuing Calibration Verification | Mn (257.610 nm)    | 0.7712 (ppm)    | 0.22     | 0.7712 (ppm)    | 241727.3362  |
| 11/1/2017 00:54:10 | Continuing Calibration Verification | Mo (202.032 nm)    | 2.4670 (ppm)    | 0.33     | 2.4670 (ppm)    | 25154.9496   |
| 11/1/2017 00:54:10 | Continuing Calibration Verification | Na (588.995 nm)    | 24.3443 (ppm)   | 0.70     | 24.3443 (ppm)   | 1101588.5639 |
| 11/1/2017 00:54:10 | Continuing Calibration Verification | Ni (230.299 nm)    | 2.0918 (ppm)    | 0.31     | 2.0918 (ppm)    | 14070.9930   |
| 11/1/2017 00:54:10 | Continuing Calibration Verification | Pb (220.353 nm)    | 0.5166 (ppm)    | 0.55     | 0.5166 (ppm)    | 1108.8570    |
| 11/1/2017 00:54:10 | Continuing Calibration Verification | Sb (217.582 nm)    | 4.9602 (ppm)    | 0.79     | 4.9602 (ppm)    | 6784.1677    |
| 11/1/2017 00:54:10 | Continuing Calibration Verification | Se (196.026 nm)    | 0.5033 (ppm)    | 1.44     | 0.5033 (ppm)    | 431.7809     |
| 11/1/2017 00:54:10 | Continuing Calibration Verification | Sn (189.925 nm)    | 5.2789 (ppm)    | 0.37     | 5.2789 (ppm)    | 6392.4226    |
| 11/1/2017 00:54:10 | Continuing Calibration Verification | Sr (216.596 nm)    | 2.6345 (ppm)    | 0.37     | 2.6345 (ppm)    | 37406.3479   |
| 11/1/2017 00:54:10 | Continuing Calibration Verification | Ti (336.122 nm)    | 2.5243 (ppm)    | 0.29     | 2.5243 (ppm)    | 527692.1239  |
| 11/1/2017 00:54:10 | Continuing Calibration Verification | Tl (351.923 nm)    | 0.9885 (ppm)    | 0.67     | 0.9885 (ppm)    | 2722.4051    |
| 11/1/2017 00:54:10 | Continuing Calibration Verification | V (292.401 nm)     | 2.5593 (ppm)    | 0.22     | 2.5593 (ppm)    | 90570.7831   |
| 11/1/2017 00:54:10 | Continuing Calibration Verification | Y (360.074 nm)     | 0.90 (Ratio)    | 0.83     | 0.90 (Ratio)    | 765781.38    |
| 11/1/2017 00:54:10 | Continuing Calibration Verification | Y_R (360.074 nm)   | 0.90 (Ratio)    | 0.83     | 0.90 (Ratio)    | 766093.83    |
| 11/1/2017 00:54:10 | Continuing Calibration Verification | Zn (213.857 nm)    | 1.0377 (ppm)    | 0.34     | 1.0377 (ppm)    | 29002.7654   |
| 11/1/2017 00:57:29 | Continuing Calibration Blank        | Ag (328.068 nm)    | 0.0003 (ppm)    | 28.48    | 0.0003 (ppm)    | -83.9908     |
| 11/1/2017 00:57:29 | Continuing Calibration Blank        | Al (394.401 nm)    | 0.0083 (ppm)    | 15.10    | 0.0083 (ppm)    | 232.2334     |
| 11/1/2017 00:57:29 | Continuing Calibration Blank        | As (188.980 nm)    | 0.0009 (ppm)    | > 100.00 | 0.0009 (ppm)    | -0.6562      |
| 11/1/2017 00:57:29 | Continuing Calibration Blank        | B (249.772 nm)     | 0.0063 (ppm)    | 17.37    | 0.0063 (ppm)    | 209.3134     |
| 11/1/2017 00:57:29 | Continuing Calibration Blank        | Ba (230.424 nm)    | 0.0098 (ppm)    | 17.19    | 0.0098 (ppm)    | 330.2019     |
| 11/1/2017 00:57:29 | Continuing Calibration Blank        | Be (313.107 nm)    | 0.0002 (ppm)    | 16.54    | 0.0002 (ppm)    | -218.1760    |
| 11/1/2017 00:57:29 | Continuing Calibration Blank        | Ca (227.547 nm)    | 0.0425 (ppm)    | 46.67    | 0.0425 (ppm)    | 6.8042       |
| 11/1/2017 00:57:29 | Continuing Calibration Blank        | Cd (214.439 nm)    | 0.0004 (ppm)    | 72.41    | 0.0004 (ppm)    | 23.0060      |
| 11/1/2017 00:57:29 | Continuing Calibration Blank        | Co (230.786 nm)    | 0.0026 (ppm)    | 16.27    | 0.0026 (ppm)    | 22.4239      |
| 11/1/2017 00:57:29 | Continuing Calibration Blank        | Cr (267.716 nm)    | 0.0005 (ppm)    | 18.59    | 0.0005 (ppm)    | 24.0219      |
| 11/1/2017 00:57:29 | Continuing Calibration Blank        | Cu (327.395 nm)    | 0.0012 (ppm)    | 18.48    | 0.0012 (ppm)    | 90.3004      |
| 11/1/2017 00:57:29 | Continuing Calibration Blank        | Fe (234.350 nm)    | 0.0065 (ppm)    | 15.60    | 0.0065 (ppm)    | 84.9040      |
| 11/1/2017 00:57:29 | Continuing Calibration Blank        | K (766.491 nm)     | 0.0789 (ppm)    | 12.55    | 0.0789 (ppm)    | 229.2570     |
| 11/1/2017 00:57:29 | Continuing Calibration Blank        | Mg (279.078 nm)    | 0.0210 (ppm)    | 17.25    | 0.0210 (ppm)    | 39.7588      |
| 11/1/2017 00:57:29 | Continuing Calibration Blank        | Mn (257.610 nm)    | 0.0020 (ppm)    | 11.54    | 0.0020 (ppm)    | 630.4339     |
| 11/1/2017 00:57:29 | Continuing Calibration Blank        | Mo (202.032 nm)    | 0.0045 (ppm)    | 7.62     | 0.0045 (ppm)    | 52.7480      |
| 11/1/2017 00:57:29 | Continuing Calibration Blank        | Na (588.995 nm)    | -0.0078 u (ppm) | 45.65    | -0.0078 (ppm)   | -5814.6675   |
| 11/1/2017 00:57:29 | Continuing Calibration Blank        | Ni (230.299 nm)    | 0.0016 (ppm)    | 15.95    | 0.0016 (ppm)    | -9.5183      |
| 11/1/2017 00:57:29 | Continuing Calibration Blank        | Pb (220.353 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | 4.9454       |
| 11/1/2017 00:57:29 | Continuing Calibration Blank        | Sb (217.582 nm)    | 0.0062 (ppm)    | 14.06    | 0.0062 (ppm)    | 9.2707       |
| 11/1/2017 00:57:29 | Continuing Calibration Blank        | Se (196.026 nm)    | 0.0011 (ppm)    | 24.22    | 0.0011 (ppm)    | 1.7113       |
| 11/1/2017 00:57:29 | Continuing Calibration Blank        | Sn (189.925 nm)    | 0.0044 (ppm)    | 17.51    | 0.0044 (ppm)    | 5.2671       |
| 11/1/2017 00:57:29 | Continuing Calibration Blank        | Sr (216.596 nm)    | 0.0023 (ppm)    | 27.53    | 0.0023 (ppm)    | 31.7664      |
| 11/1/2017 00:57:29 | Continuing Calibration Blank        | Ti (336.122 nm)    | 0.0031 (ppm)    | 11.14    | 0.0031 (ppm)    | 161.7698     |
| 11/1/2017 00:57:29 | Continuing Calibration Blank        | Tl (351.923 nm)    | 0.0008 (ppm)    | > 100.00 | 0.0008 (ppm)    | 9.5282       |
| 11/1/2017 00:57:29 | Continuing Calibration Blank        | V (292.401 nm)     | 0.0026 (ppm)    | 19.88    | 0.0026 (ppm)    | 199.5183     |
| 11/1/2017 00:57:29 | Continuing Calibration Blank        | Y (360.074 nm)     | 0.93 (Ratio)    | 0.91     | 0.93 (Ratio)    | 797193.91    |
| 11/1/2017 00:57:29 | Continuing Calibration Blank        | Y_R (360.074 nm)   | 0.93 (Ratio)    | 0.91     | 0.93 (Ratio)    | 797557.54    |

| Date Time          | Label                             | Element Label (nm)   | Conc             | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|-----------------------------------|----------------------|------------------|----------|-----------------|--------------|
| 11/1/2017 00:57:29 | Continuing Calibration Blank      | Zn (213.857 nm)      | 0.0009 (ppm)     | 15.29    | 0.0009 (ppm)    | -1.5374      |
| 11/1/2017 01:00:48 | Contract Required Detection Limit | Ag (328.068 nm)      | 0.0097 (ppm)     | 1.08     | 0.0097 (ppm)    | 589.8697     |
| 11/1/2017 01:00:48 | Contract Required Detection Limit | Al (394.401 nm)      | 0.1771 (ppm)     | 1.38     | 0.1771 (ppm)    | 2392.6721    |
| 11/1/2017 01:00:48 | Contract Required Detection Limit | As (188.980 nm)      | 0.0198 (ppm)     | 8.07     | 0.0198 (ppm)    | 16.2743      |
| 11/1/2017 01:00:48 | Contract Required Detection Limit | B (249.772 nm)       | 0.1943 (ppm)     | 0.46     | 0.1943 (ppm)    | 5412.9853    |
| 11/1/2017 01:00:48 | Contract Required Detection Limit | Ba (230.424 nm)      | 0.2192 (ppm)     | 1.34     | 0.2192 (ppm)    | 7371.4791    |
| 11/1/2017 01:00:48 | Contract Required Detection Limit | Be (313.107 nm)      | 0.0050 (ppm)     | 0.92     | 0.0050 (ppm)    | 6887.2833    |
| 11/1/2017 01:00:48 | Contract Required Detection Limit | Ca (227.547 nm)      | 0.9858 (ppm)     | 1.97     | 0.9858 (ppm)    | 59.9079      |
| 11/1/2017 01:00:48 | Contract Required Detection Limit | Cd (214.439 nm)      | 0.0107 (ppm)     | 1.60     | 0.0107 (ppm)    | 245.0684     |
| 11/1/2017 01:00:48 | Contract Required Detection Limit | Co (230.786 nm)      | 0.0536 (ppm)     | 1.59     | 0.0536 (ppm)    | 525.5130     |
| 11/1/2017 01:00:48 | Contract Required Detection Limit | Cr (267.716 nm)      | 0.0106 (ppm)     | 0.93     | 0.0106 (ppm)    | 522.2369     |
| 11/1/2017 01:00:48 | Contract Required Detection Limit | Cu (327.395 nm)      | 0.0244 (ppm)     | 0.80     | 0.0244 (ppm)    | 1525.5322    |
| 11/1/2017 01:00:48 | Contract Required Detection Limit | Fe (234.350 nm)      | 0.1075 (ppm)     | 1.09     | 0.1075 (ppm)    | 1212.9224    |
| 11/1/2017 01:00:48 | Contract Required Detection Limit | K (766.491 nm)       | 0.9517 (ppm)     | 0.84     | 0.9517 (ppm)    | 2862.6641    |
| 11/1/2017 01:00:48 | Contract Required Detection Limit | Mg (279.078 nm)      | 1.0273 (ppm)     | 0.44     | 1.0273 (ppm)    | 1981.7739    |
| 11/1/2017 01:00:48 | Contract Required Detection Limit | Mn (257.610 nm) 1231 | 0.0184 R (ppm)   | 3.72     | 0.0184 (ppm)    | 5765.0675 R  |
| 11/1/2017 01:00:48 | Contract Required Detection Limit | Mo (202.032 nm)      | 0.0262 (ppm)     | 0.96     | 0.0262 (ppm)    | 274.5918     |
| 11/1/2017 01:00:48 | Contract Required Detection Limit | Na (588.995 nm)      | 0.9610 (ppm)     | 0.60     | 0.9610 (ppm)    | 38241.7946   |
| 11/1/2017 01:00:48 | Contract Required Detection Limit | Ni (230.299 nm)      | 0.0420 (ppm)     | 1.01     | 0.0420 (ppm)    | 262.4051     |
| 11/1/2017 01:00:48 | Contract Required Detection Limit | Pb (220.353 nm)      | 0.0100 (ppm)     | 10.58    | 0.0100 (ppm)    | 26.5090      |
| 11/1/2017 01:00:48 | Contract Required Detection Limit | Sb (217.582 nm)      | 0.0593 (ppm)     | 5.73     | 0.0593 (ppm)    | 81.9326      |
| 11/1/2017 01:00:48 | Contract Required Detection Limit | Se (196.026 nm) 1201 | 0.0120 R (ppm)   | 28.02    | 0.0120 (ppm)    | 11.0753 R    |
| 11/1/2017 01:00:48 | Contract Required Detection Limit | Sn (189.925 nm)      | 0.5263 (ppm)     | 0.69     | 0.5263 (ppm)    | 637.2613     |
| 11/1/2017 01:00:48 | Contract Required Detection Limit | Sr (216.596 nm)      | 0.1066 (ppm)     | 1.27     | 0.1066 (ppm)    | 1513.5119    |
| 11/1/2017 01:00:48 | Contract Required Detection Limit | Ti (336.122 nm)      | 0.0516 (ppm)     | 0.85     | 0.0516 (ppm)    | 10317.8915   |
| 11/1/2017 01:00:48 | Contract Required Detection Limit | Tl (351.923 nm)      | 0.0200 (ppm)     | 15.13    | 0.0200 (ppm)    | 62.1904      |
| 11/1/2017 01:00:48 | Contract Required Detection Limit | V (292.401 nm)       | 0.0514 (ppm)     | 1.24     | 0.0514 (ppm)    | 1927.5322    |
| 11/1/2017 01:00:48 | Contract Required Detection Limit | Y (360.074 nm)       | 0.94 (Ratio)     | 0.77     | 0.94 (Ratio)    | 801406.29    |
| 11/1/2017 01:00:48 | Contract Required Detection Limit | Y_R (360.074 nm)     | 0.94 (Ratio)     | 0.76     | 0.94 (Ratio)    | 801717.22    |
| 11/1/2017 01:00:48 | Contract Required Detection Limit | Zn (213.857 nm)      | 0.0204 (ppm)     | 2.42     | 0.0204 (ppm)    | 545.3344     |
| 11/1/2017 01:04:07 | Interference Check Solution A     | Ag (328.068 nm)      | 0.0000 u (ppm)   | > 100.00 | 0.0000 (ppm)    | -103.7624    |
| 11/1/2017 01:04:07 | Interference Check Solution A     | Al (394.401 nm)      | 262.6795 o (ppm) | 0.44     | 262.6795 (ppm)  | 3361819.0039 |
| 11/1/2017 01:04:07 | Interference Check Solution A     | As (188.980 nm)      | 0.0045 (ppm)     | 57.16    | 0.0045 (ppm)    | 2.5618       |
| 11/1/2017 01:04:07 | Interference Check Solution A     | B (249.772 nm)       | 0.0425 (ppm)     | 1.52     | 0.0425 (ppm)    | 1210.3335    |
| 11/1/2017 01:04:07 | Interference Check Solution A     | Ba (230.424 nm)      | 0.0009 (ppm)     | 14.07    | 0.0009 (ppm)    | 33.7738      |
| 11/1/2017 01:04:07 | Interference Check Solution A     | Be (313.107 nm)      | 0.0000 u (ppm)   | 19.61    | 0.0000 (ppm)    | -588.9132    |
| 11/1/2017 01:04:07 | Interference Check Solution A     | Ca (227.547 nm)      | 264.8056 o (ppm) | 0.39     | 264.8056 (ppm)  | 14911.7543   |
| 11/1/2017 01:04:07 | Interference Check Solution A     | Cd (214.439 nm)      | -0.0009 u (ppm)  | 35.21    | -0.0009 (ppm)   | -6.9563      |
| 11/1/2017 01:04:07 | Interference Check Solution A     | Co (230.786 nm)      | -0.0027 u (ppm)  | 13.72    | -0.0027 (ppm)   | -29.7240     |
| 11/1/2017 01:04:07 | Interference Check Solution A     | Cr (267.716 nm)      | 0.0000 (ppm)     | > 100.00 | 0.0000 (ppm)    | 1.1924       |
| 11/1/2017 01:04:07 | Interference Check Solution A     | Cu (327.395 nm)      | 0.0008 (ppm)     | 19.41    | 0.0008 (ppm)    | 60.7433      |
| 11/1/2017 01:04:07 | Interference Check Solution A     | Fe (234.350 nm)      | 91.9045 o (ppm)  | 0.60     | 91.9045 (ppm)   | 1026515.6944 |
| 11/1/2017 01:04:07 | Interference Check Solution A     | K (766.491 nm)       | 0.0865 (ppm)     | 9.22     | 0.0865 (ppm)    | 252.0564     |
| 11/1/2017 01:04:07 | Interference Check Solution A     | Mg (279.078 nm)      | 272.9703 o (ppm) | 0.38     | 272.9703 (ppm)  | 526745.6521  |
| 11/1/2017 01:04:07 | Interference Check Solution A     | Mn (257.610 nm)      | 0.0041 (ppm)     | 13.47    | 0.0041 (ppm)    | 1290.3205    |
| 11/1/2017 01:04:07 | Interference Check Solution A     | Mo (202.032 nm)      | 0.0008 (ppm)     | 72.38    | 0.0008 (ppm)    | 14.8678      |
| 11/1/2017 01:04:07 | Interference Check Solution A     | Na (588.995 nm)      | -0.0261 u (ppm)  | 1.40     | -0.0261 (ppm)   | -6647.0746   |
| 11/1/2017 01:04:07 | Interference Check Solution A     | Ni (230.299 nm)      | -0.0026 u (ppm)  | 7.91     | -0.0026 (ppm)   | -38.3664     |
| 11/1/2017 01:04:07 | Interference Check Solution A     | Pb (220.353 nm)      | -0.0014 u (ppm)  | > 100.00 | -0.0014 (ppm)   | 1.9752       |
| 11/1/2017 01:04:07 | Interference Check Solution A     | Sb (217.582 nm)      | -0.0048 u (ppm)  | 94.93    | -0.0048 (ppm)   | -5.8236      |
| 11/1/2017 01:04:07 | Interference Check Solution A     | Se (196.026 nm)      | 0.0062 (ppm)     | 34.37    | 0.0062 (ppm)    | 6.0594       |

| Date Time          | Label                                 | Element Label (nm) | Conc             | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|---------------------------------------|--------------------|------------------|----------|-----------------|--------------|
| 11/1/2017 01:04:07 | Interference Check Solution A         | Sn (189.925 nm)    | -0.0003 u (ppm)  | > 100.00 | -0.0003 (ppm)   | -0.4807      |
| 11/1/2017 01:04:07 | Interference Check Solution A         | Sr (216.596 nm)    | 0.0192 (ppm)     | 1.24     | 0.0192 (ppm)    | 271.5979     |
| 11/1/2017 01:04:07 | Interference Check Solution A         | Ti (336.122 nm)    | 0.0019 (ppm)     | 6.08     | 0.0019 (ppm)    | -94.1978     |
| 11/1/2017 01:04:07 | Interference Check Solution A         | Tl (351.923 nm)    | 0.0017 u (ppm)   | > 100.00 | 0.0017 (ppm)    | 11.9266      |
| 11/1/2017 01:04:07 | Interference Check Solution A         | V (292.401 nm)     | 0.0035 K (ppm)   | 7.89     | 0.0035 (ppm)    | 231.4668 K   |
| 11/1/2017 01:04:07 | Interference Check Solution A         | Y (360.074 nm)     | 0.84 (Ratio)     | 0.87     | 0.84 (Ratio)    | 716573.85    |
| 11/1/2017 01:04:07 | Interference Check Solution A         | Y_R (360.074 nm)   | 0.84 (Ratio)     | 0.87     | 0.84 (Ratio)    | 716734.13    |
| 11/1/2017 01:04:07 | Interference Check Solution A         | Zn (213.857 nm)    | 0.0118 K (ppm)   | 1.39     | 0.0118 (ppm)    | 304.1379 K   |
| 11/1/2017 01:07:25 | Interference Check Solution AB        | Ag (328.068 nm)    | 0.2171 (ppm)     | 0.28     | 0.2171 (ppm)    | 15409.5293   |
| 11/1/2017 01:07:25 | Interference Check Solution AB        | Al (394.401 nm)    | 263.5258 o (ppm) | 0.40     | 263.5258 (ppm)  | 3372649.2993 |
| 11/1/2017 01:07:25 | Interference Check Solution AB        | As (188.980 nm)    | 0.1068 (ppm)     | 5.37     | 0.1068 (ppm)    | 93.9859      |
| 11/1/2017 01:07:25 | Interference Check Solution AB        | B (249.772 nm)     | 0.0424 (ppm)     | 0.67     | 0.0424 (ppm)    | 1207.5504    |
| 11/1/2017 01:07:25 | Interference Check Solution AB        | Ba (230.424 nm)    | 0.5411 (ppm)     | 0.10     | 0.5411 (ppm)    | 18194.0519   |
| 11/1/2017 01:07:25 | Interference Check Solution AB        | Be (313.107 nm)    | 0.5158 (ppm)     | 0.36     | 0.5158 (ppm)    | 761479.6232  |
| 11/1/2017 01:07:25 | Interference Check Solution AB        | Ca (227.547 nm)    | 263.6001 o (ppm) | 0.54     | 263.6001 (ppm)  | 14843.8883   |
| 11/1/2017 01:07:25 | Interference Check Solution AB        | Cd (214.439 nm)    | 1.0009 (ppm)     | 0.11     | 1.0009 (ppm)    | 21682.7761   |
| 11/1/2017 01:07:25 | Interference Check Solution AB        | Co (230.786 nm)    | 0.5101 (ppm)     | 0.15     | 0.5101 (ppm)    | 5032.2022    |
| 11/1/2017 01:07:25 | Interference Check Solution AB        | Cr (267.716 nm)    | 0.5114 (ppm)     | 0.16     | 0.5114 (ppm)    | 25320.6555   |
| 11/1/2017 01:07:25 | Interference Check Solution AB        | Cu (327.395 nm)    | 0.5200 (ppm)     | 0.25     | 0.5200 (ppm)    | 32298.2831   |
| 11/1/2017 01:07:25 | Interference Check Solution AB        | Fe (234.350 nm)    | 92.2342 o (ppm)  | 0.15     | 92.2342 (ppm)   | 1030198.8480 |
| 11/1/2017 01:07:25 | Interference Check Solution AB        | K (766.491 nm)     | 0.0594 (ppm)     | 10.96    | 0.0594 (ppm)    | 170.2769     |
| 11/1/2017 01:07:25 | Interference Check Solution AB        | Mg (279.078 nm)    | 273.9238 o (ppm) | 0.18     | 273.9238 (ppm)  | 528585.7141  |
| 11/1/2017 01:07:25 | Interference Check Solution AB        | Mn (257.610 nm)    | 0.5110 (ppm)     | 0.14     | 0.5110 (ppm)    | 160171.1235  |
| 11/1/2017 01:07:25 | Interference Check Solution AB        | Mo (202.032 nm)    | 0.0005 u (ppm)   | > 100.00 | 0.0005 (ppm)    | 11.8949      |
| 11/1/2017 01:07:25 | Interference Check Solution AB        | Na (588.995 nm)    | -0.0178 u (ppm)  | 6.70     | -0.0178 (ppm)   | -6270.0266   |
| 11/1/2017 01:07:25 | Interference Check Solution AB        | Ni (230.299 nm)    | 0.9829 (ppm)     | 0.37     | 0.9829 (ppm)    | 6601.1035    |
| 11/1/2017 01:07:25 | Interference Check Solution AB        | Pb (220.353 nm)    | 0.0500 (ppm)     | 2.78     | 0.0500 (ppm)    | 111.8215     |
| 11/1/2017 01:07:25 | Interference Check Solution AB        | Sb (217.582 nm)    | 0.6215 (ppm)     | 0.55     | 0.6215 (ppm)    | 850.7437     |
| 11/1/2017 01:07:25 | Interference Check Solution AB        | Se (196.026 nm)    | 0.0582 (ppm)     | 8.61     | 0.0582 (ppm)    | 50.6561      |
| 11/1/2017 01:07:25 | Interference Check Solution AB        | Sn (189.925 nm)    | 0.0013 u (ppm)   | > 100.00 | 0.0013 (ppm)    | 1.5271       |
| 11/1/2017 01:07:25 | Interference Check Solution AB        | Sr (216.596 nm)    | 0.0198 (ppm)     | 1.08     | 0.0198 (ppm)    | 281.0582     |
| 11/1/2017 01:07:25 | Interference Check Solution AB        | Ti (336.122 nm)    | 0.0014 (ppm)     | 5.04     | 0.0014 (ppm)    | -189.7004    |
| 11/1/2017 01:07:25 | Interference Check Solution AB        | Tl (351.923 nm)    | 0.1153 (ppm)     | 1.00     | 0.1153 (ppm)    | 324.0469     |
| 11/1/2017 01:07:25 | Interference Check Solution AB        | V (292.401 nm)     | 0.5192 (ppm)     | 0.34     | 0.5192 (ppm)    | 18461.7469   |
| 11/1/2017 01:07:25 | Interference Check Solution AB        | Y (360.074 nm)     | 0.84 (Ratio)     | 0.70     | 0.84 (Ratio)    | 714797.79    |
| 11/1/2017 01:07:25 | Interference Check Solution AB        | Y_R (360.074 nm)   | 0.84 (Ratio)     | 0.70     | 0.84 (Ratio)    | 714929.67    |
| 11/1/2017 01:07:25 | Interference Check Solution AB        | Zn (213.857 nm)    | 1.0648 (ppm)     | 0.16     | 1.0648 (ppm)    | 29760.4069   |
| 11/1/2017 01:10:45 | Continuing Calibration Verification 1 | Ag (328.068 nm)    | 0.4988 (ppm)     | 0.29     | 0.4988 (ppm)    | 35532.9265   |
| 11/1/2017 01:10:45 | Continuing Calibration Verification 1 | Al (394.401 nm)    | 9.6628 (ppm)     | 0.71     | 9.6628 (ppm)    | 123787.0076  |
| 11/1/2017 01:10:45 | Continuing Calibration Verification 1 | As (188.980 nm)    | 0.9911 (ppm)     | 0.29     | 0.9911 (ppm)    | 884.5153     |
| 11/1/2017 01:10:45 | Continuing Calibration Verification 1 | B (249.772 nm)     | 2.4624 (ppm)     | 0.28     | 2.4624 (ppm)    | 68210.8454   |
| 11/1/2017 01:10:45 | Continuing Calibration Verification 1 | Ba (230.424 nm)    | 10.6150 (ppm)    | 0.48     | 10.6150 (ppm)   | 356866.5017  |
| 11/1/2017 01:10:45 | Continuing Calibration Verification 1 | Be (313.107 nm)    | 0.2591 (ppm)     | 0.45     | 0.2591 (ppm)    | 382180.1328  |
| 11/1/2017 01:10:45 | Continuing Calibration Verification 1 | Ca (227.547 nm)    | 24.3232 (ppm)    | 0.90     | 24.3232 (ppm)   | 1373.6961    |
| 11/1/2017 01:10:45 | Continuing Calibration Verification 1 | Cd (214.439 nm)    | 0.5217 (ppm)     | 0.48     | 0.5217 (ppm)    | 11307.3601   |
| 11/1/2017 01:10:45 | Continuing Calibration Verification 1 | Co (230.786 nm)    | 2.6771 (ppm)     | 0.30     | 2.6771 (ppm)    | 26426.7501   |
| 11/1/2017 01:10:45 | Continuing Calibration Verification 1 | Cr (267.716 nm)    | 0.5260 (ppm)     | 0.26     | 0.5260 (ppm)    | 26042.7858   |
| 11/1/2017 01:10:45 | Continuing Calibration Verification 1 | Cu (327.395 nm)    | 1.1952 (ppm)     | 0.36     | 1.1952 (ppm)    | 74217.2688   |
| 11/1/2017 01:10:45 | Continuing Calibration Verification 1 | Fe (234.350 nm)    | 5.0615 (ppm)     | 0.59     | 5.0615 (ppm)    | 56545.3369   |
| 11/1/2017 01:10:45 | Continuing Calibration Verification 1 | K (766.491 nm)     | 24.3219 (ppm)    | 0.44     | 24.3219 (ppm)   | 73377.2837   |
| 11/1/2017 01:10:45 | Continuing Calibration Verification 1 | Mg (279.078 nm)    | 26.1210 (ppm)    | 0.46     | 26.1210 (ppm)   | 50404.5873   |

| Date Time          | Label                                 | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|---------------------------------------|--------------------|-----------------|----------|-----------------|--------------|
| 11/1/2017 01:10:45 | Continuing Calibration Verification 1 | Mn (257.610 nm)    | 0.7754 (ppm)    | 0.31     | 0.7754 (ppm)    | 243037.7363  |
| 11/1/2017 01:10:45 | Continuing Calibration Verification 1 | Mo (202.032 nm)    | 2.4875 (ppm)    | 0.22     | 2.4875 (ppm)    | 25363.7792   |
| 11/1/2017 01:10:45 | Continuing Calibration Verification 1 | Na (588.995 nm)    | 24.4589 (ppm)   | 0.52     | 24.4589 (ppm)   | 1106802.9909 |
| 11/1/2017 01:10:45 | Continuing Calibration Verification 1 | Ni (230.299 nm)    | 2.0999 (ppm)    | 0.36     | 2.0999 (ppm)    | 14125.9271   |
| 11/1/2017 01:10:45 | Continuing Calibration Verification 1 | Pb (220.353 nm)    | 0.5170 (ppm)    | 0.49     | 0.5170 (ppm)    | 1109.5777    |
| 11/1/2017 01:10:45 | Continuing Calibration Verification 1 | Sb (217.582 nm)    | 4.9961 (ppm)    | 0.25     | 4.9961 (ppm)    | 6833.2096    |
| 11/1/2017 01:10:45 | Continuing Calibration Verification 1 | Se (196.026 nm)    | 0.5083 (ppm)    | 0.67     | 0.5083 (ppm)    | 436.1338     |
| 11/1/2017 01:10:45 | Continuing Calibration Verification 1 | Sn (189.925 nm)    | 5.3256 (ppm)    | 0.61     | 5.3256 (ppm)    | 6448.8912    |
| 11/1/2017 01:10:45 | Continuing Calibration Verification 1 | Sr (216.596 nm)    | 2.6538 (ppm)    | 0.38     | 2.6538 (ppm)    | 37679.0708   |
| 11/1/2017 01:10:45 | Continuing Calibration Verification 1 | Ti (336.122 nm)    | 2.5408 (ppm)    | 0.32     | 2.5408 (ppm)    | 531144.3160  |
| 11/1/2017 01:10:45 | Continuing Calibration Verification 1 | Tl (351.923 nm)    | 0.9968 (ppm)    | 0.16     | 0.9968 (ppm)    | 2745.2601    |
| 11/1/2017 01:10:45 | Continuing Calibration Verification 1 | V (292.401 nm)     | 2.5809 (ppm)    | 0.35     | 2.5809 (ppm)    | 91335.8435   |
| 11/1/2017 01:10:45 | Continuing Calibration Verification 1 | Y (360.074 nm)     | 0.91 (Ratio)    | 0.82     | 0.91 (Ratio)    | 772467.88    |
| 11/1/2017 01:10:45 | Continuing Calibration Verification 1 | Y_R (360.074 nm)   | 0.90 (Ratio)    | 0.82     | 0.90 (Ratio)    | 772654.68    |
| 11/1/2017 01:10:45 | Continuing Calibration Verification 1 | Zn (213.857 nm)    | 1.0453 (ppm)    | 0.39     | 1.0453 (ppm)    | 29216.4704   |
| 11/1/2017 01:14:04 | Continuing Calibration Blank 1        | Ag (328.068 nm)    | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | -103.0683    |
| 11/1/2017 01:14:04 | Continuing Calibration Blank 1        | Al (394.401 nm)    | 0.0281 (ppm)    | 28.33    | 0.0281 (ppm)    | 485.3150     |
| 11/1/2017 01:14:04 | Continuing Calibration Blank 1        | As (188.980 nm)    | 0.0014 u (ppm)  | > 100.00 | 0.0014 (ppm)    | -0.1963      |
| 11/1/2017 01:14:04 | Continuing Calibration Blank 1        | B (249.772 nm)     | 0.0048 (ppm)    | 27.74    | 0.0048 (ppm)    | 167.0985     |
| 11/1/2017 01:14:04 | Continuing Calibration Blank 1        | Ba (230.424 nm)    | 0.0045 (ppm)    | 33.76    | 0.0045 (ppm)    | 154.5556     |
| 11/1/2017 01:14:04 | Continuing Calibration Blank 1        | Be (313.107 nm)    | 0.0002 (ppm)    | 27.00    | 0.0002 (ppm)    | -293.6666    |
| 11/1/2017 01:14:04 | Continuing Calibration Blank 1        | Ca (227.547 nm)    | 0.0134 u (ppm)  | > 100.00 | 0.0134 (ppm)    | 5.1678       |
| 11/1/2017 01:14:04 | Continuing Calibration Blank 1        | Cd (214.439 nm)    | 0.0003 (ppm)    | 53.98    | 0.0003 (ppm)    | 20.5821      |
| 11/1/2017 01:14:04 | Continuing Calibration Blank 1        | Co (230.786 nm)    | 0.0013 (ppm)    | 44.12    | 0.0013 (ppm)    | 9.1009       |
| 11/1/2017 01:14:04 | Continuing Calibration Blank 1        | Cr (267.716 nm)    | 0.0002 (ppm)    | 97.37    | 0.0002 (ppm)    | 8.8447       |
| 11/1/2017 01:14:04 | Continuing Calibration Blank 1        | Cu (327.395 nm)    | 0.0005 (ppm)    | 28.26    | 0.0005 (ppm)    | 45.9848      |
| 11/1/2017 01:14:04 | Continuing Calibration Blank 1        | Fe (234.350 nm)    | 0.0153 (ppm)    | 26.95    | 0.0153 (ppm)    | 183.1224     |
| 11/1/2017 01:14:04 | Continuing Calibration Blank 1        | K (766.491 nm)     | 0.0498 (ppm)    | 21.24    | 0.0498 (ppm)    | 141.4101     |
| 11/1/2017 01:14:04 | Continuing Calibration Blank 1        | Mg (279.078 nm)    | 0.0386 (ppm)    | 26.47    | 0.0386 (ppm)    | 73.7495      |
| 11/1/2017 01:14:04 | Continuing Calibration Blank 1        | Mn (257.610 nm)    | 0.0015 (ppm)    | 8.53     | 0.0015 (ppm)    | 470.6291     |
| 11/1/2017 01:14:04 | Continuing Calibration Blank 1        | Mo (202.032 nm)    | 0.0032 (ppm)    | 9.24     | 0.0032 (ppm)    | 39.4983      |
| 11/1/2017 01:14:04 | Continuing Calibration Blank 1        | Na (588.995 nm)    | -0.0219 u (ppm) | 16.72    | -0.0219 (ppm)   | -6454.4884   |
| 11/1/2017 01:14:04 | Continuing Calibration Blank 1        | Ni (230.299 nm)    | 0.0008 (ppm)    | 64.16    | 0.0008 (ppm)    | -15.1377     |
| 11/1/2017 01:14:04 | Continuing Calibration Blank 1        | Pb (220.353 nm)    | -0.0006 u (ppm) | > 100.00 | -0.0006 (ppm)   | 3.8203       |
| 11/1/2017 01:14:04 | Continuing Calibration Blank 1        | Sb (217.582 nm)    | 0.0031 (ppm)    | 28.46    | 0.0031 (ppm)    | 4.9987       |
| 11/1/2017 01:14:04 | Continuing Calibration Blank 1        | Se (196.026 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | 0.7113       |
| 11/1/2017 01:14:04 | Continuing Calibration Blank 1        | Sn (189.925 nm)    | 0.0030 (ppm)    | 46.89    | 0.0030 (ppm)    | 3.6200       |
| 11/1/2017 01:14:04 | Continuing Calibration Blank 1        | Sr (216.596 nm)    | 0.0007 (ppm)    | 58.35    | 0.0007 (ppm)    | 9.8768       |
| 11/1/2017 01:14:04 | Continuing Calibration Blank 1        | Ti (336.122 nm)    | 0.0018 (ppm)    | 20.29    | 0.0018 (ppm)    | -115.5486    |
| 11/1/2017 01:14:04 | Continuing Calibration Blank 1        | Tl (351.923 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | 7.2973       |
| 11/1/2017 01:14:04 | Continuing Calibration Blank 1        | V (292.401 nm)     | 0.0012 (ppm)    | 45.59    | 0.0012 (ppm)    | 149.9311     |
| 11/1/2017 01:14:04 | Continuing Calibration Blank 1        | Y (360.074 nm)     | 0.94 (Ratio)    | 0.74     | 0.94 (Ratio)    | 802811.40    |
| 11/1/2017 01:14:04 | Continuing Calibration Blank 1        | Y_R (360.074 nm)   | 0.94 (Ratio)    | 0.74     | 0.94 (Ratio)    | 802993.50    |
| 11/1/2017 01:14:04 | Continuing Calibration Blank 1        | Zn (213.857 nm)    | 0.0005 (ppm)    | 50.06    | 0.0005 (ppm)    | -13.0844     |
| 11/1/2017 01:17:22 | PBW-301955                            | Ag (328.068 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | -109.9534    |
| 11/1/2017 01:17:22 | PBW-301955                            | Al (394.401 nm)    | 0.0030 (ppm)    | 32.23    | 0.0030 (ppm)    | 163.7399     |
| 11/1/2017 01:17:22 | PBW-301955                            | As (188.980 nm)    | 0.0003 u (ppm)  | > 100.00 | 0.0003 (ppm)    | -1.2027      |
| 11/1/2017 01:17:22 | PBW-301955                            | B (249.772 nm)     | 0.0019 (ppm)    | 7.35     | 0.0019 (ppm)    | 87.3392      |
| 11/1/2017 01:17:22 | PBW-301955                            | Ba (230.424 nm)    | 0.0002 (ppm)    | 30.12    | 0.0002 (ppm)    | 10.2513      |
| 11/1/2017 01:17:22 | PBW-301955                            | Be (313.107 nm)    | 0.0000 (ppm)    | 94.54    | 0.0000 (ppm)    | -515.6404    |
| 11/1/2017 01:17:22 | PBW-301955                            | Ca (227.547 nm)    | 0.0037 u (ppm)  | > 100.00 | 0.0037 (ppm)    | 4.6201       |



| Date Time          | Label       | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity   |
|--------------------|-------------|--------------------|-----------------|----------|-----------------|-------------|
| 11/1/2017 01:17:22 | PBW-301955  | Cd (214.439 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | 11.4212     |
| 11/1/2017 01:17:22 | PBW-301955  | Co (230.786 nm)    | 0.0002 u (ppm)  | > 100.00 | 0.0002 (ppm)    | -1.2044     |
| 11/1/2017 01:17:22 | PBW-301955  | Cr (267.716 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | -5.2016     |
| 11/1/2017 01:17:22 | PBW-301955  | Cu (327.395 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | 13.8244     |
| 11/1/2017 01:17:22 | PBW-301955  | Fe (234.350 nm)    | 0.0020 (ppm)    | 7.30     | 0.0020 (ppm)    | 33.9773     |
| 11/1/2017 01:17:22 | PBW-301955  | K (766.491 nm)     | 0.0229 (ppm)    | 17.47    | 0.0229 (ppm)    | 60.1237     |
| 11/1/2017 01:17:22 | PBW-301955  | Mg (279.078 nm)    | 0.0025 (ppm)    | 39.61    | 0.0025 (ppm)    | 4.1894      |
| 11/1/2017 01:17:22 | PBW-301955  | Mn (257.610 nm)    | 0.0017 (ppm)    | 34.76    | 0.0017 (ppm)    | 546.5567    |
| 11/1/2017 01:17:22 | PBW-301955  | Mo (202.032 nm)    | 0.0003 (ppm)    | > 100.00 | 0.0003 (ppm)    | 9.7438      |
| 11/1/2017 01:17:22 | PBW-301955  | Na (588.995 nm)    | -0.0294 u (ppm) | 1.36     | -0.0294 (ppm)   | -6798.3262  |
| 11/1/2017 01:17:22 | PBW-301955  | Ni (230.299 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | -20.3492    |
| 11/1/2017 01:17:22 | PBW-301955  | Pb (220.353 nm)    | -0.0004 u (ppm) | > 100.00 | -0.0004 (ppm)   | 4.2296      |
| 11/1/2017 01:17:22 | PBW-301955  | Sb (217.582 nm)    | 0.0005 u (ppm)  | > 100.00 | 0.0005 (ppm)    | 1.5223      |
| 11/1/2017 01:17:22 | PBW-301955  | Se (196.026 nm)    | 0.0013 (ppm)    | 49.87    | 0.0013 (ppm)    | 1.9251      |
| 11/1/2017 01:17:22 | PBW-301955  | Sn (189.925 nm)    | -0.0006 u (ppm) | > 100.00 | -0.0006 (ppm)   | -0.7535     |
| 11/1/2017 01:17:22 | PBW-301955  | Sr (216.596 nm)    | 0.0001 (ppm)    | 81.64    | 0.0001 (ppm)    | 0.5907      |
| 11/1/2017 01:17:22 | PBW-301955  | Ti (336.122 nm)    | 0.0007 (ppm)    | 11.30    | 0.0007 (ppm)    | -339.9074   |
| 11/1/2017 01:17:22 | PBW-301955  | Ti (351.923 nm)    | 0.0035 (ppm)    | 47.05    | 0.0035 (ppm)    | 16.9945     |
| 11/1/2017 01:17:22 | PBW-301955  | V (292.401 nm)     | 0.0002 (ppm)    | 59.74    | 0.0002 (ppm)    | 115.8494    |
| 11/1/2017 01:17:22 | PBW-301955  | Y (360.074 nm)     | 0.95 (Ratio)    | 0.70     | 0.95 (Ratio)    | 812136.94   |
| 11/1/2017 01:17:22 | PBW-301955  | Y_R (360.074 nm)   | 0.95 (Ratio)    | 0.70     | 0.95 (Ratio)    | 812374.48   |
| 11/1/2017 01:17:22 | PBW-301955  | Zn (213.857 nm)    | 0.0017 (ppm)    | 3.18     | 0.0017 (ppm)    | 20.2803     |
| 11/1/2017 01:20:41 | LCSW-301955 | Ag (328.068 nm)    | 0.0505 (ppm)    | 0.26     | 0.0505 (ppm)    | 3501.6449   |
| 11/1/2017 01:20:41 | LCSW-301955 | Al (394.401 nm)    | 1.8746 (ppm)    | 0.65     | 1.8746 (ppm)    | 24117.0740  |
| 11/1/2017 01:20:41 | LCSW-301955 | As (188.980 nm)    | 0.0427 (ppm)    | 7.82     | 0.0427 (ppm)    | 36.6740     |
| 11/1/2017 01:20:41 | LCSW-301955 | B (249.772 nm)     | 0.9864 (ppm)    | 0.35     | 0.9864 (ppm)    | 27345.4947  |
| 11/1/2017 01:20:41 | LCSW-301955 | Ba (230.424 nm)    | 2.1503 (ppm)    | 0.58     | 2.1503 (ppm)    | 72292.5161  |
| 11/1/2017 01:20:41 | LCSW-301955 | Be (313.107 nm)    | 0.0518 (ppm)    | 0.48     | 0.0518 (ppm)    | 75926.0306  |
| 11/1/2017 01:20:41 | LCSW-301955 | Ca (227.547 nm)    | 1.8845 (ppm)    | 0.78     | 1.8845 (ppm)    | 110.5002    |
| 11/1/2017 01:20:41 | LCSW-301955 | Cd (214.439 nm)    | 0.0540 (ppm)    | 0.42     | 0.0540 (ppm)    | 1183.3070   |
| 11/1/2017 01:20:41 | LCSW-301955 | Co (230.786 nm)    | 0.5343 (ppm)    | 0.32     | 0.5343 (ppm)    | 5271.6375   |
| 11/1/2017 01:20:41 | LCSW-301955 | Cr (267.716 nm)    | 0.2080 (ppm)    | 0.53     | 0.2080 (ppm)    | 10295.8697  |
| 11/1/2017 01:20:41 | LCSW-301955 | Cu (327.395 nm)    | 0.2411 (ppm)    | 0.60     | 0.2411 (ppm)    | 14982.3811  |
| 11/1/2017 01:20:41 | LCSW-301955 | Fe (234.350 nm)    | 1.0151 (ppm)    | 0.50     | 1.0151 (ppm)    | 11350.1466  |
| 11/1/2017 01:20:41 | LCSW-301955 | K (766.491 nm)     | 19.0149 (ppm)   | 1.00     | 19.0149 (ppm)   | 57364.5220  |
| 11/1/2017 01:20:41 | LCSW-301955 | Mg (279.078 nm)    | 2.0798 (ppm)    | 0.32     | 2.0798 (ppm)    | 4012.6752   |
| 11/1/2017 01:20:41 | LCSW-301955 | Mn (257.610 nm)    | 0.5126 (ppm)    | 0.42     | 0.5126 (ppm)    | 160670.0260 |
| 11/1/2017 01:20:41 | LCSW-301955 | Mo (202.032 nm)    | 0.4964 (ppm)    | 0.25     | 0.4964 (ppm)    | 5067.4410   |
| 11/1/2017 01:20:41 | LCSW-301955 | Na (588.995 nm)    | 19.2806 (ppm)   | 0.53     | 19.2806 (ppm)   | 871320.5661 |
| 11/1/2017 01:20:41 | LCSW-301955 | Ni (230.299 nm)    | 0.5319 (ppm)    | 0.29     | 0.5319 (ppm)    | 3562.6648   |
| 11/1/2017 01:20:41 | LCSW-301955 | Pb (220.353 nm)    | 0.5324 (ppm)    | 0.46     | 0.5324 (ppm)    | 1142.5359   |
| 11/1/2017 01:20:41 | LCSW-301955 | Sb (217.582 nm)    | 0.5104 (ppm)    | 1.59     | 0.5104 (ppm)    | 698.8605    |
| 11/1/2017 01:20:41 | LCSW-301955 | Se (196.026 nm)    | 1.1286 (ppm)    | 0.25     | 1.1286 (ppm)    | 967.3269    |
| 11/1/2017 01:20:41 | LCSW-301955 | Sn (189.925 nm)    | 5.3145 (ppm)    | 0.61     | 5.3145 (ppm)    | 6435.5143   |
| 11/1/2017 01:20:41 | LCSW-301955 | Sr (216.596 nm)    | 2.1538 (ppm)    | 0.65     | 2.1538 (ppm)    | 30580.2817  |
| 11/1/2017 01:20:41 | LCSW-301955 | Ti (336.122 nm)    | 0.4980 (ppm)    | 0.41     | 0.4980 (ppm)    | 103723.3020 |
| 11/1/2017 01:20:41 | LCSW-301955 | Ti (351.923 nm)    | 1.8958 (ppm)    | 0.44     | 1.8958 (ppm)    | 5214.4432   |
| 11/1/2017 01:20:41 | LCSW-301955 | V (292.401 nm)     | 0.5134 (ppm)    | 0.38     | 0.5134 (ppm)    | 18255.2779  |
| 11/1/2017 01:20:41 | LCSW-301955 | Y (360.074 nm)     | 0.93 (Ratio)    | 0.70     | 0.93 (Ratio)    | 791849.48   |
| 11/1/2017 01:20:41 | LCSW-301955 | Y_R (360.074 nm)   | 0.93 (Ratio)    | 0.70     | 0.93 (Ratio)    | 792007.45   |
| 11/1/2017 01:20:41 | LCSW-301955 | Zn (213.857 nm)    | 0.5328 (ppm)    | 0.26     | 0.5328 (ppm)    | 14878.3890  |

| Date Time          | Label        | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity   |
|--------------------|--------------|--------------------|-----------------|----------|-----------------|-------------|
| 11/1/2017 01:23:59 | R1710073-001 | Ag (328.068 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | -108.8798   |
| 11/1/2017 01:23:59 | R1710073-001 | Al (394.401 nm)    | 0.2939 (ppm)    | 0.90     | 0.2939 (ppm)    | 3887.5757   |
| 11/1/2017 01:23:59 | R1710073-001 | As (188.980 nm)    | 0.2584 (ppm)    | 1.44     | 0.2584 (ppm)    | 229.5251    |
| 11/1/2017 01:23:59 | R1710073-001 | B (249.772 nm)     | 0.0113 (ppm)    | 5.63     | 0.0113 (ppm)    | 345.8912    |
| 11/1/2017 01:23:59 | R1710073-001 | Ba (230.424 nm)    | 0.0524 (ppm)    | 1.19     | 0.0524 (ppm)    | 1763.9329   |
| 11/1/2017 01:23:59 | R1710073-001 | Be (313.107 nm)    | 0.0001 (ppm)    | 15.88    | 0.0001 (ppm)    | -444.3986   |
| 11/1/2017 01:23:59 | R1710073-001 | Ca (227.547 nm)    | 25.6027 (ppm)   | 0.92     | 25.6027 (ppm)   | 1445.7309   |
| 11/1/2017 01:23:59 | R1710073-001 | Cd (214.439 nm)    | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | 13.8135     |
| 11/1/2017 01:23:59 | R1710073-001 | Co (230.786 nm)    | 0.0003 (ppm)    | > 100.00 | 0.0003 (ppm)    | -0.2271     |
| 11/1/2017 01:23:59 | R1710073-001 | Cr (267.716 nm)    | 0.0038 (ppm)    | 2.13     | 0.0038 (ppm)    | 184.6526    |
| 11/1/2017 01:23:59 | R1710073-001 | Cu (327.395 nm)    | 0.0034 (ppm)    | 4.24     | 0.0034 (ppm)    | 224.4028    |
| 11/1/2017 01:23:59 | R1710073-001 | Fe (234.350 nm)    | 0.3552 (ppm)    | 0.64     | 0.3552 (ppm)    | 3978.7097   |
| 11/1/2017 01:23:59 | R1710073-001 | K (766.491 nm)     | 1.1429 (ppm)    | 1.43     | 1.1429 (ppm)    | 3439.5884   |
| 11/1/2017 01:23:59 | R1710073-001 | Mg (279.078 nm)    | 3.5422 (ppm)    | 0.51     | 3.5422 (ppm)    | 6834.6844   |
| 11/1/2017 01:23:59 | R1710073-001 | Mn (257.610 nm)    | 0.4013 (ppm)    | 0.24     | 0.4013 (ppm)    | 125780.2680 |
| 11/1/2017 01:23:59 | R1710073-001 | Mo (202.032 nm)    | 0.0049 (ppm)    | 4.95     | 0.0049 (ppm)    | 57.4862     |
| 11/1/2017 01:23:59 | R1710073-001 | Na (588.995 nm)    | 12.0977 (ppm)   | 0.64     | 12.0977 (ppm)   | 544681.5305 |
| 11/1/2017 01:23:59 | R1710073-001 | Ni (230.299 nm)    | -0.0036 u (ppm) | 27.62    | -0.0036 (ppm)   | -44.6847    |
| 11/1/2017 01:23:59 | R1710073-001 | Pb (220.353 nm)    | -0.0006 u (ppm) | > 100.00 | -0.0006 (ppm)   | 3.7703      |
| 11/1/2017 01:23:59 | R1710073-001 | Sb (217.582 nm)    | 0.0002 u (ppm)  | > 100.00 | 0.0002 (ppm)    | 1.0289      |
| 11/1/2017 01:23:59 | R1710073-001 | Se (196.026 nm)    | 0.0022 u (ppm)  | > 100.00 | 0.0022 (ppm)    | 2.6839      |
| 11/1/2017 01:23:59 | R1710073-001 | Sn (189.925 nm)    | 0.0017 (ppm)    | 54.09    | 0.0017 (ppm)    | 1.9289      |
| 11/1/2017 01:23:59 | R1710073-001 | Sr (216.596 nm)    | 0.1102 (ppm)    | 0.32     | 0.1102 (ppm)    | 1564.3667   |
| 11/1/2017 01:23:59 | R1710073-001 | Tl (336.122 nm)    | 0.0096 (ppm)    | 8.66     | 0.0096 (ppm)    | 1523.0814   |
| 11/1/2017 01:23:59 | R1710073-001 | Ti (351.923 nm)    | 0.0014 u (ppm)  | > 100.00 | 0.0014 (ppm)    | 11.1816     |
| 11/1/2017 01:23:59 | R1710073-001 | V (292.401 nm)     | 0.0007 (ppm)    | 8.73     | 0.0007 (ppm)    | 134.8706    |
| 11/1/2017 01:23:59 | R1710073-001 | Y (360.074 nm)     | 0.93 (Ratio)    | 0.59     | 0.93 (Ratio)    | 795811.28   |
| 11/1/2017 01:23:59 | R1710073-001 | Y_R (360.074 nm)   | 0.93 (Ratio)    | 0.59     | 0.93 (Ratio)    | 795988.44   |
| 11/1/2017 01:23:59 | R1710073-001 | Zn (213.857 nm)    | 0.0144 (ppm)    | 0.43     | 0.0144 (ppm)    | 375.2626    |
| 11/1/2017 01:27:18 | R1710073-002 | Ag (328.068 nm)    | 0.0001 u (ppm)  | > 100.00 | 0.0001 (ppm)    | -98.1888    |
| 11/1/2017 01:27:18 | R1710073-002 | Al (394.401 nm)    | 0.0635 (ppm)    | 1.70     | 0.0635 (ppm)    | 938.0814    |
| 11/1/2017 01:27:18 | R1710073-002 | As (188.980 nm)    | 0.2519 (ppm)    | 2.11     | 0.2519 (ppm)    | 223.7360    |
| 11/1/2017 01:27:18 | R1710073-002 | B (249.772 nm)     | 0.0060 (ppm)    | 2.60     | 0.0060 (ppm)    | 200.6154    |
| 11/1/2017 01:27:18 | R1710073-002 | Ba (230.424 nm)    | 0.0124 (ppm)    | 0.88     | 0.0124 (ppm)    | 418.7225    |
| 11/1/2017 01:27:18 | R1710073-002 | Be (313.107 nm)    | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | -521.6492   |
| 11/1/2017 01:27:18 | R1710073-002 | Ca (227.547 nm)    | 24.2414 (ppm)   | 0.67     | 24.2414 (ppm)   | 1369.0917   |
| 11/1/2017 01:27:18 | R1710073-002 | Cd (214.439 nm)    | 0.0001 (ppm)    | 74.99    | 0.0001 (ppm)    | 15.1568     |
| 11/1/2017 01:27:18 | R1710073-002 | Co (230.786 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | -4.5498     |
| 11/1/2017 01:27:18 | R1710073-002 | Cr (267.716 nm)    | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | 1.3235      |
| 11/1/2017 01:27:18 | R1710073-002 | Cu (327.395 nm)    | 0.0007 (ppm)    | 16.04    | 0.0007 (ppm)    | 56.7227     |
| 11/1/2017 01:27:18 | R1710073-002 | Fe (234.350 nm)    | 0.0704 (ppm)    | 1.14     | 0.0704 (ppm)    | 798.1903    |
| 11/1/2017 01:27:18 | R1710073-002 | K (766.491 nm)     | 1.0338 (ppm)    | 0.85     | 1.0338 (ppm)    | 3110.4764   |
| 11/1/2017 01:27:18 | R1710073-002 | Mg (279.078 nm)    | 3.4588 (ppm)    | 0.63     | 3.4588 (ppm)    | 6673.7250   |
| 11/1/2017 01:27:18 | R1710073-002 | Mn (257.610 nm)    | 0.3932 (ppm)    | 0.47     | 0.3932 (ppm)    | 123243.2947 |
| 11/1/2017 01:27:18 | R1710073-002 | Mo (202.032 nm)    | 0.0038 (ppm)    | 7.44     | 0.0038 (ppm)    | 46.0408     |
| 11/1/2017 01:27:18 | R1710073-002 | Na (588.995 nm)    | 12.0537 (ppm)   | 0.82     | 12.0537 (ppm)   | 542678.5211 |
| 11/1/2017 01:27:18 | R1710073-002 | Ni (230.299 nm)    | -0.0065 u (ppm) | 9.12     | -0.0065 (ppm)   | -64.4113    |
| 11/1/2017 01:27:18 | R1710073-002 | Pb (220.353 nm)    | -0.0013 u (ppm) | > 100.00 | -0.0013 (ppm)   | 2.2878      |
| 11/1/2017 01:27:18 | R1710073-002 | Sb (217.582 nm)    | -0.0023 u (ppm) | > 100.00 | -0.0023 (ppm)   | -2.3228     |
| 11/1/2017 01:27:18 | R1710073-002 | Se (196.026 nm)    | 0.0013 u (ppm)  | > 100.00 | 0.0013 (ppm)    | 1.8973      |
| 11/1/2017 01:27:18 | R1710073-002 | Sn (189.925 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | -0.1359     |

| Date Time          | Label        | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|--------------|--------------------|-----------------|----------|-----------------|--------------|
| 11/1/2017 01:27:18 | R1710073-002 | Sr (216.596 nm)    | 0.0948 (ppm)    | 0.67     | 0.0948 (ppm)    | 1345.1919    |
| 11/1/2017 01:27:18 | R1710073-002 | Tl (336.122 nm)    | 0.0022 (ppm)    | 1.52     | 0.0022 (ppm)    | -22.7351     |
| 11/1/2017 01:27:18 | R1710073-002 | Tl (351.923 nm)    | 0.0024 (ppm)    | 56.19    | 0.0024 (ppm)    | 13.8777      |
| 11/1/2017 01:27:18 | R1710073-002 | V (292.401 nm)     | 0.0003 (ppm)    | 70.91    | 0.0003 (ppm)    | 119.0878     |
| 11/1/2017 01:27:18 | R1710073-002 | Y (360.074 nm)     | 0.94 (Ratio)    | 0.83     | 0.94 (Ratio)    | 797783.69    |
| 11/1/2017 01:27:18 | R1710073-002 | Y_R (360.074 nm)   | 0.93 (Ratio)    | 0.83     | 0.93 (Ratio)    | 797972.67    |
| 11/1/2017 01:27:18 | R1710073-002 | Zn (213.857 nm)    | 0.0043 (ppm)    | 0.87     | 0.0043 (ppm)    | 93.9320      |
| 11/1/2017 01:30:37 | R1710073-003 | Ag (328.068 nm)    | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | -102.0876    |
| 11/1/2017 01:30:37 | R1710073-003 | Al (394.401 nm)    | 0.0375 (ppm)    | 1.47     | 0.0375 (ppm)    | 605.2387     |
| 11/1/2017 01:30:37 | R1710073-003 | As (188.980 nm)    | 0.9314 (ppm)    | 1.67     | 0.9314 (ppm)    | 831.1350     |
| 11/1/2017 01:30:37 | R1710073-003 | B (249.772 nm)     | 0.2433 (ppm)    | 1.20     | 0.2433 (ppm)    | 6768.7992    |
| 11/1/2017 01:30:37 | R1710073-003 | Ba (230.424 nm)    | 0.0638 (ppm)    | 1.35     | 0.0638 (ppm)    | 2145.5658    |
| 11/1/2017 01:30:37 | R1710073-003 | Be (313.107 nm)    | 0.0001 (ppm)    | 12.44    | 0.0001 (ppm)    | -442.3678    |
| 11/1/2017 01:30:37 | R1710073-003 | Ca (227.547 nm)    | 38.6422 (ppm)   | 1.93     | 38.6422 (ppm)   | 2179.7941    |
| 11/1/2017 01:30:37 | R1710073-003 | Cd (214.439 nm)    | 0.0002 (ppm)    | 57.04    | 0.0002 (ppm)    | 18.5123      |
| 11/1/2017 01:30:37 | R1710073-003 | Co (230.786 nm)    | -0.0007 u (ppm) | 21.88    | -0.0007 (ppm)   | -10.5783     |
| 11/1/2017 01:30:37 | R1710073-003 | Cr (267.716 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | -2.2958      |
| 11/1/2017 01:30:37 | R1710073-003 | Cu (327.395 nm)    | 0.0003 (ppm)    | 49.51    | 0.0003 (ppm)    | 29.8336      |
| 11/1/2017 01:30:37 | R1710073-003 | Fe (234.350 nm)    | 19.2594 o (ppm) | 1.39     | 19.2594 (ppm)   | 215125.3393  |
| 11/1/2017 01:30:37 | R1710073-003 | K (766.491 nm)     | 7.7947 (ppm)    | 1.56     | 7.7947 (ppm)    | 23510.1090   |
| 11/1/2017 01:30:37 | R1710073-003 | Mg (279.078 nm)    | 10.5066 (ppm)   | 1.50     | 10.5066 (ppm)   | 20273.6840   |
| 11/1/2017 01:30:37 | R1710073-003 | Mn (257.610 nm)    | 0.6520 (ppm)    | 1.30     | 0.6520 (ppm)    | 204379.4864  |
| 11/1/2017 01:30:37 | R1710073-003 | Mo (202.032 nm)    | 0.0057 (ppm)    | 4.15     | 0.0057 (ppm)    | 65.4543      |
| 11/1/2017 01:30:37 | R1710073-003 | Nb (588.995 nm)    | 49.1364 (ppm)   | 1.62     | 49.1364 (ppm)   | 2229005.6124 |
| 11/1/2017 01:30:37 | R1710073-003 | Ni (230.299 nm)    | -0.0019 u (ppm) | 25.65    | -0.0019 (ppm)   | -33.3732     |
| 11/1/2017 01:30:37 | R1710073-003 | Pb (220.353 nm)    | -0.0009 u (ppm) | > 100.00 | -0.0009 (ppm)   | 3.1487       |
| 11/1/2017 01:30:37 | R1710073-003 | Sb (217.582 nm)    | -0.0025 u (ppm) | 72.56    | -0.0025 (ppm)   | -2.5551      |
| 11/1/2017 01:30:37 | R1710073-003 | Se (196.026 nm)    | -0.0036 u (ppm) | 88.70    | -0.0036 (ppm)   | -2.3192      |
| 11/1/2017 01:30:37 | R1710073-003 | Sn (189.925 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | -0.1433      |
| 11/1/2017 01:30:37 | R1710073-003 | Sr (216.596 nm)    | 0.2554 (ppm)    | 1.43     | 0.2554 (ppm)    | 3625.7650    |
| 11/1/2017 01:30:37 | R1710073-003 | Tl (336.122 nm)    | 0.0014 (ppm)    | 5.23     | 0.0014 (ppm)    | -179.7010    |
| 11/1/2017 01:30:37 | R1710073-003 | Tl (351.923 nm)    | -0.0004 u (ppm) | > 100.00 | -0.0004 (ppm)   | 6.1946       |
| 11/1/2017 01:30:37 | R1710073-003 | V (292.401 nm)     | 0.0012 (ppm)    | 12.34    | 0.0012 (ppm)    | 149.9510     |
| 11/1/2017 01:30:37 | R1710073-003 | Y (360.074 nm)     | 0.91 (Ratio)    | 1.53     | 0.91 (Ratio)    | 774574.06    |
| 11/1/2017 01:30:37 | R1710073-003 | Y_R (360.074 nm)   | 0.91 (Ratio)    | 1.53     | 0.91 (Ratio)    | 774732.69    |
| 11/1/2017 01:30:37 | R1710073-003 | Zn (213.857 nm)    | 0.0082 (ppm)    | 1.09     | 0.0082 (ppm)    | 203.5400     |
| 11/1/2017 01:33:56 | R1710073-004 | Ag (328.068 nm)    | -0.0001 u (ppm) | 84.59    | -0.0001 (ppm)   | -109.3338    |
| 11/1/2017 01:33:56 | R1710073-004 | Al (394.401 nm)    | 0.0216 (ppm)    | 2.28     | 0.0216 (ppm)    | 401.9081     |
| 11/1/2017 01:33:56 | R1710073-004 | As (188.980 nm)    | 0.8976 (ppm)    | 0.80     | 0.8976 (ppm)    | 800.9214     |
| 11/1/2017 01:33:56 | R1710073-004 | B (249.772 nm)     | 0.2434 (ppm)    | 0.39     | 0.2434 (ppm)    | 6771.5047    |
| 11/1/2017 01:33:56 | R1710073-004 | Ba (230.424 nm)    | 0.0620 (ppm)    | 0.85     | 0.0620 (ppm)    | 2087.2690    |
| 11/1/2017 01:33:56 | R1710073-004 | Be (313.107 nm)    | 0.0000 (ppm)    | 33.85    | 0.0000 (ppm)    | -476.8839    |
| 11/1/2017 01:33:56 | R1710073-004 | Ca (227.547 nm)    | 38.2861 (ppm)   | 0.78     | 38.2861 (ppm)   | 2159.7461    |
| 11/1/2017 01:33:56 | R1710073-004 | Cd (214.439 nm)    | 0.0002 (ppm)    | 71.67    | 0.0002 (ppm)    | 18.7134      |
| 11/1/2017 01:33:56 | R1710073-004 | Co (230.786 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | -3.2108      |
| 11/1/2017 01:33:56 | R1710073-004 | Cr (267.716 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | -5.2239      |
| 11/1/2017 01:33:56 | R1710073-004 | Cu (327.395 nm)    | 0.0002 (ppm)    | 33.82    | 0.0002 (ppm)    | 24.2275      |
| 11/1/2017 01:33:56 | R1710073-004 | Fe (234.350 nm)    | 18.6023 o (ppm) | 0.56     | 18.6023 (ppm)   | 207785.6782  |
| 11/1/2017 01:33:56 | R1710073-004 | K (766.491 nm)     | 7.7401 (ppm)    | 0.52     | 7.7401 (ppm)    | 23345.2393   |
| 11/1/2017 01:33:56 | R1710073-004 | Mg (279.078 nm)    | 10.4167 (ppm)   | 0.51     | 10.4167 (ppm)   | 20100.3555   |
| 11/1/2017 01:33:56 | R1710073-004 | Mn (257.610 nm)    | 0.6523 (ppm)    | 0.48     | 0.6523 (ppm)    | 204465.9183  |

| Date Time          | Label        | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|--------------|--------------------|-----------------|----------|-----------------|--------------|
| 11/1/2017 01:33:56 | R1710073-004 | Mo (202.032 nm)    | 0.0055 (ppm)    | 2.74     | 0.0055 (ppm)    | 63.4163      |
| 11/1/2017 01:33:56 | R1710073-004 | Na (588.995 nm)    | 49.1556 (ppm)   | 0.75     | 49.1556 (ppm)   | 2229877.9844 |
| 11/1/2017 01:33:56 | R1710073-004 | Ni (230.299 nm)    | -0.0023 u (ppm) | 31.97    | -0.0023 (ppm)   | -35.9378     |
| 11/1/2017 01:33:56 | R1710073-004 | Pb (220.353 nm)    | -0.0023 u (ppm) | 75.40    | -0.0023 (ppm)   | 0.0954       |
| 11/1/2017 01:33:56 | R1710073-004 | Sb (217.582 nm)    | -0.0003 u (ppm) | > 100.00 | -0.0003 (ppm)   | 0.3710       |
| 11/1/2017 01:33:56 | R1710073-004 | Se (196.026 nm)    | -0.0035 u (ppm) | > 100.00 | -0.0035 (ppm)   | -2.2127      |
| 11/1/2017 01:33:56 | R1710073-004 | Sn (189.925 nm)    | -0.0011 u (ppm) | 46.19    | -0.0011 (ppm)   | -1.3870      |
| 11/1/2017 01:33:56 | R1710073-004 | Sr (216.596 nm)    | 0.2524 (ppm)    | 0.48     | 0.2524 (ppm)    | 3582.7167    |
| 11/1/2017 01:33:56 | R1710073-004 | Ti (336.122 nm)    | 0.0007 (ppm)    | 5.70     | 0.0007 (ppm)    | -326.1457    |
| 11/1/2017 01:33:56 | R1710073-004 | Tl (351.923 nm)    | 0.0015 (ppm)    | 50.05    | 0.0015 (ppm)    | 11.5487      |
| 11/1/2017 01:33:56 | R1710073-004 | V (292.401 nm)     | 0.0011 (ppm)    | 11.97    | 0.0011 (ppm)    | 147.2483     |
| 11/1/2017 01:33:56 | R1710073-004 | Y (360.074 nm)     | 0.92 (Ratio)    | 0.90     | 0.92 (Ratio)    | 781741.91    |
| 11/1/2017 01:33:56 | R1710073-004 | Y_R (360.074 nm)   | 0.92 (Ratio)    | 0.90     | 0.92 (Ratio)    | 781930.88    |
| 11/1/2017 01:33:56 | R1710073-004 | Zn (213.857 nm)    | 0.0052 (ppm)    | 2.19     | 0.0052 (ppm)    | 119.8523     |
| 11/1/2017 01:37:15 | R1710073-005 | Ag (328.068 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | -105.4928    |
| 11/1/2017 01:37:15 | R1710073-005 | Al (394.401 nm)    | 0.0347 (ppm)    | 0.92     | 0.0347 (ppm)    | 569.8167     |
| 11/1/2017 01:37:15 | R1710073-005 | As (188.980 nm)    | 0.0356 (ppm)    | 10.43    | 0.0356 (ppm)    | 30.3291      |
| 11/1/2017 01:37:15 | R1710073-005 | B (249.772 nm)     | 0.0504 (ppm)    | 0.92     | 0.0504 (ppm)    | 1428.5262    |
| 11/1/2017 01:37:15 | R1710073-005 | Ba (230.424 nm)    | 0.0773 (ppm)    | 0.06     | 0.0773 (ppm)    | 2600.2678    |
| 11/1/2017 01:37:15 | R1710073-005 | Be (313.107 nm)    | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | -507.3533    |
| 11/1/2017 01:37:15 | R1710073-005 | Ca (227.547 nm)    | 96.2399 u (ppm) | 0.65     | 96.2399 (ppm)   | 5422.2778    |
| 11/1/2017 01:37:15 | R1710073-005 | Cd (214.439 nm)    | 0.0001 (ppm)    | 19.03    | 0.0001 (ppm)    | 14.9545      |
| 11/1/2017 01:37:15 | R1710073-005 | Co (230.786 nm)    | 0.0084 (ppm)    | 3.52     | 0.0084 (ppm)    | 79.3466      |
| 11/1/2017 01:37:15 | R1710073-005 | Cr (267.716 nm)    | -0.0003 u (ppm) | 65.44    | -0.0003 (ppm)   | -16.1097     |
| 11/1/2017 01:37:15 | R1710073-005 | Cu (327.395 nm)    | 0.0008 (ppm)    | 11.06    | 0.0008 (ppm)    | 62.1183      |
| 11/1/2017 01:37:15 | R1710073-005 | Fe (234.350 nm)    | 5.7382 (ppm)    | 0.44     | 5.7382 (ppm)    | 64103.0432   |
| 11/1/2017 01:37:15 | R1710073-005 | K (766.491 nm)     | 13.6888 (ppm)   | 0.72     | 13.6888 (ppm)   | 41294.2015   |
| 11/1/2017 01:37:15 | R1710073-005 | Mg (279.078 nm)    | 7.8292 (ppm)    | 0.48     | 7.8292 (ppm)    | 15107.2161   |
| 11/1/2017 01:37:15 | R1710073-005 | Mn (257.610 nm)    | 0.7024 (ppm)    | 0.42     | 0.7024 (ppm)    | 220161.0836  |
| 11/1/2017 01:37:15 | R1710073-005 | Mo (202.032 nm)    | 0.0086 (ppm)    | 1.47     | 0.0086 (ppm)    | 95.2476      |
| 11/1/2017 01:37:15 | R1710073-005 | Na (588.995 nm)    | 6.3288 (ppm)    | 0.74     | 6.3288 (ppm)    | 282339.5548  |
| 11/1/2017 01:37:15 | R1710073-005 | Ni (230.299 nm)    | -0.0037 u (ppm) | 27.62    | -0.0037 (ppm)   | -45.5339     |
| 11/1/2017 01:37:15 | R1710073-005 | Pb (220.353 nm)    | -0.0005 u (ppm) | 29.43    | -0.0005 (ppm)   | 3.9526       |
| 11/1/2017 01:37:15 | R1710073-005 | Sb (217.582 nm)    | -0.0029 u (ppm) | 62.69    | -0.0029 (ppm)   | -3.1199      |
| 11/1/2017 01:37:15 | R1710073-005 | Se (196.026 nm)    | -0.0027 u (ppm) | > 100.00 | -0.0027 (ppm)   | -1.5331      |
| 11/1/2017 01:37:15 | R1710073-005 | Sn (189.925 nm)    | -0.0003 u (ppm) | > 100.00 | -0.0003 (ppm)   | -0.4010      |
| 11/1/2017 01:37:15 | R1710073-005 | Sr (216.596 nm)    | 0.3419 (ppm)    | 0.78     | 0.3419 (ppm)    | 4854.1251    |
| 11/1/2017 01:37:15 | R1710073-005 | Ti (336.122 nm)    | 0.0013 (ppm)    | 3.24     | 0.0013 (ppm)    | -205.8573    |
| 11/1/2017 01:37:15 | R1710073-005 | Tl (351.923 nm)    | 0.0003 u (ppm)  | > 100.00 | 0.0003 (ppm)    | 8.0350       |
| 11/1/2017 01:37:15 | R1710073-005 | V (292.401 nm)     | 0.0009 (ppm)    | 8.95     | 0.0009 (ppm)    | 139.5371     |
| 11/1/2017 01:37:15 | R1710073-005 | Y (360.074 nm)     | 0.92 (Ratio)    | 0.96     | 0.92 (Ratio)    | 783194.66    |
| 11/1/2017 01:37:15 | R1710073-005 | Y_R (360.074 nm)   | 0.92 (Ratio)    | 0.96     | 0.92 (Ratio)    | 783426.64    |
| 11/1/2017 01:37:15 | R1710073-005 | Zn (213.857 nm)    | 0.0061 (ppm)    | 1.60     | 0.0061 (ppm)    | 142.9700     |
| 11/1/2017 01:40:34 | R1710073-006 | Ag (328.068 nm)    | -0.0001 u (ppm) | 30.56    | -0.0001 (ppm)   | -111.9114    |
| 11/1/2017 01:40:34 | R1710073-006 | Al (394.401 nm)    | 0.0274 (ppm)    | 1.59     | 0.0274 (ppm)    | 476.2796     |
| 11/1/2017 01:40:34 | R1710073-006 | As (188.980 nm)    | 0.0330 (ppm)    | 19.36    | 0.0330 (ppm)    | 28.0722      |
| 11/1/2017 01:40:34 | R1710073-006 | B (249.772 nm)     | 0.0495 (ppm)    | 0.74     | 0.0495 (ppm)    | 1404.0410    |
| 11/1/2017 01:40:34 | R1710073-006 | Ba (230.424 nm)    | 0.0776 (ppm)    | 0.80     | 0.0776 (ppm)    | 2609.4575    |
| 11/1/2017 01:40:34 | R1710073-006 | Be (313.107 nm)    | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | -522.2519    |
| 11/1/2017 01:40:34 | R1710073-006 | Ca (227.547 nm)    | 97.1030 u (ppm) | 0.81     | 97.1030 (ppm)   | 5470.8646    |
| 11/1/2017 01:40:34 | R1710073-006 | Cd (214.439 nm)    | 0.0001 u (ppm)  | > 100.00 | 0.0001 (ppm)    | 16.0002      |

| Date Time          | Label        | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|--------------|--------------------|-----------------|----------|-----------------|--------------|
| 11/1/2017 01:40:34 | R1710073-006 | Co (230.786 nm)    | 0.0086 (ppm)    | 3.76     | 0.0086 (ppm)    | 81.0658      |
| 11/1/2017 01:40:34 | R1710073-006 | Cr (267.716 nm)    | -0.0005 u (ppm) | 13.18    | -0.0005 (ppm)   | -27.0257     |
| 11/1/2017 01:40:34 | R1710073-006 | Cu (327.395 nm)    | 0.0006 (ppm)    | 21.06    | 0.0006 (ppm)    | 51.6093      |
| 11/1/2017 01:40:34 | R1710073-006 | Fe (234.350 nm)    | 5.5573 (ppm)    | 0.46     | 5.5573 (ppm)    | 62082.2405   |
| 11/1/2017 01:40:34 | R1710073-006 | K (766.491 nm)     | 13.8101 (ppm)   | 0.74     | 13.8101 (ppm)   | 41660.2893   |
| 11/1/2017 01:40:34 | R1710073-006 | Mg (279.078 nm)    | 7.8927 (ppm)    | 0.44     | 7.8927 (ppm)    | 15229.8037   |
| 11/1/2017 01:40:34 | R1710073-006 | Mn (257.610 nm)    | 0.6978 (ppm)    | 0.32     | 0.6978 (ppm)    | 218708.6806  |
| 11/1/2017 01:40:34 | R1710073-006 | Mo (202.032 nm)    | 0.0088 (ppm)    | 0.30     | 0.0088 (ppm)    | 96.4019      |
| 11/1/2017 01:40:34 | R1710073-006 | Na (588.995 nm)    | 6.2610 (ppm)    | 0.74     | 6.2610 (ppm)    | 279258.2638  |
| 11/1/2017 01:40:34 | R1710073-006 | Ni (230.299 nm)    | -0.0036 u (ppm) | 13.83    | -0.0036 (ppm)   | -44.5779     |
| 11/1/2017 01:40:34 | R1710073-006 | Pb (220.353 nm)    | -0.0034 u (ppm) | 15.59    | -0.0034 (ppm)   | -2.1947      |
| 11/1/2017 01:40:34 | R1710073-006 | Sb (217.582 nm)    | -0.0013 u (ppm) | > 100.00 | -0.0013 (ppm)   | -0.9064      |
| 11/1/2017 01:40:34 | R1710073-006 | Se (196.026 nm)    | -0.0014 u (ppm) | 97.47    | -0.0014 (ppm)   | -0.4089      |
| 11/1/2017 01:40:34 | R1710073-006 | Sn (189.925 nm)    | -0.0015 u (ppm) | > 100.00 | -0.0015 (ppm)   | -1.8451      |
| 11/1/2017 01:40:34 | R1710073-006 | Sr (216.596 nm)    | 0.3425 (ppm)    | 0.32     | 0.3425 (ppm)    | 4862.4642    |
| 11/1/2017 01:40:34 | R1710073-006 | Ti (336.122 nm)    | 0.0010 (ppm)    | 4.42     | 0.0010 (ppm)    | -264.6036    |
| 11/1/2017 01:40:34 | R1710073-006 | Ti (351.923 nm)    | -0.0007 u (ppm) | > 100.00 | -0.0007 (ppm)   | 5.5125       |
| 11/1/2017 01:40:34 | R1710073-006 | V (292.401 nm)     | 0.0008 (ppm)    | 29.92    | 0.0008 (ppm)    | 136.4287     |
| 11/1/2017 01:40:34 | R1710073-006 | Y (360.074 nm)     | 0.92 (Ratio)    | 0.71     | 0.92 (Ratio)    | 781648.87    |
| 11/1/2017 01:40:34 | R1710073-006 | Y_R (360.074 nm)   | 0.92 (Ratio)    | 0.71     | 0.92 (Ratio)    | 781891.55    |
| 11/1/2017 01:40:34 | R1710073-006 | Zn (213.857 nm)    | 0.0041 (ppm)    | 2.65     | 0.0041 (ppm)    | 88.9242      |
| 11/1/2017 01:43:53 | R1710073-007 | Ag (328.068 nm)    | -0.0002 u (ppm) | 28.92    | -0.0002 (ppm)   | -114.5100    |
| 11/1/2017 01:43:53 | R1710073-007 | Al (394.401 nm)    | 0.0311 (ppm)    | 2.39     | 0.0311 (ppm)    | 523.6122     |
| 11/1/2017 01:43:53 | R1710073-007 | As (188.980 nm)    | 0.0010 u (ppm)  | > 100.00 | 0.0010 (ppm)    | -0.5971      |
| 11/1/2017 01:43:53 | R1710073-007 | B (249.772 nm)     | 0.0569 (ppm)    | 0.43     | 0.0569 (ppm)    | 1609.1720    |
| 11/1/2017 01:43:53 | R1710073-007 | Ba (230.424 nm)    | 0.0341 (ppm)    | 0.67     | 0.0341 (ppm)    | 1147.3418    |
| 11/1/2017 01:43:53 | R1710073-007 | Be (313.107 nm)    | 0.0000 (ppm)    | 31.65    | 0.0000 (ppm)    | -478.6653    |
| 11/1/2017 01:43:53 | R1710073-007 | Ca (227.547 nm)    | 23.1406 (ppm)   | 0.96     | 23.1406 (ppm)   | 1307.1255    |
| 11/1/2017 01:43:53 | R1710073-007 | Cd (214.439 nm)    | 0.0003 (ppm)    | 41.03    | 0.0003 (ppm)    | 19.7729      |
| 11/1/2017 01:43:53 | R1710073-007 | Co (230.786 nm)    | 0.0085 (ppm)    | 3.33     | 0.0085 (ppm)    | 80.4501      |
| 11/1/2017 01:43:53 | R1710073-007 | Cr (267.716 nm)    | -0.0003 u (ppm) | 7.43     | -0.0003 (ppm)   | -15.9468     |
| 11/1/2017 01:43:53 | R1710073-007 | Cu (327.395 nm)    | 0.0006 (ppm)    | 23.16    | 0.0006 (ppm)    | 49.1367      |
| 11/1/2017 01:43:53 | R1710073-007 | Fe (234.350 nm)    | 0.3106 (ppm)    | 0.59     | 0.3106 (ppm)    | 3480.7744    |
| 11/1/2017 01:43:53 | R1710073-007 | K (766.491 nm)     | 4.4952 (ppm)    | 0.78     | 4.4952 (ppm)    | 13554.4008   |
| 11/1/2017 01:43:53 | R1710073-007 | Mg (279.078 nm)    | 5.2530 (ppm)    | 0.54     | 5.2530 (ppm)    | 10135.9286   |
| 11/1/2017 01:43:53 | R1710073-007 | Mn (257.610 nm)    | 0.9596 (ppm)    | 0.31     | 0.9596 (ppm)    | 300765.2290  |
| 11/1/2017 01:43:53 | R1710073-007 | Mo (202.032 nm)    | -0.0002 u (ppm) | > 100.00 | -0.0002 (ppm)   | 5.2952       |
| 11/1/2017 01:43:53 | R1710073-007 | Na (588.995 nm)    | 61.9167 u (ppm) | 0.72     | 61.9167 (ppm)   | 2810182.8380 |
| 11/1/2017 01:43:53 | R1710073-007 | Ni (230.299 nm)    | 0.0042 (ppm)    | 4.72     | 0.0042 (ppm)    | 7.6038       |
| 11/1/2017 01:43:53 | R1710073-007 | Pb (220.353 nm)    | -0.0004 u (ppm) | > 100.00 | -0.0004 (ppm)   | 4.2823       |
| 11/1/2017 01:43:53 | R1710073-007 | Sb (217.582 nm)    | -0.0005 u (ppm) | > 100.00 | -0.0005 (ppm)   | 0.1369       |
| 11/1/2017 01:43:53 | R1710073-007 | Se (196.026 nm)    | 0.0005 u (ppm)  | > 100.00 | 0.0005 (ppm)    | 1.2310       |
| 11/1/2017 01:43:53 | R1710073-007 | Sn (189.925 nm)    | -0.0007 u (ppm) | > 100.00 | -0.0007 (ppm)   | -0.8619      |
| 11/1/2017 01:43:53 | R1710073-007 | Sr (216.596 nm)    | 0.3296 (ppm)    | 0.35     | 0.3296 (ppm)    | 4679.8588    |
| 11/1/2017 01:43:53 | R1710073-007 | Ti (336.122 nm)    | 0.0010 (ppm)    | 6.36     | 0.0010 (ppm)    | -280.0418    |
| 11/1/2017 01:43:53 | R1710073-007 | Ti (351.923 nm)    | 0.0007 (ppm)    | 95.79    | 0.0007 (ppm)    | 9.1571       |
| 11/1/2017 01:43:53 | R1710073-007 | V (292.401 nm)     | 0.0005 (ppm)    | 23.01    | 0.0005 (ppm)    | 127.9331     |
| 11/1/2017 01:43:53 | R1710073-007 | Y (360.074 nm)     | 0.92 (Ratio)    | 0.70     | 0.92 (Ratio)    | 781485.00    |
| 11/1/2017 01:43:53 | R1710073-007 | Y_R (360.074 nm)   | 0.92 (Ratio)    | 0.70     | 0.92 (Ratio)    | 781741.17    |
| 11/1/2017 01:43:53 | R1710073-007 | Zn (213.857 nm)    | 0.0083 (ppm)    | 0.78     | 0.0083 (ppm)    | 206.5750     |
| 11/1/2017 01:47:12 | R1710073-008 | Ag (328.068 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | -105.8316    |

| Date Time          | Label                                 | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|---------------------------------------|--------------------|-----------------|----------|-----------------|--------------|
| 11/1/2017 01:47:12 | R1710073-008                          | Al (394.401 nm)    | 0.0177 (ppm)    | 3.45     | 0.0177 (ppm)    | 352.4141     |
| 11/1/2017 01:47:12 | R1710073-008                          | As (188.980 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | -1.5644      |
| 11/1/2017 01:47:12 | R1710073-008                          | B (249.772 nm)     | 0.0555 (ppm)    | 0.45     | 0.0555 (ppm)    | 1570.2249    |
| 11/1/2017 01:47:12 | R1710073-008                          | Ba (230.424 nm)    | 0.0332 (ppm)    | 0.19     | 0.0332 (ppm)    | 1119.2882    |
| 11/1/2017 01:47:12 | R1710073-008                          | Be (313.107 nm)    | 0.0000 (ppm)    | 13.77    | 0.0000 (ppm)    | -486.1866    |
| 11/1/2017 01:47:12 | R1710073-008                          | Ca (227.547 nm)    | 22.6019 (ppm)   | 0.84     | 22.6019 (ppm)   | 1276.7993    |
| 11/1/2017 01:47:12 | R1710073-008                          | Cd (214.439 nm)    | 0.0003 (ppm)    | 0.74     | 0.0003 (ppm)    | 19.0640      |
| 11/1/2017 01:47:12 | R1710073-008                          | Co (230.786 nm)    | 0.0080 (ppm)    | 1.48     | 0.0080 (ppm)    | 75.7468      |
| 11/1/2017 01:47:12 | R1710073-008                          | Cr (267.716 nm)    | -0.0003 u (ppm) | 31.50    | -0.0003 (ppm)   | -18.2048     |
| 11/1/2017 01:47:12 | R1710073-008                          | Cu (327.395 nm)    | 0.0007 (ppm)    | 15.55    | 0.0007 (ppm)    | 58.3821      |
| 11/1/2017 01:47:12 | R1710073-008                          | Fe (234.350 nm)    | 0.0556 (ppm)    | 0.92     | 0.0556 (ppm)    | 633.2229     |
| 11/1/2017 01:47:12 | R1710073-008                          | K (766.491 nm)     | 4.3812 (ppm)    | 0.65     | 4.3812 (ppm)    | 13210.3760   |
| 11/1/2017 01:47:12 | R1710073-008                          | Mg (279.078 nm)    | 5.1314 (ppm)    | 0.43     | 5.1314 (ppm)    | 9901.3588    |
| 11/1/2017 01:47:12 | R1710073-008                          | Mn (257.610 nm)    | 0.9339 (ppm)    | 0.36     | 0.9339 (ppm)    | 292731.4251  |
| 11/1/2017 01:47:12 | R1710073-008                          | Mo (202.032 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | 5.5763       |
| 11/1/2017 01:47:12 | R1710073-008                          | Na (588.995 nm)    | 60.5157 o (ppm) | 0.78     | 60.5157 (ppm)   | 2746472.9735 |
| 11/1/2017 01:47:12 | R1710073-008                          | Ni (230.299 nm)    | 0.0039 (ppm)    | 19.64    | 0.0039 (ppm)    | 5.4471       |
| 11/1/2017 01:47:12 | R1710073-008                          | Pb (220.353 nm)    | 0.0002 u (ppm)  | > 100.00 | 0.0002 (ppm)    | 5.5462       |
| 11/1/2017 01:47:12 | R1710073-008                          | Sb (217.582 nm)    | -0.0009 u (ppm) | > 100.00 | -0.0009 (ppm)   | -0.4514      |
| 11/1/2017 01:47:12 | R1710073-008                          | Se (196.026 nm)    | -0.0019 u (ppm) | 62.34    | -0.0019 (ppm)   | -0.8530      |
| 11/1/2017 01:47:12 | R1710073-008                          | Sn (189.925 nm)    | 0.0011 (ppm)    | 53.58    | 0.0011 (ppm)    | 1.2584       |
| 11/1/2017 01:47:12 | R1710073-008                          | Sr (216.596 nm)    | 0.3217 (ppm)    | 0.59     | 0.3217 (ppm)    | 4567.2019    |
| 11/1/2017 01:47:12 | R1710073-008                          | Ti (336.122 nm)    | 0.0006 (ppm)    | 5.67     | 0.0006 (ppm)    | -348.0622    |
| 11/1/2017 01:47:12 | R1710073-008                          | Tl (351.923 nm)    | 0.0023 (ppm)    | 19.11    | 0.0023 (ppm)    | 13.6109      |
| 11/1/2017 01:47:12 | R1710073-008                          | V (292.401 nm)     | 0.0004 (ppm)    | 56.57    | 0.0004 (ppm)    | 122.9673     |
| 11/1/2017 01:47:12 | R1710073-008                          | Y (360.074 nm)     | 0.92 (Ratio)    | 0.77     | 0.92 (Ratio)    | 782648.61    |
| 11/1/2017 01:47:12 | R1710073-008                          | Y_R (360.074 nm)   | 0.92 (Ratio)    | 0.77     | 0.92 (Ratio)    | 782918.69    |
| 11/1/2017 01:47:12 | R1710073-008                          | Zn (213.857 nm)    | 0.0072 (ppm)    | 1.38     | 0.0072 (ppm)    | 174.5452     |
| 11/1/2017 01:50:30 | Continuing Calibration Verification 1 | Ag (328.068 nm)    | 0.5007 (ppm)    | 0.26     | 0.5007 (ppm)    | 35669.2502   |
| 11/1/2017 01:50:30 | Continuing Calibration Verification 1 | Al (394.401 nm)    | 9.5994 (ppm)    | 0.36     | 9.5994 (ppm)    | 122975.5582  |
| 11/1/2017 01:50:30 | Continuing Calibration Verification 1 | As (188.980 nm)    | 0.9995 (ppm)    | 0.65     | 0.9995 (ppm)    | 892.0275     |
| 11/1/2017 01:50:30 | Continuing Calibration Verification 1 | B (249.772 nm)     | 2.4739 (ppm)    | 0.22     | 2.4739 (ppm)    | 68529.9304   |
| 11/1/2017 01:50:30 | Continuing Calibration Verification 1 | Ba (230.424 nm)    | 10.6274 (ppm)   | 0.23     | 10.6274 (ppm)   | 357283.9789  |
| 11/1/2017 01:50:30 | Continuing Calibration Verification 1 | Be (313.107 nm)    | 0.2596 (ppm)    | 0.32     | 0.2596 (ppm)    | 383005.3790  |
| 11/1/2017 01:50:30 | Continuing Calibration Verification 1 | Ca (227.547 nm)    | 24.3959 (ppm)   | 0.46     | 24.3959 (ppm)   | 1377.7902    |
| 11/1/2017 01:50:30 | Continuing Calibration Verification 1 | Cd (214.439 nm)    | 0.5234 (ppm)    | 0.23     | 0.5234 (ppm)    | 11345.5268   |
| 11/1/2017 01:50:30 | Continuing Calibration Verification 1 | Co (230.786 nm)    | 2.6834 (ppm)    | 0.33     | 2.6834 (ppm)    | 26489.2376   |
| 11/1/2017 01:50:30 | Continuing Calibration Verification 1 | Cr (267.716 nm)    | 0.5259 (ppm)    | 0.24     | 0.5259 (ppm)    | 26038.1170   |
| 11/1/2017 01:50:30 | Continuing Calibration Verification 1 | Cu (327.395 nm)    | 1.2063 (ppm)    | 0.41     | 1.2063 (ppm)    | 74906.1577   |
| 11/1/2017 01:50:30 | Continuing Calibration Verification 1 | Fe (234.350 nm)    | 5.0125 (ppm)    | 0.27     | 5.0125 (ppm)    | 55998.1385   |
| 11/1/2017 01:50:30 | Continuing Calibration Verification 1 | K (766.491 nm)     | 24.5375 (ppm)   | 0.59     | 24.5375 (ppm)   | 74027.7517   |
| 11/1/2017 01:50:30 | Continuing Calibration Verification 1 | Mg (279.078 nm)    | 26.0398 (ppm)   | 0.31     | 26.0398 (ppm)   | 50247.9399   |
| 11/1/2017 01:50:30 | Continuing Calibration Verification 1 | Mn (257.610 nm)    | 0.7773 (ppm)    | 0.28     | 0.7773 (ppm)    | 243643.6553  |
| 11/1/2017 01:50:30 | Continuing Calibration Verification 1 | Mo (202.032 nm)    | 2.4953 (ppm)    | 0.13     | 2.4953 (ppm)    | 25443.5337   |
| 11/1/2017 01:50:30 | Continuing Calibration Verification 1 | Na (588.995 nm)    | 24.6830 (ppm)   | 0.50     | 24.6830 (ppm)   | 1116993.2438 |
| 11/1/2017 01:50:30 | Continuing Calibration Verification 1 | Ni (230.299 nm)    | 2.1074 (ppm)    | 0.17     | 2.1074 (ppm)    | 14176.0123   |
| 11/1/2017 01:50:30 | Continuing Calibration Verification 1 | Pb (220.353 nm)    | 0.5186 (ppm)    | 0.23     | 0.5186 (ppm)    | 1113.0631    |
| 11/1/2017 01:50:30 | Continuing Calibration Verification 1 | Sb (217.582 nm)    | 5.0150 (ppm)    | 0.40     | 5.0150 (ppm)    | 6859.1011    |
| 11/1/2017 01:50:30 | Continuing Calibration Verification 1 | Se (196.026 nm)    | 0.5086 (ppm)    | 1.14     | 0.5086 (ppm)    | 436.3593     |
| 11/1/2017 01:50:30 | Continuing Calibration Verification 1 | Sn (189.925 nm)    | 5.3310 (ppm)    | 0.56     | 5.3310 (ppm)    | 6455.5199    |
| 11/1/2017 01:50:30 | Continuing Calibration Verification 1 | Sr (216.596 nm)    | 2.6546 (ppm)    | 0.45     | 2.6546 (ppm)    | 37690.7694   |

| Date Time          | Label                                 | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity   |
|--------------------|---------------------------------------|--------------------|-----------------|----------|-----------------|-------------|
| 11/1/2017 01:50:30 | Continuing Calibration Verification 1 | Ti (336.122 nm)    | 2.5496 (ppm)    | 0.28     | 2.5496 (ppm)    | 532983.8077 |
| 11/1/2017 01:50:30 | Continuing Calibration Verification 1 | Ti (351.923 nm)    | 1.0015 (ppm)    | 0.39     | 1.0015 (ppm)    | 2758.2368   |
| 11/1/2017 01:50:30 | Continuing Calibration Verification 1 | V (292.401 nm)     | 2.5861 (ppm)    | 0.27     | 2.5861 (ppm)    | 91518.3346  |
| 11/1/2017 01:50:30 | Continuing Calibration Verification 1 | Y (360.074 nm)     | 0.91 (Ratio)    | 0.77     | 0.91 (Ratio)    | 772379.78   |
| 11/1/2017 01:50:30 | Continuing Calibration Verification 1 | Y_R (360.074 nm)   | 0.90 (Ratio)    | 0.77     | 0.90 (Ratio)    | 772641.87   |
| 11/1/2017 01:50:30 | Continuing Calibration Verification 1 | Zn (213.857 nm)    | 1.0476 (ppm)    | 0.27     | 1.0476 (ppm)    | 29280.7239  |
| 11/1/2017 01:53:49 | Continuing Calibration Blank 1        | Ag (328.068 nm)    | 0.0003 (ppm)    | 20.63    | 0.0003 (ppm)    | -83.0924    |
| 11/1/2017 01:53:49 | Continuing Calibration Blank 1        | Al (394.401 nm)    | 0.0056 (ppm)    | 35.23    | 0.0056 (ppm)    | 197.8986    |
| 11/1/2017 01:53:49 | Continuing Calibration Blank 1        | As (188.980 nm)    | 0.0006 u (ppm)  | > 100.00 | 0.0006 (ppm)    | -0.8806     |
| 11/1/2017 01:53:49 | Continuing Calibration Blank 1        | B (249.772 nm)     | 0.0045 (ppm)    | 25.45    | 0.0045 (ppm)    | 159.1498    |
| 11/1/2017 01:53:49 | Continuing Calibration Blank 1        | Ba (230.424 nm)    | 0.0062 (ppm)    | 29.92    | 0.0062 (ppm)    | 210.3802    |
| 11/1/2017 01:53:49 | Continuing Calibration Blank 1        | Be (313.107 nm)    | 0.0001 (ppm)    | 31.83    | 0.0001 (ppm)    | -324.0520   |
| 11/1/2017 01:53:49 | Continuing Calibration Blank 1        | Ca (227.547 nm)    | 0.0060 u (ppm)  | > 100.00 | 0.0060 (ppm)    | 4.7544      |
| 11/1/2017 01:53:49 | Continuing Calibration Blank 1        | Cd (214.439 nm)    | 0.0005 (ppm)    | 32.54    | 0.0005 (ppm)    | 23.8976     |
| 11/1/2017 01:53:49 | Continuing Calibration Blank 1        | Co (230.786 nm)    | 0.0015 (ppm)    | 46.31    | 0.0015 (ppm)    | 11.0144     |
| 11/1/2017 01:53:49 | Continuing Calibration Blank 1        | Cr (267.716 nm)    | 0.0003 (ppm)    | 20.60    | 0.0003 (ppm)    | 12.5102     |
| 11/1/2017 01:53:49 | Continuing Calibration Blank 1        | Cu (327.395 nm)    | 0.0009 (ppm)    | 36.02    | 0.0009 (ppm)    | 66.8986     |
| 11/1/2017 01:53:49 | Continuing Calibration Blank 1        | Fe (234.350 nm)    | 0.0038 (ppm)    | 29.61    | 0.0038 (ppm)    | 54.2374     |
| 11/1/2017 01:53:49 | Continuing Calibration Blank 1        | K (766.491 nm)     | 0.0441 (ppm)    | 33.68    | 0.0441 (ppm)    | 124.3398    |
| 11/1/2017 01:53:49 | Continuing Calibration Blank 1        | Mg (279.078 nm)    | 0.0122 (ppm)    | 31.58    | 0.0122 (ppm)    | 22.8788     |
| 11/1/2017 01:53:49 | Continuing Calibration Blank 1        | Mn (257.610 nm)    | 0.0013 (ppm)    | 4.98     | 0.0013 (ppm)    | 415.2376    |
| 11/1/2017 01:53:49 | Continuing Calibration Blank 1        | Mo (202.032 nm)    | 0.0037 (ppm)    | 18.53    | 0.0037 (ppm)    | 44.9972     |
| 11/1/2017 01:53:49 | Continuing Calibration Blank 1        | Na (588.995 nm)    | -0.0176 u (ppm) | 24.68    | -0.0176 (ppm)   | -6259.3309  |
| 11/1/2017 01:53:49 | Continuing Calibration Blank 1        | Ni (230.299 nm)    | 0.0011 (ppm)    | 66.64    | 0.0011 (ppm)    | -13.4910    |
| 11/1/2017 01:53:49 | Continuing Calibration Blank 1        | Pb (220.353 nm)    | -0.0005 u (ppm) | > 100.00 | -0.0005 (ppm)   | 4.0507      |
| 11/1/2017 01:53:49 | Continuing Calibration Blank 1        | Sb (217.582 nm)    | 0.0044 (ppm)    | 70.18    | 0.0044 (ppm)    | 6.7565      |
| 11/1/2017 01:53:49 | Continuing Calibration Blank 1        | Se (196.026 nm)    | 0.0016 (ppm)    | 60.98    | 0.0016 (ppm)    | 2.1759      |
| 11/1/2017 01:53:49 | Continuing Calibration Blank 1        | Sr (189.925 nm)    | 0.0038 (ppm)    | 25.01    | 0.0038 (ppm)    | 4.5839      |
| 11/1/2017 01:53:49 | Continuing Calibration Blank 1        | Sr (216.596 nm)    | 0.0016 (ppm)    | 14.56    | 0.0016 (ppm)    | 22.0696     |
| 11/1/2017 01:53:49 | Continuing Calibration Blank 1        | Ti (336.122 nm)    | 0.0022 (ppm)    | 20.23    | 0.0022 (ppm)    | -16.2120    |
| 11/1/2017 01:53:49 | Continuing Calibration Blank 1        | Ti (351.923 nm)    | 0.0011 u (ppm)  | > 100.00 | 0.0011 (ppm)    | 10.2414     |
| 11/1/2017 01:53:49 | Continuing Calibration Blank 1        | V (292.401 nm)     | 0.0016 (ppm)    | 32.76    | 0.0016 (ppm)    | 164.9192    |
| 11/1/2017 01:53:49 | Continuing Calibration Blank 1        | Y (360.074 nm)     | 0.94 (Ratio)    | 0.68     | 0.94 (Ratio)    | 802311.90   |
| 11/1/2017 01:53:49 | Continuing Calibration Blank 1        | Y_R (360.074 nm)   | 0.94 (Ratio)    | 0.68     | 0.94 (Ratio)    | 802654.85   |
| 11/1/2017 01:53:49 | Continuing Calibration Blank 1        | Zn (213.857 nm)    | 0.0006 (ppm)    | 14.16    | 0.0006 (ppm)    | -8.7851     |
| 11/1/2017 01:57:08 | R1710073-009                          | Ag (328.068 nm)    | 0.0007 (ppm)    | 16.03    | 0.0007 (ppm)    | -55.2011    |
| 11/1/2017 01:57:08 | R1710073-009                          | Al (394.401 nm)    | 0.0993 (ppm)    | 0.69     | 0.0993 (ppm)    | 1396.8921   |
| 11/1/2017 01:57:08 | R1710073-009                          | As (188.980 nm)    | 0.0038 (ppm)    | 6.97     | 0.0038 (ppm)    | 1.9536      |
| 11/1/2017 01:57:08 | R1710073-009                          | B (249.772 nm)     | 0.4678 (ppm)    | 0.38     | 0.4678 (ppm)    | 12986.8409  |
| 11/1/2017 01:57:08 | R1710073-009                          | Be (230.424 nm)    | 4.0745 (ppm)    | 0.59     | 4.0745 (ppm)    | 136981.4733 |
| 11/1/2017 01:57:08 | R1710073-009                          | Be (313.107 nm)    | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | -519.5740   |
| 11/1/2017 01:57:08 | R1710073-009                          | Ca (227.547 nm)    | 69.6442 o (ppm) | 0.53     | 69.6442 (ppm)   | 3925.0600   |
| 11/1/2017 01:57:08 | R1710073-009                          | Cd (214.439 nm)    | 0.0007 (ppm)    | 26.96    | 0.0007 (ppm)    | 29.0567     |
| 11/1/2017 01:57:08 | R1710073-009                          | Co (230.786 nm)    | 0.0001 (ppm)    | > 100.00 | 0.0001 (ppm)    | -2.6983     |
| 11/1/2017 01:57:08 | R1710073-009                          | Cr (267.716 nm)    | 0.0009 (ppm)    | 10.52    | 0.0009 (ppm)    | 43.2030     |
| 11/1/2017 01:57:08 | R1710073-009                          | Cu (327.395 nm)    | 0.0007 (ppm)    | 19.64    | 0.0007 (ppm)    | 54.0956     |
| 11/1/2017 01:57:08 | R1710073-009                          | Fe (234.350 nm)    | 55.6904 o (ppm) | 0.38     | 55.6904 (ppm)   | 622031.1946 |
| 11/1/2017 01:57:08 | R1710073-009                          | K (766.491 nm)     | 27.2603 (ppm)   | 0.53     | 27.2603 (ppm)   | 82243.1980  |
| 11/1/2017 01:57:08 | R1710073-009                          | Mg (279.078 nm)    | 15.0892 (ppm)   | 0.30     | 15.0892 (ppm)   | 29116.6900  |
| 11/1/2017 01:57:08 | R1710073-009                          | Mn (257.610 nm)    | 0.2901 (ppm)    | 0.16     | 0.2901 (ppm)    | 90923.9107  |
| 11/1/2017 01:57:08 | R1710073-009                          | Mo (202.032 nm)    | 0.0008 (ppm)    | 17.59    | 0.0008 (ppm)    | 15.2538     |

| Date Time          | Label        | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|--------------|--------------------|-----------------|----------|-----------------|--------------|
| 11/1/2017 01:57:08 | R1710073-009 | Na (588.995 nm)    | 52.0438 (ppm)   | 0.64     | 52.0438 (ppm)   | 2361216.1502 |
| 11/1/2017 01:57:08 | R1710073-009 | Ni (230.299 nm)    | -0.0032 u (ppm) | 7.04     | -0.0032 (ppm)   | -42.2648     |
| 11/1/2017 01:57:08 | R1710073-009 | Pb (220.353 nm)    | 0.2100 (ppm)    | 1.47     | 0.2100 (ppm)    | 453.6715     |
| 11/1/2017 01:57:08 | R1710073-009 | Sb (217.582 nm)    | -0.0040 u (ppm) | 24.22    | -0.0040 (ppm)   | -4.6843      |
| 11/1/2017 01:57:08 | R1710073-009 | Se (196.026 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | 0.6516       |
| 11/1/2017 01:57:08 | R1710073-009 | Sn (189.925 nm)    | 0.0094 (ppm)    | 8.07     | 0.0094 (ppm)    | 11.2722      |
| 11/1/2017 01:57:08 | R1710073-009 | Sr (216.596 nm)    | 0.4690 (ppm)    | 0.28     | 0.4690 (ppm)    | 6657.8945    |
| 11/1/2017 01:57:08 | R1710073-009 | Ti (336.122 nm)    | 0.0037 (ppm)    | 1.66     | 0.0037 (ppm)    | 295.1448     |
| 11/1/2017 01:57:08 | R1710073-009 | Tl (351.923 nm)    | -0.0015 u (ppm) | 38.07    | -0.0015 (ppm)   | 3.1348       |
| 11/1/2017 01:57:08 | R1710073-009 | V (292.401 nm)     | 0.0028 (ppm)    | 7.07     | 0.0028 (ppm)    | 207.7854     |
| 11/1/2017 01:57:08 | R1710073-009 | Y (360.074 nm)     | 0.90 (Ratio)    | 0.59     | 0.90 (Ratio)    | 766966.83    |
| 11/1/2017 01:57:08 | R1710073-009 | Y_R (360.074 nm)   | 0.90 (Ratio)    | 0.59     | 0.90 (Ratio)    | 767232.52    |
| 11/1/2017 01:57:08 | R1710073-009 | Zn (213.857 nm)    | 0.0143 (ppm)    | 3.08     | 0.0143 (ppm)    | 374.0667     |
| 11/1/2017 02:00:28 | R1710073-010 | Ag (328.068 nm)    | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | -100.6298    |
| 11/1/2017 02:00:28 | R1710073-010 | Al (394.401 nm)    | 0.0471 (ppm)    | 0.42     | 0.0471 (ppm)    | 728.5702     |
| 11/1/2017 02:00:28 | R1710073-010 | As (188.980 nm)    | 0.0041 (ppm)    | 16.73    | 0.0041 (ppm)    | 2.1888       |
| 11/1/2017 02:00:28 | R1710073-010 | B (249.772 nm)     | 0.4747 (ppm)    | 0.33     | 0.4747 (ppm)    | 13178.0352   |
| 11/1/2017 02:00:28 | R1710073-010 | Ba (230.424 nm)    | 4.1348 (ppm)    | 0.53     | 4.1348 (ppm)    | 139011.5315  |
| 11/1/2017 02:00:28 | R1710073-010 | Be (313.107 nm)    | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | -513.7292    |
| 11/1/2017 02:00:28 | R1710073-010 | Ca (227.547 nm)    | 68.5112 o (ppm) | 0.59     | 68.5112 (ppm)   | 3861.2792    |
| 11/1/2017 02:00:28 | R1710073-010 | Cd (214.439 nm)    | 0.0008 (ppm)    | 20.30    | 0.0008 (ppm)    | 30.1020      |
| 11/1/2017 02:00:28 | R1710073-010 | Co (230.786 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | -3.2101      |
| 11/1/2017 02:00:28 | R1710073-010 | Cr (267.716 nm)    | 0.0011 (ppm)    | 4.83     | 0.0011 (ppm)    | 55.2499      |
| 11/1/2017 02:00:28 | R1710073-010 | Cu (327.395 nm)    | 0.0006 (ppm)    | 34.72    | 0.0006 (ppm)    | 50.0932      |
| 11/1/2017 02:00:28 | R1710073-010 | Fe (234.350 nm)    | 55.0358 o (ppm) | 0.60     | 55.0358 (ppm)   | 614720.7676  |
| 11/1/2017 02:00:28 | R1710073-010 | K (766.491 nm)     | 26.2787 (ppm)   | 0.59     | 26.2787 (ppm)   | 79281.5140   |
| 11/1/2017 02:00:28 | R1710073-010 | Mg (279.078 nm)    | 14.9320 (ppm)   | 0.45     | 14.9320 (ppm)   | 28813.3651   |
| 11/1/2017 02:00:28 | R1710073-010 | Mn (257.610 nm)    | 0.2849 (ppm)    | 0.36     | 0.2849 (ppm)    | 89317.9495   |
| 11/1/2017 02:00:28 | R1710073-010 | Mo (202.032 nm)    | 0.0008 (ppm)    | 44.95    | 0.0008 (ppm)    | 15.7170      |
| 11/1/2017 02:00:28 | R1710073-010 | Na (588.995 nm)    | 50.3943 (ppm)   | 0.55     | 50.3943 (ppm)   | 2286206.7156 |
| 11/1/2017 02:00:28 | R1710073-010 | Ni (230.299 nm)    | -0.0022 u (ppm) | 49.56    | -0.0022 (ppm)   | -35.6131     |
| 11/1/2017 02:00:28 | R1710073-010 | Pb (220.353 nm)    | 0.0118 (ppm)    | 10.00    | 0.0118 (ppm)    | 30.1962      |
| 11/1/2017 02:00:28 | R1710073-010 | Sb (217.582 nm)    | 0.0005 u (ppm)  | > 100.00 | 0.0005 (ppm)    | 1.4880       |
| 11/1/2017 02:00:28 | R1710073-010 | Se (196.026 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | 0.7654       |
| 11/1/2017 02:00:28 | R1710073-010 | Sn (189.925 nm)    | 0.0042 (ppm)    | 36.15    | 0.0042 (ppm)    | 5.0312       |
| 11/1/2017 02:00:28 | R1710073-010 | Sr (216.596 nm)    | 0.4651 (ppm)    | 0.67     | 0.4651 (ppm)    | 6603.5967    |
| 11/1/2017 02:00:28 | R1710073-010 | Ti (336.122 nm)    | 0.0017 (ppm)    | 6.20     | 0.0017 (ppm)    | -126.9129    |
| 11/1/2017 02:00:28 | R1710073-010 | Tl (351.923 nm)    | -0.0021 u (ppm) | > 100.00 | -0.0021 (ppm)   | 1.4613       |
| 11/1/2017 02:00:28 | R1710073-010 | V (292.401 nm)     | 0.0027 (ppm)    | 4.00     | 0.0027 (ppm)    | 204.0742     |
| 11/1/2017 02:00:28 | R1710073-010 | Y (360.074 nm)     | 0.90 (Ratio)    | 0.69     | 0.90 (Ratio)    | 764940.60    |
| 11/1/2017 02:00:28 | R1710073-010 | Y_R (360.074 nm)   | 0.90 (Ratio)    | 0.69     | 0.90 (Ratio)    | 765234.82    |
| 11/1/2017 02:00:28 | R1710073-010 | Zn (213.857 nm)    | 0.0148 (ppm)    | 1.38     | 0.0148 (ppm)    | 386.1333     |
| 11/1/2017 02:03:46 | R1710073-013 | Ag (328.068 nm)    | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | -102.1288    |
| 11/1/2017 02:03:46 | R1710073-013 | Al (394.401 nm)    | 0.0567 (ppm)    | 1.70     | 0.0567 (ppm)    | 851.3663     |
| 11/1/2017 02:03:46 | R1710073-013 | As (188.980 nm)    | -0.0016 u (ppm) | > 100.00 | -0.0016 (ppm)   | -2.8672      |
| 11/1/2017 02:03:46 | R1710073-013 | B (249.772 nm)     | 0.0373 (ppm)    | 1.54     | 0.0373 (ppm)    | 1066.2093    |
| 11/1/2017 02:03:46 | R1710073-013 | Ba (230.424 nm)    | 0.1694 (ppm)    | 1.62     | 0.1694 (ppm)    | 5696.2129    |
| 11/1/2017 02:03:46 | R1710073-013 | Be (313.107 nm)    | 0.0001 (ppm)    | 8.97     | 0.0001 (ppm)    | -366.9313    |
| 11/1/2017 02:03:46 | R1710073-013 | Ca (227.547 nm)    | 35.9400 (ppm)   | 0.88     | 35.9400 (ppm)   | 2027.6693    |
| 11/1/2017 02:03:46 | R1710073-013 | Cd (214.439 nm)    | 0.0003 (ppm)    | 19.41    | 0.0003 (ppm)    | 20.0247      |
| 11/1/2017 02:03:46 | R1710073-013 | Co (230.786 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | -4.2911      |



| Date Time          | Label          | Element Label (nm) | Conc             | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|----------------|--------------------|------------------|----------|-----------------|--------------|
| 11/1/2017 02:03:46 | R1710073-013   | Cr (267.716 nm)    | 0.0001 (ppm)     | > 100.00 | 0.0001 (ppm)    | 4.0685       |
| 11/1/2017 02:03:46 | R1710073-013   | Cu (327.395 nm)    | 0.0004 (ppm)     | 35.29    | 0.0004 (ppm)    | 35.8617      |
| 11/1/2017 02:03:46 | R1710073-013   | Fe (234.350 nm)    | 0.0717 (ppm)     | 40.61    | 0.0717 (ppm)    | 812.7456     |
| 11/1/2017 02:03:46 | R1710073-013   | K (766.491 nm)     | 6.7963 (ppm)     | 0.89     | 6.7963 (ppm)    | 20497.4850   |
| 11/1/2017 02:03:46 | R1710073-013   | Mg (279.078 nm)    | 9.5132 (ppm)     | 0.68     | 9.5132 (ppm)    | 18356.8578   |
| 11/1/2017 02:03:46 | R1710073-013   | Mn (257.610 nm)    | 0.0511 (ppm)     | 0.49     | 0.0511 (ppm)    | 16018.2076   |
| 11/1/2017 02:03:46 | R1710073-013   | Mo (202.032 nm)    | 0.0002 (ppm)     | > 100.00 | 0.0002 (ppm)    | 9.0350       |
| 11/1/2017 02:03:46 | R1710073-013   | Na (588.995 nm)    | 136.8077 u (ppm) | 0.93     | 136.8077 (ppm)  | 6215834.2599 |
| 11/1/2017 02:03:46 | R1710073-013   | Ni (230.299 nm)    | 0.0019 (ppm)     | 71.20    | 0.0019 (ppm)    | -8.0705      |
| 11/1/2017 02:03:46 | R1710073-013   | Pb (220.353 nm)    | -0.0007 u (ppm)  | > 100.00 | -0.0007 (ppm)   | 3.5500       |
| 11/1/2017 02:03:46 | R1710073-013   | Sb (217.582 nm)    | -0.0017 u (ppm)  | 47.76    | -0.0017 (ppm)   | -1.5052      |
| 11/1/2017 02:03:46 | R1710073-013   | Se (196.026 nm)    | -0.0011 u (ppm)  | > 100.00 | -0.0011 (ppm)   | -0.1246      |
| 11/1/2017 02:03:46 | R1710073-013   | Sn (189.925 nm)    | -0.0005 u (ppm)  | > 100.00 | -0.0005 (ppm)   | -0.7204      |
| 11/1/2017 02:03:46 | R1710073-013   | Sr (216.596 nm)    | 0.4125 (ppm)     | 0.28     | 0.4125 (ppm)    | 5855.7550    |
| 11/1/2017 02:03:46 | R1710073-013   | Tl (336.122 nm)    | 0.0009 (ppm)     | 6.48     | 0.0009 (ppm)    | -298.8822    |
| 11/1/2017 02:03:46 | R1710073-013   | Tl (351.923 nm)    | 0.0018 u (ppm)   | > 100.00 | 0.0018 (ppm)    | 12.3446      |
| 11/1/2017 02:03:46 | R1710073-013   | V (292.401 nm)     | 0.0005 (ppm)     | 25.78    | 0.0005 (ppm)    | 126.5048     |
| 11/1/2017 02:03:46 | R1710073-013   | Y (360.074 nm)     | 0.89 (Ratio)     | 0.99     | 0.89 (Ratio)    | 761347.97    |
| 11/1/2017 02:03:46 | R1710073-013   | Y_R (360.074 nm)   | 0.89 (Ratio)     | 0.99     | 0.89 (Ratio)    | 761652.53    |
| 11/1/2017 02:03:46 | R1710073-013   | Zn (213.857 nm)    | 0.0032 (ppm)     | 4.30     | 0.0032 (ppm)    | 62.6883      |
| 11/1/2017 02:07:04 | R1710073-013S  | Ag (328.068 nm)    | 0.0523 (ppm)     | 0.25     | 0.0523 (ppm)    | 3631.4107    |
| 11/1/2017 02:07:04 | R1710073-013S  | Al (394.401 nm)    | 2.1166 (ppm)     | 0.38     | 2.1166 (ppm)    | 27213.2634   |
| 11/1/2017 02:07:04 | R1710073-013S  | As (188.980 nm)    | 0.0459 (ppm)     | 13.59    | 0.0459 (ppm)    | 39.5495      |
| 11/1/2017 02:07:04 | R1710073-013S  | B (249.772 nm)     | 1.0569 (ppm)     | 0.31     | 1.0569 (ppm)    | 29297.2015   |
| 11/1/2017 02:07:04 | R1710073-013S  | Ba (230.424 nm)    | 2.3068 (ppm)     | 0.28     | 2.3068 (ppm)    | 77555.3763   |
| 11/1/2017 02:07:04 | R1710073-013S  | Be (313.107 nm)    | 0.0528 (ppm)     | 0.27     | 0.0528 (ppm)    | 77415.4383   |
| 11/1/2017 02:07:04 | R1710073-013S  | Ce (227.547 nm)    | 39.0452 (ppm)    | 0.55     | 39.0452 (ppm)   | 2202.4780    |
| 11/1/2017 02:07:04 | R1710073-013S  | Cd (214.439 nm)    | 0.0539 (ppm)     | 0.25     | 0.0539 (ppm)    | 1181.2615    |
| 11/1/2017 02:07:04 | R1710073-013S  | Co (230.786 nm)    | 0.5321 (ppm)     | 0.18     | 0.5321 (ppm)    | 5249.8917    |
| 11/1/2017 02:07:04 | R1710073-013S  | Cr (267.716 nm)    | 0.2078 (ppm)     | 0.20     | 0.2078 (ppm)    | 10287.8543   |
| 11/1/2017 02:07:04 | R1710073-013S  | Cu (327.395 nm)    | 0.2539 (ppm)     | 0.27     | 0.2539 (ppm)    | 15778.1144   |
| 11/1/2017 02:07:04 | R1710073-013S  | Fe (234.350 nm)    | 1.0354 (ppm)     | 0.50     | 1.0354 (ppm)    | 11576.3096   |
| 11/1/2017 02:07:04 | R1710073-013S  | K (766.491 nm)     | 28.1028 (ppm)    | 0.46     | 28.1028 (ppm)   | 84785.1777   |
| 11/1/2017 02:07:04 | R1710073-013S  | Mg (279.078 nm)    | 11.8291 (ppm)    | 0.30     | 11.8291 (ppm)   | 22825.8475   |
| 11/1/2017 02:07:04 | R1710073-013S  | Mn (257.610 nm)    | 0.5644 (ppm)     | 0.22     | 0.5644 (ppm)    | 176910.3170  |
| 11/1/2017 02:07:04 | R1710073-013S  | Mo (202.032 nm)    | 0.5057 (ppm)     | 0.32     | 0.5057 (ppm)    | 5161.6244    |
| 11/1/2017 02:07:04 | R1710073-013S  | Na (588.995 nm)    | 157.9386 u (ppm) | 0.60     | 157.9386 (ppm)  | 7176754.1895 |
| 11/1/2017 02:07:04 | R1710073-013S  | Ni (230.299 nm)    | 0.5319 (ppm)     | 0.35     | 0.5319 (ppm)    | 3562.6521    |
| 11/1/2017 02:07:04 | R1710073-013S  | Pb (220.353 nm)    | 0.5274 (ppm)     | 0.49     | 0.5274 (ppm)    | 1131.8226    |
| 11/1/2017 02:07:04 | R1710073-013S  | Sb (217.582 nm)    | 0.5304 (ppm)     | 0.55     | 0.5304 (ppm)    | 726.1908     |
| 11/1/2017 02:07:04 | R1710073-013S  | Se (196.026 nm)    | 1.1727 u (ppm)   | 0.39     | 1.1727 (ppm)    | 1005.0773    |
| 11/1/2017 02:07:04 | R1710073-013S  | Sn (189.925 nm)    | 5.3498 (ppm)     | 0.52     | 5.3498 (ppm)    | 6478.2163    |
| 11/1/2017 02:07:04 | R1710073-013S  | Sr (216.596 nm)    | 2.5519 (ppm)     | 0.16     | 2.5519 (ppm)    | 36233.5432   |
| 11/1/2017 02:07:04 | R1710073-013S  | Tl (336.122 nm)    | 0.5088 (ppm)     | 0.33     | 0.5088 (ppm)    | 105984.5553  |
| 11/1/2017 02:07:04 | R1710073-013S  | Tl (351.923 nm)    | 2.0354 (ppm)     | 0.54     | 2.0354 (ppm)    | 5597.9552    |
| 11/1/2017 02:07:04 | R1710073-013S  | V (292.401 nm)     | 0.5242 (ppm)     | 0.26     | 0.5242 (ppm)    | 18638.3288   |
| 11/1/2017 02:07:04 | R1710073-013S  | Y (360.074 nm)     | 0.89 (Ratio)     | 0.79     | 0.89 (Ratio)    | 758846.37    |
| 11/1/2017 02:07:04 | R1710073-013S  | Y_R (360.074 nm)   | 0.89 (Ratio)     | 0.79     | 0.89 (Ratio)    | 759120.45    |
| 11/1/2017 02:07:04 | R1710073-013S  | Zn (213.857 nm)    | 0.5496 (ppm)     | 0.43     | 0.5496 (ppm)    | 15350.0136   |
| 11/1/2017 02:10:22 | R1710073-013SD | Ag (328.068 nm)    | 0.0511 (ppm)     | 0.86     | 0.0511 (ppm)    | 3550.2378    |
| 11/1/2017 02:10:22 | R1710073-013SD | Al (394.401 nm)    | 2.0707 (ppm)     | 0.57     | 2.0707 (ppm)    | 26626.3358   |

| Date Time          | Label          | Element Label (nm) | Conc             | %RSD  | Unadjusted Conc | Intensity    |
|--------------------|----------------|--------------------|------------------|-------|-----------------|--------------|
| 11/1/2017 02:10:22 | R1710073-013SD | As (188.980 nm)    | 0.0416 (ppm)     | 4.25  | 0.0416 (ppm)    | 35.7318      |
| 11/1/2017 02:10:22 | R1710073-013SD | B (249.772 nm)     | 1.0459 (ppm)     | 0.31  | 1.0459 (ppm)    | 28990.5331   |
| 11/1/2017 02:10:22 | R1710073-013SD | Ba (230.424 nm)    | 2.2578 (ppm)     | 0.49  | 2.2578 (ppm)    | 75907.0251   |
| 11/1/2017 02:10:22 | R1710073-013SD | Be (313.107 nm)    | 0.0520 (ppm)     | 0.47  | 0.0520 (ppm)    | 76230.4943   |
| 11/1/2017 02:10:22 | R1710073-013SD | Ca (227.547 nm)    | 38.0925 (ppm)    | 0.64  | 38.0925 (ppm)   | 2148.8494    |
| 11/1/2017 02:10:22 | R1710073-013SD | Cd (214.439 nm)    | 0.0529 (ppm)     | 0.15  | 0.0529 (ppm)    | 1159.8329    |
| 11/1/2017 02:10:22 | R1710073-013SD | Co (230.786 nm)    | 0.5223 (ppm)     | 0.59  | 0.5223 (ppm)    | 5152.6316    |
| 11/1/2017 02:10:22 | R1710073-013SD | Cf (267.716 nm)    | 0.2042 (ppm)     | 0.61  | 0.2042 (ppm)    | 10107.6771   |
| 11/1/2017 02:10:22 | R1710073-013SD | Cu (327.395 nm)    | 0.2500 (ppm)     | 0.68  | 0.2500 (ppm)    | 15535.6965   |
| 11/1/2017 02:10:22 | R1710073-013SD | Fe (234.350 nm)    | 1.0107 (ppm)     | 0.81  | 1.0107 (ppm)    | 11300.6117   |
| 11/1/2017 02:10:22 | R1710073-013SD | K (766.491 nm)     | 27.4475 (ppm)    | 0.60  | 27.4475 (ppm)   | 82808.1309   |
| 11/1/2017 02:10:22 | R1710073-013SD | Mg (279.078 nm)    | 11.5358 (ppm)    | 0.60  | 11.5358 (ppm)   | 22259.7560   |
| 11/1/2017 02:10:22 | R1710073-013SD | Mn (257.610 nm)    | 0.5532 (ppm)     | 0.39  | 0.5532 (ppm)    | 173397.1103  |
| 11/1/2017 02:10:22 | R1710073-013SD | Mo (202.032 nm)    | 0.4968 (ppm)     | 0.37  | 0.4968 (ppm)    | 5070.9105    |
| 11/1/2017 02:10:22 | R1710073-013SD | Na (588.995 nm)    | 154.4422 o (ppm) | 0.73  | 154.4422 (ppm)  | 7017758.8357 |
| 11/1/2017 02:10:22 | R1710073-013SD | Ni (230.299 nm)    | 0.5203 (ppm)     | 0.23  | 0.5203 (ppm)    | 3484.7045    |
| 11/1/2017 02:10:22 | R1710073-013SD | Pb (220.353 nm)    | 0.5192 (ppm)     | 0.75  | 0.5192 (ppm)    | 1114.3872    |
| 11/1/2017 02:10:22 | R1710073-013SD | Sb (217.582 nm)    | 0.5194 (ppm)     | 0.89  | 0.5194 (ppm)    | 711.0870     |
| 11/1/2017 02:10:22 | R1710073-013SD | Se (196.026 nm)    | 1.1369 o (ppm)   | 1.28  | 1.1369 (ppm)    | 974.4621     |
| 11/1/2017 02:10:22 | R1710073-013SD | Sn (189.925 nm)    | 5.2049 (ppm)     | 0.52  | 5.2049 (ppm)    | 6302.8191    |
| 11/1/2017 02:10:22 | R1710073-013SD | Sr (216.596 nm)    | 2.5042 (ppm)     | 0.59  | 2.5042 (ppm)    | 35556.1480   |
| 11/1/2017 02:10:22 | R1710073-013SD | Ti (336.122 nm)    | 0.4994 (ppm)     | 0.64  | 0.4994 (ppm)    | 104016.7003  |
| 11/1/2017 02:10:22 | R1710073-013SD | Tl (351.923 nm)    | 1.9907 (ppm)     | 0.69  | 1.9907 (ppm)    | 5475.3198    |
| 11/1/2017 02:10:22 | R1710073-013SD | V (292.401 nm)     | 0.5150 (ppm)     | 0.38  | 0.5150 (ppm)    | 18312.2900   |
| 11/1/2017 02:10:22 | R1710073-013SD | Y (360.074 nm)     | 0.89 (Ratio)     | 0.86  | 0.89 (Ratio)    | 760880.57    |
| 11/1/2017 02:10:22 | R1710073-013SD | Y_R (360.074 nm)   | 0.89 (Ratio)     | 0.86  | 0.89 (Ratio)    | 761151.00    |
| 11/1/2017 02:10:22 | R1710073-013SD | Zn (213.857 nm)    | 0.5361 (ppm)     | 0.59  | 0.5361 (ppm)    | 14970.7163   |
| 11/1/2017 02:13:41 | R1710073-013A  | Ag (328.068 nm)    | 0.0493 (ppm)     | 0.19  | 0.0493 (ppm)    | 3419.3933    |
| 11/1/2017 02:13:41 | R1710073-013A  | Al (394.401 nm)    | 2.0202 (ppm)     | 0.49  | 2.0202 (ppm)    | 25980.3921   |
| 11/1/2017 02:13:41 | R1710073-013A  | As (188.980 nm)    | 0.0407 (ppm)     | 12.64 | 0.0407 (ppm)    | 34.8873      |
| 11/1/2017 02:13:41 | R1710073-013A  | B (249.772 nm)     | 1.1455 (ppm)     | 0.33  | 1.1455 (ppm)    | 31750.1476   |
| 11/1/2017 02:13:41 | R1710073-013A  | Ba (230.424 nm)    | 2.1653 (ppm)     | 0.48  | 2.1653 (ppm)    | 72797.2047   |
| 11/1/2017 02:13:41 | R1710073-013A  | Be (313.107 nm)    | 0.0498 (ppm)     | 0.34  | 0.0498 (ppm)    | 73097.7429   |
| 11/1/2017 02:13:41 | R1710073-013A  | Ca (227.547 nm)    | 36.7536 (ppm)    | 0.79  | 36.7536 (ppm)   | 2073.4731    |
| 11/1/2017 02:13:41 | R1710073-013A  | Cd (214.439 nm)    | 0.0506 (ppm)     | 0.60  | 0.0506 (ppm)    | 1109.4264    |
| 11/1/2017 02:13:41 | R1710073-013A  | Co (230.786 nm)    | 0.5015 (ppm)     | 0.36  | 0.5015 (ppm)    | 4947.9511    |
| 11/1/2017 02:13:41 | R1710073-013A  | Cr (267.716 nm)    | 0.1959 (ppm)     | 0.50  | 0.1959 (ppm)    | 9699.7802    |
| 11/1/2017 02:13:41 | R1710073-013A  | Cu (327.395 nm)    | 0.2412 (ppm)     | 0.53  | 0.2412 (ppm)    | 14990.7392   |
| 11/1/2017 02:13:41 | R1710073-013A  | Fe (234.350 nm)    | 0.9661 (ppm)     | 0.42  | 0.9661 (ppm)    | 10802.8174   |
| 11/1/2017 02:13:41 | R1710073-013A  | K (766.491 nm)     | 26.7295 (ppm)    | 0.55  | 26.7295 (ppm)   | 80641.5418   |
| 11/1/2017 02:13:41 | R1710073-013A  | Mg (279.078 nm)    | 10.9979 (ppm)    | 0.37  | 10.9979 (ppm)   | 21221.8775   |
| 11/1/2017 02:13:41 | R1710073-013A  | Mn (257.610 nm)    | 0.5341 (ppm)     | 0.16  | 0.5341 (ppm)    | 167409.7890  |
| 11/1/2017 02:13:41 | R1710073-013A  | Mo (202.032 nm)    | 0.4801 (ppm)     | 0.35  | 0.4801 (ppm)    | 4901.2561    |
| 11/1/2017 02:13:41 | R1710073-013A  | Na (588.995 nm)    | 148.9757 o (ppm) | 0.71  | 148.9757 (ppm)  | 6769170.2325 |
| 11/1/2017 02:13:41 | R1710073-013A  | Ni (230.299 nm)    | 0.5002 (ppm)     | 0.40  | 0.5002 (ppm)    | 3348.8257    |
| 11/1/2017 02:13:41 | R1710073-013A  | Pb (220.353 nm)    | 0.4974 (ppm)     | 0.84  | 0.4974 (ppm)    | 1067.8806    |
| 11/1/2017 02:13:41 | R1710073-013A  | Sb (217.582 nm)    | 0.5106 (ppm)     | 0.56  | 0.5106 (ppm)    | 699.1064     |
| 11/1/2017 02:13:41 | R1710073-013A  | Se (196.026 nm)    | 1.1973 o (ppm)   | 0.46  | 1.1973 (ppm)    | 1026.1579    |
| 11/1/2017 02:13:41 | R1710073-013A  | Sn (189.925 nm)    | 5.1189 (ppm)     | 0.44  | 5.1189 (ppm)    | 6198.6309    |
| 11/1/2017 02:13:41 | R1710073-013A  | Sr (216.596 nm)    | 2.4722 (ppm)     | 0.51  | 2.4722 (ppm)    | 35101.4152   |
| 11/1/2017 02:13:41 | R1710073-013A  | Ti (336.122 nm)    | 0.4856 (ppm)     | 0.35  | 0.4856 (ppm)    | 101128.4521  |

| Date Time          | Label         | Element Label (nm) | Conc             | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|---------------|--------------------|------------------|----------|-----------------|--------------|
| 11/1/2017 02:13:41 | R1710073-013A | Tl (351.923 nm)    | 1.9288 (ppm)     | 0.44     | 1.9288 (ppm)    | 5305.2419    |
| 11/1/2017 02:13:41 | R1710073-013A | V (292.401 nm)     | 0.4942 (ppm)     | 0.42     | 0.4942 (ppm)    | 17579.0151   |
| 11/1/2017 02:13:41 | R1710073-013A | Y (360.074 nm)     | 0.93 (Ratio)     | 0.65     | 0.93 (Ratio)    | 794929.77    |
| 11/1/2017 02:13:41 | R1710073-013A | Y_R (360.074 nm)   | 0.93 (Ratio)     | 0.65     | 0.93 (Ratio)    | 795197.72    |
| 11/1/2017 02:13:41 | R1710073-013A | Zn (213.857 nm)    | 0.5225 (ppm)     | 0.32     | 0.5225 (ppm)    | 14590.4931   |
| 11/1/2017 02:17:00 | R1710073-013L | Ag (328.068 nm)    | -0.0001 u (ppm)  | 43.01    | -0.0001 (ppm)   | -111.2457    |
| 11/1/2017 02:17:00 | R1710073-013L | Al (394.401 nm)    | 0.0043 u (ppm)   | > 100.00 | 0.0043 (ppm)    | 180.8405     |
| 11/1/2017 02:17:00 | R1710073-013L | As (188.980 nm)    | 0.0016 (ppm)     | 15.15    | 0.0016 (ppm)    | 0.0143       |
| 11/1/2017 02:17:00 | R1710073-013L | B (249.772 nm)     | 0.0020 u (ppm)   | > 100.00 | 0.0020 (ppm)    | 88.7572      |
| 11/1/2017 02:17:00 | R1710073-013L | Ba (230.424 nm)    | 0.0122 (ppm)     | 86.17    | 0.0122 (ppm)    | 413.1662     |
| 11/1/2017 02:17:00 | R1710073-013L | Be (313.107 nm)    | 0.0003 (ppm)     | 1.21     | 0.0003 (ppm)    | -88.0540     |
| 11/1/2017 02:17:00 | R1710073-013L | Ca (227.547 nm)    | 1.8153 (ppm)     | > 100.00 | 1.8153 (ppm)    | 106.6047     |
| 11/1/2017 02:17:00 | R1710073-013L | Cd (214.439 nm)    | -0.0003 u (ppm)  | 14.53    | -0.0003 (ppm)   | 6.3034       |
| 11/1/2017 02:17:00 | R1710073-013L | Co (230.786 nm)    | 0.0005 (ppm)     | 76.45    | 0.0005 (ppm)    | 1.8286       |
| 11/1/2017 02:17:00 | R1710073-013L | Cr (267.716 nm)    | 0.0001 (ppm)     | 14.81    | 0.0001 (ppm)    | 3.9563       |
| 11/1/2017 02:17:00 | R1710073-013L | Cu (327.395 nm)    | 0.0000 (ppm)     | > 100.00 | 0.0000 (ppm)    | 14.5334      |
| 11/1/2017 02:17:00 | R1710073-013L | Fe (234.350 nm)    | 0.0018 (ppm)     | 89.07    | 0.0018 (ppm)    | 31.6176      |
| 11/1/2017 02:17:00 | R1710073-013L | K (766.491 nm)     | 0.3608 (ppm)     | > 100.00 | 0.3608 (ppm)    | 1079.6824    |
| 11/1/2017 02:17:00 | R1710073-013L | Mg (279.078 nm)    | 0.4524 (ppm)     | > 100.00 | 0.4524 (ppm)    | 872.2831     |
| 11/1/2017 02:17:00 | R1710073-013L | Mn (257.610 nm)    | 0.0032 (ppm)     | > 100.00 | 0.0032 (ppm)    | 1012.6457    |
| 11/1/2017 02:17:00 | R1710073-013L | Mo (202.032 nm)    | 0.0008 (ppm)     | 89.05    | 0.0008 (ppm)    | 15.0470      |
| 11/1/2017 02:17:00 | R1710073-013L | Na (588.995 nm)    | 7.3217 (ppm)     | > 100.00 | 7.3217 (ppm)    | 327492.0057  |
| 11/1/2017 02:17:00 | R1710073-013L | Ni (230.299 nm)    | 0.0022 (ppm)     | 7.85     | 0.0022 (ppm)    | -5.4944      |
| 11/1/2017 02:17:00 | R1710073-013L | Pb (220.353 nm)    | -0.0012 u (ppm)  | 18.78    | -0.0012 (ppm)   | 2.4508       |
| 11/1/2017 02:17:00 | R1710073-013L | Sb (217.582 nm)    | 0.0002 u (ppm)   | > 100.00 | 0.0002 (ppm)    | 1.0794       |
| 11/1/2017 02:17:00 | R1710073-013L | Se (196.026 nm)    | 0.0006 u (ppm)   | > 100.00 | 0.0006 (ppm)    | 1.3181       |
| 11/1/2017 02:17:00 | R1710073-013L | Sn (189.925 nm)    | 0.0024 (ppm)     | 60.71    | 0.0024 (ppm)    | 2.8763       |
| 11/1/2017 02:17:00 | R1710073-013L | Sr (216.596 nm)    | 0.0301 (ppm)     | 85.61    | 0.0301 (ppm)    | 427.2656     |
| 11/1/2017 02:17:00 | R1710073-013L | Ti (336.122 nm)    | 0.0034 (ppm)     | 46.47    | 0.0034 (ppm)    | 219.7082     |
| 11/1/2017 02:17:00 | R1710073-013L | Tl (351.923 nm)    | -0.0006 u (ppm)  | > 100.00 | -0.0006 (ppm)   | 5.6584       |
| 11/1/2017 02:17:00 | R1710073-013L | V (292.401 nm)     | -0.0017 u (ppm)  | 19.62    | -0.0017 (ppm)   | 48.3678      |
| 11/1/2017 02:17:00 | R1710073-013L | Y (360.074 nm)     | 2.84 (Ratio)     | 15.90    | 2.84 (Ratio)    | 2422412.05   |
| 11/1/2017 02:17:00 | R1710073-013L | Y_R (360.074 nm)   | 2.84 (Ratio)     | 15.90    | 2.84 (Ratio)    | 2423600.13   |
| 11/1/2017 02:17:00 | R1710073-013L | Zn (213.857 nm)    | 0.0010 (ppm)     | 32.92    | 0.0010 (ppm)    | 1.0356       |
| 11/1/2017 02:20:18 | R1710073-014  | Ag (328.068 nm)    | -0.0001 u (ppm)  | 39.03    | -0.0001 (ppm)   | -107.9858    |
| 11/1/2017 02:20:18 | R1710073-014  | Al (394.401 nm)    | 0.0523 (ppm)     | 1.71     | 0.0523 (ppm)    | 794.9771     |
| 11/1/2017 02:20:18 | R1710073-014  | As (188.980 nm)    | 0.0010 u (ppm)   | > 100.00 | 0.0010 (ppm)    | -0.5393      |
| 11/1/2017 02:20:18 | R1710073-014  | B (249.772 nm)     | 0.0370 (ppm)     | 0.50     | 0.0370 (ppm)    | 1059.1373    |
| 11/1/2017 02:20:18 | R1710073-014  | Ba (230.424 nm)    | 0.1631 (ppm)     | 0.38     | 0.1631 (ppm)    | 5484.5938    |
| 11/1/2017 02:20:18 | R1710073-014  | Be (313.107 nm)    | 0.0001 (ppm)     | 1.11     | 0.0001 (ppm)    | -343.9319    |
| 11/1/2017 02:20:18 | R1710073-014  | Ca (227.547 nm)    | 35.8099 (ppm)    | 0.38     | 35.8099 (ppm)   | 2020.3494    |
| 11/1/2017 02:20:18 | R1710073-014  | Cd (214.439 nm)    | 0.0003 (ppm)     | 30.08    | 0.0003 (ppm)    | 20.3974      |
| 11/1/2017 02:20:18 | R1710073-014  | Co (230.786 nm)    | 0.0005 (ppm)     | 96.51    | 0.0005 (ppm)    | 1.5852       |
| 11/1/2017 02:20:18 | R1710073-014  | Cr (267.716 nm)    | -0.0001 u (ppm)  | > 100.00 | -0.0001 (ppm)   | -6.8283      |
| 11/1/2017 02:20:18 | R1710073-014  | Cu (327.395 nm)    | 0.0007 (ppm)     | 24.53    | 0.0007 (ppm)    | 54.0704      |
| 11/1/2017 02:20:18 | R1710073-014  | Fe (234.350 nm)    | 0.0029 (ppm)     | 15.96    | 0.0029 (ppm)    | 44.4945      |
| 11/1/2017 02:20:18 | R1710073-014  | K (766.491 nm)     | 6.7737 (ppm)     | 0.57     | 6.7737 (ppm)    | 20429.3481   |
| 11/1/2017 02:20:18 | R1710073-014  | Mg (279.078 nm)    | 9.4121 (ppm)     | 0.37     | 9.4121 (ppm)    | 18161.7240   |
| 11/1/2017 02:20:18 | R1710073-014  | Mn (257.610 nm)    | 0.0497 (ppm)     | 0.34     | 0.0497 (ppm)    | 15595.7764   |
| 11/1/2017 02:20:18 | R1710073-014  | Mo (202.032 nm)    | 0.0002 u (ppm)   | > 100.00 | 0.0002 (ppm)    | 8.8065       |
| 11/1/2017 02:20:18 | R1710073-014  | Na (588.995 nm)    | 136.7389 u (ppm) | 0.71     | 136.7389 (ppm)  | 6212704.4860 |

| Date Time          | Label          | Element Label (nm) | Conc             | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|----------------|--------------------|------------------|----------|-----------------|--------------|
| 11/1/2017 02:20:18 | R1710073-014   | Ni (230.299 nm)    | 0.0024 (ppm)     | 13.71    | 0.0024 (ppm)    | -4.7661      |
| 11/1/2017 02:20:18 | R1710073-014   | Pb (220.353 nm)    | -0.0009 u (ppm)  | 77.57    | -0.0009 (ppm)   | 3.2275       |
| 11/1/2017 02:20:18 | R1710073-014   | Sb (217.582 nm)    | -0.0052 u (ppm)  | 58.94    | -0.0052 (ppm)   | -6.2740      |
| 11/1/2017 02:20:18 | R1710073-014   | Se (196.026 nm)    | -0.0002 u (ppm)  | > 100.00 | -0.0002 (ppm)   | 0.5631       |
| 11/1/2017 02:20:18 | R1710073-014   | Sn (189.925 nm)    | 0.0009 u (ppm)   | > 100.00 | 0.0009 (ppm)    | 1.0694       |
| 11/1/2017 02:20:18 | R1710073-014   | Sr (216.596 nm)    | 0.4074 (ppm)     | 0.47     | 0.4074 (ppm)    | 5783.7622    |
| 11/1/2017 02:20:18 | R1710073-014   | Ti (336.122 nm)    | 0.0010 (ppm)     | 1.60     | 0.0010 (ppm)    | -279.4395    |
| 11/1/2017 02:20:18 | R1710073-014   | Tl (351.923 nm)    | 0.0010 u (ppm)   | > 100.00 | 0.0010 (ppm)    | 10.1502      |
| 11/1/2017 02:20:18 | R1710073-014   | V (292.401 nm)     | 0.0003 (ppm)     | 51.45    | 0.0003 (ppm)    | 121.1041     |
| 11/1/2017 02:20:18 | R1710073-014   | Y (360.074 nm)     | 0.92 (Ratio)     | 0.57     | 0.92 (Ratio)    | 787558.30    |
| 11/1/2017 02:20:18 | R1710073-014   | Y_R (360.074 nm)   | 0.92 (Ratio)     | 0.56     | 0.92 (Ratio)    | 787790.87    |
| 11/1/2017 02:20:18 | R1710073-014   | Zn (213.857 nm)    | 0.0036 (ppm)     | 5.23     | 0.0036 (ppm)    | 73.9927      |
| 11/1/2017 02:23:37 | R1710073-014S  | Ag (328.068 nm)    | 0.0512 (ppm)     | 0.39     | 0.0512 (ppm)    | 3553.8667    |
| 11/1/2017 02:23:37 | R1710073-014S  | Al (394.401 nm)    | 2.0795 (ppm)     | 0.34     | 2.0795 (ppm)    | 26738.9382   |
| 11/1/2017 02:23:37 | R1710073-014S  | As (188.980 nm)    | 0.0446 (ppm)     | 7.26     | 0.0446 (ppm)    | 38.3749      |
| 11/1/2017 02:23:37 | R1710073-014S  | B (249.772 nm)     | 1.0291 (ppm)     | 0.29     | 1.0291 (ppm)    | 28526.2363   |
| 11/1/2017 02:23:37 | R1710073-014S  | Ba (230.424 nm)    | 2.2485 (ppm)     | 0.25     | 2.2485 (ppm)    | 75592.7158   |
| 11/1/2017 02:23:37 | R1710073-014S  | Be (313.107 nm)    | 0.0511 (ppm)     | 0.37     | 0.0511 (ppm)    | 74916.7353   |
| 11/1/2017 02:23:37 | R1710073-014S  | Ca (227.547 nm)    | 38.4438 (ppm)    | 0.15     | 38.4438 (ppm)   | 2168.6253    |
| 11/1/2017 02:23:37 | R1710073-014S  | Cd (214.439 nm)    | 0.0526 (ppm)     | 0.06     | 0.0526 (ppm)    | 1153.0128    |
| 11/1/2017 02:23:37 | R1710073-014S  | Co (230.786 nm)    | 0.5201 (ppm)     | 0.27     | 0.5201 (ppm)    | 5131.3644    |
| 11/1/2017 02:23:37 | R1710073-014S  | Cr (267.716 nm)    | 0.2024 (ppm)     | 0.32     | 0.2024 (ppm)    | 10019.4060   |
| 11/1/2017 02:23:37 | R1710073-014S  | Cu (327.395 nm)    | 0.2492 (ppm)     | 0.33     | 0.2492 (ppm)    | 15482.1138   |
| 11/1/2017 02:23:37 | R1710073-014S  | Fe (234.350 nm)    | 0.9922 (ppm)     | 0.35     | 0.9922 (ppm)    | 11093.8259   |
| 11/1/2017 02:23:37 | R1710073-014S  | K (766.491 nm)     | 27.8895 (ppm)    | 0.33     | 27.8895 (ppm)   | 84141.8646   |
| 11/1/2017 02:23:37 | R1710073-014S  | Mg (279.078 nm)    | 11.5752 (ppm)    | 0.40     | 11.5752 (ppm)   | 22335.7846   |
| 11/1/2017 02:23:37 | R1710073-014S  | Mn (257.610 nm)    | 0.5497 (ppm)     | 0.18     | 0.5497 (ppm)    | 172309.2141  |
| 11/1/2017 02:23:37 | R1710073-014S  | Mo (202.032 nm)    | 0.4927 (ppm)     | 0.21     | 0.4927 (ppm)    | 5029.4703    |
| 11/1/2017 02:23:37 | R1710073-014S  | Na (588.995 nm)    | 156.0617 o (ppm) | 0.62     | 156.0617 (ppm)  | 7091403.1087 |
| 11/1/2017 02:23:37 | R1710073-014S  | Ni (230.299 nm)    | 0.5179 (ppm)     | 0.24     | 0.5179 (ppm)    | 3468.4533    |
| 11/1/2017 02:23:37 | R1710073-014S  | Pb (220.353 nm)    | 0.5156 (ppm)     | 0.20     | 0.5156 (ppm)    | 1106.6350    |
| 11/1/2017 02:23:37 | R1710073-014S  | Sb (217.582 nm)    | 0.5219 (ppm)     | 0.73     | 0.5219 (ppm)    | 714.5481     |
| 11/1/2017 02:23:37 | R1710073-014S  | Se (196.026 nm)    | 1.1576 o (ppm)   | 0.11     | 1.1576 (ppm)    | 992.1757     |
| 11/1/2017 02:23:37 | R1710073-014S  | Sn (189.925 nm)    | 5.2151 (ppm)     | 0.49     | 5.2151 (ppm)    | 6315.1497    |
| 11/1/2017 02:23:37 | R1710073-014S  | Sr (216.596 nm)    | 2.4925 (ppm)     | 0.25     | 2.4925 (ppm)    | 35389.5448   |
| 11/1/2017 02:23:37 | R1710073-014S  | Ti (336.122 nm)    | 0.4982 (ppm)     | 0.36     | 0.4982 (ppm)    | 103759.2545  |
| 11/1/2017 02:23:37 | R1710073-014S  | Tl (351.923 nm)    | 2.0027 (ppm)     | 0.35     | 2.0027 (ppm)    | 5508.0432    |
| 11/1/2017 02:23:37 | R1710073-014S  | V (292.401 nm)     | 0.5126 (ppm)     | 0.39     | 0.5126 (ppm)    | 18226.6132   |
| 11/1/2017 02:23:37 | R1710073-014S  | Y (360.074 nm)     | 0.92 (Ratio)     | 0.64     | 0.92 (Ratio)    | 782825.22    |
| 11/1/2017 02:23:37 | R1710073-014S  | Y_R (360.074 nm)   | 0.92 (Ratio)     | 0.64     | 0.92 (Ratio)    | 783028.37    |
| 11/1/2017 02:23:37 | R1710073-014S  | Zn (213.857 nm)    | 0.5368 (ppm)     | 0.46     | 0.5368 (ppm)    | 14991.9106   |
| 11/1/2017 02:26:56 | R1710073-014SD | Ag (328.068 nm)    | 0.0512 (ppm)     | 0.71     | 0.0512 (ppm)    | 3554.1042    |
| 11/1/2017 02:26:56 | R1710073-014SD | Al (394.401 nm)    | 2.0770 (ppm)     | 0.76     | 2.0770 (ppm)    | 26706.2575   |
| 11/1/2017 02:26:56 | R1710073-014SD | As (188.980 nm)    | 0.0428 (ppm)     | 10.10    | 0.0428 (ppm)    | 36.7622      |
| 11/1/2017 02:26:56 | R1710073-014SD | B (249.772 nm)     | 1.0470 (ppm)     | 0.57     | 1.0470 (ppm)    | 29021.9376   |
| 11/1/2017 02:26:56 | R1710073-014SD | Ba (230.424 nm)    | 2.2597 (ppm)     | 0.84     | 2.2597 (ppm)    | 75971.9038   |
| 11/1/2017 02:26:56 | R1710073-014SD | Be (313.107 nm)    | 0.0520 (ppm)     | 0.63     | 0.0520 (ppm)    | 76259.4081   |
| 11/1/2017 02:26:56 | R1710073-014SD | Ca (227.547 nm)    | 38.2061 (ppm)    | 0.84     | 38.2061 (ppm)   | 2155.2392    |
| 11/1/2017 02:26:56 | R1710073-014SD | Cd (214.439 nm)    | 0.0528 (ppm)     | 0.09     | 0.0528 (ppm)    | 1156.3370    |
| 11/1/2017 02:26:56 | R1710073-014SD | Co (230.786 nm)    | 0.5221 (ppm)     | 0.75     | 0.5221 (ppm)    | 5151.0605    |
| 11/1/2017 02:26:56 | R1710073-014SD | Cr (267.716 nm)    | 0.2043 (ppm)     | 0.62     | 0.2043 (ppm)    | 10115.4396   |

| Date Time          | Label                                 | Element Label (nm) | Conc           | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|---------------------------------------|--------------------|----------------|----------|-----------------|--------------|
| 11/1/2017 02:26:56 | R1710073-014SD                        | Cu (327.395 nm)    | 0.2501 (ppm)   | 0.76     | 0.2501 (ppm)    | 15539.4933   |
| 11/1/2017 02:26:56 | R1710073-014SD                        | Fe (234.350 nm)    | 1.0022 (ppm)   | 0.63     | 1.0022 (ppm)    | 11205.1923   |
| 11/1/2017 02:26:56 | R1710073-014SD                        | K (766.491 nm)     | 27.6763 (ppm)  | 0.93     | 27.6763 (ppm)   | 83498.3829   |
| 11/1/2017 02:26:56 | R1710073-014SD                        | Mg (279.078 nm)    | 11.5173 (ppm)  | 0.49     | 11.5173 (ppm)   | 22224.0795   |
| 11/1/2017 02:26:56 | R1710073-014SD                        | Mn (257.610 nm)    | 0.5526 (ppm)   | 0.59     | 0.5526 (ppm)    | 173198.1154  |
| 11/1/2017 02:26:56 | R1710073-014SD                        | Mo (202.032 nm)    | 0.4966 (ppm)   | 0.60     | 0.4966 (ppm)    | 5069.1072    |
| 11/1/2017 02:26:56 | R1710073-014SD                        | Na (588.995 nm)    | 155.2226 (ppm) | 0.95     | 155.2226 (ppm)  | 7053246.6389 |
| 11/1/2017 02:26:56 | R1710073-014SD                        | Ni (230.299 nm)    | 0.5191 (ppm)   | 0.89     | 0.5191 (ppm)    | 3476.5087    |
| 11/1/2017 02:26:56 | R1710073-014SD                        | Pb (220.353 nm)    | 0.5175 (ppm)   | 0.88     | 0.5175 (ppm)    | 1110.8208    |
| 11/1/2017 02:26:56 | R1710073-014SD                        | Sb (217.582 nm)    | 0.5211 (ppm)   | 1.39     | 0.5211 (ppm)    | 713.4378     |
| 11/1/2017 02:26:56 | R1710073-014SD                        | Se (196.026 nm)    | 1.1438 (ppm)   | 0.51     | 1.1438 (ppm)    | 980.3875     |
| 11/1/2017 02:26:56 | R1710073-014SD                        | Sn (189.925 nm)    | 5.2876 (ppm)   | 0.60     | 5.2876 (ppm)    | 6402.9273    |
| 11/1/2017 02:26:56 | R1710073-014SD                        | Sr (216.596 nm)    | 2.4919 (ppm)   | 0.38     | 2.4919 (ppm)    | 35381.6679   |
| 11/1/2017 02:26:56 | R1710073-014SD                        | Ti (336.122 nm)    | 0.4997 (ppm)   | 0.68     | 0.4997 (ppm)    | 104075.8226  |
| 11/1/2017 02:26:56 | R1710073-014SD                        | Tl (351.923 nm)    | 1.9996 (ppm)   | 0.59     | 1.9996 (ppm)    | 5499.5749    |
| 11/1/2017 02:26:56 | R1710073-014SD                        | V (292.401 nm)     | 0.5155 (ppm)   | 0.57     | 0.5155 (ppm)    | 18329.3237   |
| 11/1/2017 02:26:56 | R1710073-014SD                        | Y (360.074 nm)     | 0.91 (Ratio)   | 0.99     | 0.91 (Ratio)    | 772695.30    |
| 11/1/2017 02:26:56 | R1710073-014SD                        | Y_R (360.074 nm)   | 0.90 (Ratio)   | 0.99     | 0.90 (Ratio)    | 772913.49    |
| 11/1/2017 02:26:56 | R1710073-014SD                        | Zn (213.857 nm)    | 0.5370 (ppm)   | 0.26     | 0.5370 (ppm)    | 14996.3179   |
| 11/1/2017 02:30:15 | Continuing Calibration Verification 1 | Ag (328.068 nm)    | 0.4994 (ppm)   | 0.66     | 0.4994 (ppm)    | 35580.8077   |
| 11/1/2017 02:30:15 | Continuing Calibration Verification 1 | Al (394.401 nm)    | 9.5735 (ppm)   | 0.60     | 9.5735 (ppm)    | 122644.7625  |
| 11/1/2017 02:30:15 | Continuing Calibration Verification 1 | As (188.980 nm)    | 0.9882 (ppm)   | 0.90     | 0.9882 (ppm)    | 881.9480     |
| 11/1/2017 02:30:15 | Continuing Calibration Verification 1 | B (249.772 nm)     | 2.4643 (ppm)   | 0.45     | 2.4643 (ppm)    | 68262.4192   |
| 11/1/2017 02:30:15 | Continuing Calibration Verification 1 | Ba (320.424 nm)    | 10.5882 (ppm)  | 0.24     | 10.5882 (ppm)   | 355967.9209  |
| 11/1/2017 02:30:15 | Continuing Calibration Verification 1 | Be (313.107 nm)    | 0.2587 (ppm)   | 0.57     | 0.2587 (ppm)    | 381566.5654  |
| 11/1/2017 02:30:15 | Continuing Calibration Verification 1 | Ca (227.547 nm)    | 24.2651 (ppm)  | 0.74     | 24.2651 (ppm)   | 1370.4289    |
| 11/1/2017 02:30:15 | Continuing Calibration Verification 1 | Cd (214.439 nm)    | 0.5188 (ppm)   | 0.56     | 0.5188 (ppm)    | 11245.3395   |
| 11/1/2017 02:30:15 | Continuing Calibration Verification 1 | Co (230.786 nm)    | 2.6699 (ppm)   | 0.40     | 2.6699 (ppm)    | 26355.4558   |
| 11/1/2017 02:30:15 | Continuing Calibration Verification 1 | Cr (267.716 nm)    | 0.5235 (ppm)   | 0.41     | 0.5235 (ppm)    | 25922.0393   |
| 11/1/2017 02:30:15 | Continuing Calibration Verification 1 | Cu (327.395 nm)    | 1.2009 (ppm)   | 0.57     | 1.2009 (ppm)    | 74569.4786   |
| 11/1/2017 02:30:15 | Continuing Calibration Verification 1 | Fe (234.350 nm)    | 4.9851 (ppm)   | 0.38     | 4.9851 (ppm)    | 55691.5054   |
| 11/1/2017 02:30:15 | Continuing Calibration Verification 1 | K (766.491 nm)     | 24.5113 (ppm)  | 0.65     | 24.5113 (ppm)   | 73948.7372   |
| 11/1/2017 02:30:15 | Continuing Calibration Verification 1 | Mg (279.078 nm)    | 25.9021 (ppm)  | 0.36     | 25.9021 (ppm)   | 49982.2383   |
| 11/1/2017 02:30:15 | Continuing Calibration Verification 1 | Mn (257.610 nm)    | 0.7725 (ppm)   | 0.45     | 0.7725 (ppm)    | 242129.5808  |
| 11/1/2017 02:30:15 | Continuing Calibration Verification 1 | Mo (202.032 nm)    | 2.4834 (ppm)   | 0.39     | 2.4834 (ppm)    | 25321.4653   |
| 11/1/2017 02:30:15 | Continuing Calibration Verification 1 | Na (588.995 nm)    | 24.7108 (ppm)  | 0.82     | 24.7108 (ppm)   | 1118256.0803 |
| 11/1/2017 02:30:15 | Continuing Calibration Verification 1 | Ni (230.299 nm)    | 2.0936 (ppm)   | 0.50     | 2.0936 (ppm)    | 14083.5034   |
| 11/1/2017 02:30:15 | Continuing Calibration Verification 1 | Pb (220.353 nm)    | 0.5150 (ppm)   | 0.52     | 0.5150 (ppm)    | 1105.3764    |
| 11/1/2017 02:30:15 | Continuing Calibration Verification 1 | Sb (217.582 nm)    | 4.9998 (ppm)   | 0.58     | 4.9998 (ppm)    | 6838.2232    |
| 11/1/2017 02:30:15 | Continuing Calibration Verification 1 | Se (196.026 nm)    | 0.5097 (ppm)   | 0.18     | 0.5097 (ppm)    | 437.3133     |
| 11/1/2017 02:30:15 | Continuing Calibration Verification 1 | Sn (189.925 nm)    | 5.2795 (ppm)   | 0.80     | 5.2795 (ppm)    | 6393.0807    |
| 11/1/2017 02:30:15 | Continuing Calibration Verification 1 | Sr (216.596 nm)    | 2.6440 (ppm)   | 0.25     | 2.6440 (ppm)    | 37541.2773   |
| 11/1/2017 02:30:15 | Continuing Calibration Verification 1 | Ti (336.122 nm)    | 2.5411 (ppm)   | 0.45     | 2.5411 (ppm)    | 531201.9468  |
| 11/1/2017 02:30:15 | Continuing Calibration Verification 1 | Tl (351.923 nm)    | 0.9984 (ppm)   | 0.81     | 0.9984 (ppm)    | 2749.6369    |
| 11/1/2017 02:30:15 | Continuing Calibration Verification 1 | V (292.401 nm)     | 2.5763 (ppm)   | 0.35     | 2.5763 (ppm)    | 91174.0157   |
| 11/1/2017 02:30:15 | Continuing Calibration Verification 1 | Y (360.074 nm)     | 0.92 (Ratio)   | 0.99     | 0.92 (Ratio)    | 781335.55    |
| 11/1/2017 02:30:15 | Continuing Calibration Verification 1 | Y_R (360.074 nm)   | 0.91 (Ratio)   | 0.99     | 0.91 (Ratio)    | 781571.67    |
| 11/1/2017 02:30:15 | Continuing Calibration Verification 1 | Zn (213.857 nm)    | 1.0413 (ppm)   | 0.47     | 1.0413 (ppm)    | 28104.9346   |
| 11/1/2017 02:33:34 | Continuing Calibration Blank 1        | Ag (328.068 nm)    | 0.0002 (ppm)   | 88.33    | 0.0002 (ppm)    | -86.4464     |
| 11/1/2017 02:33:34 | Continuing Calibration Blank 1        | Al (394.401 nm)    | 0.0081 (ppm)   | 24.51    | 0.0081 (ppm)    | 229.4457     |
| 11/1/2017 02:33:34 | Continuing Calibration Blank 1        | As (188.980 nm)    | 0.0019 (ppm)   | > 100.00 | 0.0019 (ppm)    | 0.2309       |

| Date Time          | Label                         | Element Label (nm) | Conc             | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|-------------------------------|--------------------|------------------|----------|-----------------|--------------|
| 11/1/2017 02:33:34 | Continuing Calibration Blank1 | B (249.772 nm)     | 0.0068 (ppm)     | 21.70    | 0.0068 (ppm)    | 222.9436     |
| 11/1/2017 02:33:34 | Continuing Calibration Blank1 | Ba (230.424 nm)    | 0.0117 (ppm)     | 29.00    | 0.0117 (ppm)    | 395.3753     |
| 11/1/2017 02:33:34 | Continuing Calibration Blank1 | Be (313.107 nm)    | 0.0002 (ppm)     | 25.48    | 0.0002 (ppm)    | -165.3132    |
| 11/1/2017 02:33:34 | Continuing Calibration Blank1 | Ca (227.547 nm)    | 0.0067 (ppm)     | 13.47    | 0.0067 (ppm)    | 4.7917       |
| 11/1/2017 02:33:34 | Continuing Calibration Blank1 | Cd (214.439 nm)    | 0.0006 (ppm)     | 34.46    | 0.0006 (ppm)    | 26.9278      |
| 11/1/2017 02:33:34 | Continuing Calibration Blank1 | Co (230.786 nm)    | 0.0029 (ppm)     | 24.05    | 0.0029 (ppm)    | 25.4902      |
| 11/1/2017 02:33:34 | Continuing Calibration Blank1 | Cr (267.716 nm)    | 0.0007 (ppm)     | 33.03    | 0.0007 (ppm)    | 32.2092      |
| 11/1/2017 02:33:34 | Continuing Calibration Blank1 | Cu (327.395 nm)    | 0.0012 (ppm)     | 35.99    | 0.0012 (ppm)    | 90.0847      |
| 11/1/2017 02:33:34 | Continuing Calibration Blank1 | Fe (234.350 nm)    | 0.0056 (ppm)     | 31.74    | 0.0056 (ppm)    | 74.2250      |
| 11/1/2017 02:33:34 | Continuing Calibration Blank1 | K (766.491 nm)     | 0.0621 (ppm)     | 5.81     | 0.0621 (ppm)    | 178.6219     |
| 11/1/2017 02:33:34 | Continuing Calibration Blank1 | Mg (279.078 nm)    | 0.0232 (ppm)     | 23.62    | 0.0232 (ppm)    | 44.1804      |
| 11/1/2017 02:33:34 | Continuing Calibration Blank1 | Mn (257.610 nm)    | 0.0014 (ppm)     | 6.40     | 0.0014 (ppm)    | 455.8251     |
| 11/1/2017 02:33:34 | Continuing Calibration Blank1 | Mo (202.032 nm)    | 0.0047 (ppm)     | 16.18    | 0.0047 (ppm)    | 55.0157      |
| 11/1/2017 02:33:34 | Continuing Calibration Blank1 | Na (588.995 nm)    | 0.0032 u (ppm)   | > 100.00 | 0.0032 (ppm)    | -5316.7471   |
| 11/1/2017 02:33:34 | Continuing Calibration Blank1 | Ni (230.299 nm)    | 0.0015 (ppm)     | 36.54    | 0.0015 (ppm)    | -10.2498     |
| 11/1/2017 02:33:34 | Continuing Calibration Blank1 | Pb (220.353 nm)    | 0.0001 u (ppm)   | > 100.00 | 0.0001 (ppm)    | 5.2215       |
| 11/1/2017 02:33:34 | Continuing Calibration Blank1 | Sb (217.582 nm)    | 0.0073 (ppm)     | 7.39     | 0.0073 (ppm)    | 10.8267      |
| 11/1/2017 02:33:34 | Continuing Calibration Blank1 | Se (196.026 nm)    | -0.0032 u (ppm)  | 43.21    | -0.0032 (ppm)   | -1.9450      |
| 11/1/2017 02:33:34 | Continuing Calibration Blank1 | Sn (189.925 nm)    | 0.0070 (ppm)     | 33.33    | 0.0070 (ppm)    | 8.3924       |
| 11/1/2017 02:33:34 | Continuing Calibration Blank1 | Sr (216.596 nm)    | 0.0026 (ppm)     | 24.26    | 0.0026 (ppm)    | 36.1405      |
| 11/1/2017 02:33:34 | Continuing Calibration Blank1 | Ti (336.122 nm)    | 0.0033 (ppm)     | 19.06    | 0.0033 (ppm)    | 209.8234     |
| 11/1/2017 02:33:34 | Continuing Calibration Blank1 | Tl (351.923 nm)    | 0.0027 u (ppm)   | > 100.00 | 0.0027 (ppm)    | 14.6641      |
| 11/1/2017 02:33:34 | Continuing Calibration Blank1 | V (292.401 nm)     | 0.0029 (ppm)     | 25.81    | 0.0029 (ppm)    | 210.7841     |
| 11/1/2017 02:33:34 | Continuing Calibration Blank1 | Y (360.074 nm)     | 0.95 (Ratio)     | 0.69     | 0.95 (Ratio)    | 811039.40    |
| 11/1/2017 02:33:34 | Continuing Calibration Blank1 | Y_R (360.074 nm)   | 0.95 (Ratio)     | 0.69     | 0.95 (Ratio)    | 811366.19    |
| 11/1/2017 02:33:34 | Continuing Calibration Blank1 | Zn (213.857 nm)    | 0.0011 (ppm)     | 26.86    | 0.0011 (ppm)    | 3.9421       |
| 11/1/2017 02:36:52 | R1710073-014A                 | Ag (328.068 nm)    | 0.0491 (ppm)     | 0.62     | 0.0491 (ppm)    | 3407.3291    |
| 11/1/2017 02:36:52 | R1710073-014A                 | Al (394.401 nm)    | 2.0009 (ppm)     | 0.49     | 2.0009 (ppm)    | 25732.5480   |
| 11/1/2017 02:36:52 | R1710073-014A                 | As (188.980 nm)    | 0.0435 (ppm)     | 3.91     | 0.0435 (ppm)    | 37.4623      |
| 11/1/2017 02:36:52 | R1710073-014A                 | B (249.772 nm)     | 1.1428 (ppm)     | 0.36     | 1.1428 (ppm)    | 31675.8856   |
| 11/1/2017 02:36:52 | R1710073-014A                 | Ba (230.424 nm)    | 2.1675 (ppm)     | 0.60     | 2.1675 (ppm)    | 72869.7166   |
| 11/1/2017 02:36:52 | R1710073-014A                 | Be (313.107 nm)    | 0.0499 (ppm)     | 0.46     | 0.0499 (ppm)    | 73184.0544   |
| 11/1/2017 02:36:52 | R1710073-014A                 | Ca (227.547 nm)    | 37.0837 (ppm)    | 0.64     | 37.0837 (ppm)   | 2092.0542    |
| 11/1/2017 02:36:52 | R1710073-014A                 | Cd (214.439 nm)    | 0.0505 (ppm)     | 0.47     | 0.0505 (ppm)    | 1107.7192    |
| 11/1/2017 02:36:52 | R1710073-014A                 | Co (230.786 nm)    | 0.5016 (ppm)     | 0.32     | 0.5016 (ppm)    | 4948.8052    |
| 11/1/2017 02:36:52 | R1710073-014A                 | Cr (267.716 nm)    | 0.1964 (ppm)     | 0.43     | 0.1964 (ppm)    | 9722.5196    |
| 11/1/2017 02:36:52 | R1710073-014A                 | Cu (327.395 nm)    | 0.2392 (ppm)     | 0.54     | 0.2392 (ppm)    | 14866.1884   |
| 11/1/2017 02:36:52 | R1710073-014A                 | Fe (234.350 nm)    | 0.9583 (ppm)     | 0.37     | 0.9583 (ppm)    | 10715.7909   |
| 11/1/2017 02:36:52 | R1710073-014A                 | K (766.491 nm)     | 26.4221 (ppm)    | 0.57     | 26.4221 (ppm)   | 79714.0247   |
| 11/1/2017 02:36:52 | R1710073-014A                 | Mg (279.078 nm)    | 11.2155 (ppm)    | 0.50     | 11.2155 (ppm)   | 21641.7487   |
| 11/1/2017 02:36:52 | R1710073-014A                 | Mn (257.610 nm)    | 0.5337 (ppm)     | 0.25     | 0.5337 (ppm)    | 167301.3511  |
| 11/1/2017 02:36:52 | R1710073-014A                 | Mo (202.032 nm)    | 0.4821 (ppm)     | 0.57     | 0.4821 (ppm)    | 4921.2991    |
| 11/1/2017 02:36:52 | R1710073-014A                 | Na (588.995 nm)    | 150.4719 o (ppm) | 0.66     | 150.4719 (ppm)  | 6837208.2807 |
| 11/1/2017 02:36:52 | R1710073-014A                 | Ni (230.299 nm)    | 0.5003 (ppm)     | 0.35     | 0.5003 (ppm)    | 3349.8571    |
| 11/1/2017 02:36:52 | R1710073-014A                 | Pb (220.353 nm)    | 0.4978 (ppm)     | 0.55     | 0.4978 (ppm)    | 1068.5355    |
| 11/1/2017 02:36:52 | R1710073-014A                 | Sb (217.582 nm)    | 0.5042 (ppm)     | 0.44     | 0.5042 (ppm)    | 690.3828     |
| 11/1/2017 02:36:52 | R1710073-014A                 | Se (196.026 nm)    | 1.1849 o (ppm)   | 0.68     | 1.1849 (ppm)    | 1015.5558    |
| 11/1/2017 02:36:52 | R1710073-014A                 | Sn (189.925 nm)    | 5.1229 (ppm)     | 0.52     | 5.1229 (ppm)    | 6203.4824    |
| 11/1/2017 02:36:52 | R1710073-014A                 | Sr (216.596 nm)    | 2.5039 (ppm)     | 0.37     | 2.5039 (ppm)    | 35551.3653   |
| 11/1/2017 02:36:52 | R1710073-014A                 | Ti (336.122 nm)    | 0.4835 (ppm)     | 0.44     | 0.4835 (ppm)    | 100689.2468  |
| 11/1/2017 02:36:52 | R1710073-014A                 | Tl (351.923 nm)    | 1.9119 (ppm)     | 0.56     | 1.9119 (ppm)    | 5258.8751    |

| Date Time          | Label         | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|---------------|--------------------|-----------------|----------|-----------------|--------------|
| 11/1/2017 02:36:52 | R1710073-014A | V (292.401 nm)     | 0.4939 (ppm)    | 0.36     | 0.4939 (ppm)    | 17565.4216   |
| 11/1/2017 02:36:52 | R1710073-014A | Y (360.074 nm)     | 0.91 (Ratio)    | 0.76     | 0.91 (Ratio)    | 773129.99    |
| 11/1/2017 02:36:52 | R1710073-014A | Y_R (360.074 nm)   | 0.91 (Ratio)    | 0.76     | 0.91 (Ratio)    | 773352.34    |
| 11/1/2017 02:36:52 | R1710073-014A | Zn (213.857 nm)    | 0.5200 (ppm)    | 0.88     | 0.5200 (ppm)    | 14520.5721   |
| 11/1/2017 02:40:11 | R1710073-014L | Ag (328.068 nm)    | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | -106.1844    |
| 11/1/2017 02:40:11 | R1710073-014L | Al (394.401 nm)    | 0.0141 (ppm)    | 10.49    | 0.0141 (ppm)    | 306.8085     |
| 11/1/2017 02:40:11 | R1710073-014L | As (188.980 nm)    | -0.0003 u (ppm) | > 100.00 | -0.0003 (ppm)   | -1.7200      |
| 11/1/2017 02:40:11 | R1710073-014L | B (249.772 nm)     | 0.0100 (ppm)    | 9.30     | 0.0100 (ppm)    | 311.0437     |
| 11/1/2017 02:40:11 | R1710073-014L | Ba (230.424 nm)    | 0.0356 (ppm)    | 7.18     | 0.0356 (ppm)    | 1197.1682    |
| 11/1/2017 02:40:11 | R1710073-014L | Be (313.107 nm)    | 0.0001 (ppm)    | 47.20    | 0.0001 (ppm)    | -431.8206    |
| 11/1/2017 02:40:11 | R1710073-014L | Ca (227.547 nm)    | 6.7311 (ppm)    | 0.57     | 6.7311 (ppm)    | 383.3433     |
| 11/1/2017 02:40:11 | R1710073-014L | Cd (214.439 nm)    | 0.0002 (ppm)    | 23.76    | 0.0002 (ppm)    | 17.4669      |
| 11/1/2017 02:40:11 | R1710073-014L | Co (230.786 nm)    | 0.0005 (ppm)    | 78.87    | 0.0005 (ppm)    | 1.6340       |
| 11/1/2017 02:40:11 | R1710073-014L | Cr (267.716 nm)    | 0.0002 (ppm)    | 76.45    | 0.0002 (ppm)    | 8.9247       |
| 11/1/2017 02:40:11 | R1710073-014L | Cu (327.395 nm)    | 0.0003 (ppm)    | 87.18    | 0.0003 (ppm)    | 33.3667      |
| 11/1/2017 02:40:11 | R1710073-014L | Fe (234.350 nm)    | 0.0026 (ppm)    | 26.77    | 0.0026 (ppm)    | 40.9732      |
| 11/1/2017 02:40:11 | R1710073-014L | K (766.491 nm)     | 1.2628 (ppm)    | 1.19     | 1.2628 (ppm)    | 3801.3329    |
| 11/1/2017 02:40:11 | R1710073-014L | Mg (279.078 nm)    | 1.8825 (ppm)    | 0.61     | 1.8825 (ppm)    | 3631.8915    |
| 11/1/2017 02:40:11 | R1710073-014L | Mn (257.610 nm)    | 0.0108 (ppm)    | 1.30     | 0.0108 (ppm)    | 3377.3140    |
| 11/1/2017 02:40:11 | R1710073-014L | Mo (202.032 nm)    | 0.0016 (ppm)    | 47.93    | 0.0016 (ppm)    | 23.2362      |
| 11/1/2017 02:40:11 | R1710073-014L | Na (588.995 nm)    | 27.9977 (ppm)   | 0.67     | 27.9977 (ppm)   | 1267727.1648 |
| 11/1/2017 02:40:11 | R1710073-014L | Ni (230.299 nm)    | 0.0005 u (ppm)  | > 100.00 | 0.0005 (ppm)    | -16.9375     |
| 11/1/2017 02:40:11 | R1710073-014L | Pb (220.353 nm)    | 0.0005 u (ppm)  | > 100.00 | 0.0005 (ppm)    | 6.1986       |
| 11/1/2017 02:40:11 | R1710073-014L | Sb (217.582 nm)    | 0.0015 u (ppm)  | > 100.00 | 0.0015 (ppm)    | 2.8889       |
| 11/1/2017 02:40:11 | R1710073-014L | Se (196.026 nm)    | 0.0005 u (ppm)  | > 100.00 | 0.0005 (ppm)    | 1.2056       |
| 11/1/2017 02:40:11 | R1710073-014L | Sn (189.925 nm)    | 0.0027 (ppm)    | 63.70    | 0.0027 (ppm)    | 3.1731       |
| 11/1/2017 02:40:11 | R1710073-014L | Sr (216.596 nm)    | 0.0836 (ppm)    | 1.51     | 0.0836 (ppm)    | 1185.7566    |
| 11/1/2017 02:40:11 | R1710073-014L | Ti (336.122 nm)    | 0.0008 (ppm)    | 33.33    | 0.0008 (ppm)    | -313.2133    |
| 11/1/2017 02:40:11 | R1710073-014L | Tl (351.923 nm)    | 0.0021 (ppm)    | > 100.00 | 0.0021 (ppm)    | 13.0271      |
| 11/1/2017 02:40:11 | R1710073-014L | V (292.401 nm)     | 0.0007 (ppm)    | 35.25    | 0.0007 (ppm)    | 133.1566     |
| 11/1/2017 02:40:11 | R1710073-014L | Y (360.074 nm)     | 0.93 (Ratio)    | 1.07     | 0.93 (Ratio)    | 792943.14    |
| 11/1/2017 02:40:11 | R1710073-014L | Y_R (360.074 nm)   | 0.93 (Ratio)    | 1.06     | 0.93 (Ratio)    | 793272.08    |
| 11/1/2017 02:40:11 | R1710073-014L | Zn (213.857 nm)    | 0.0024 (ppm)    | 7.55     | 0.0024 (ppm)    | 40.3830      |
| 11/1/2017 02:43:31 | R1710073-015  | Ag (328.068 nm)    | -0.0001 u (ppm) | 87.39    | -0.0001 (ppm)   | -110.6672    |
| 11/1/2017 02:43:31 | R1710073-015  | Al (394.401 nm)    | 0.2184 (ppm)    | 0.31     | 0.2184 (ppm)    | 2920.5117    |
| 11/1/2017 02:43:31 | R1710073-015  | As (188.980 nm)    | 0.0017 (ppm)    | 96.56    | 0.0017 (ppm)    | 0.0203       |
| 11/1/2017 02:43:31 | R1710073-015  | B (249.772 nm)     | 0.0400 (ppm)    | 0.95     | 0.0400 (ppm)    | 1140.7461    |
| 11/1/2017 02:43:31 | R1710073-015  | Ba (230.424 nm)    | 0.1476 (ppm)    | 0.18     | 0.1476 (ppm)    | 4964.7017    |
| 11/1/2017 02:43:31 | R1710073-015  | Be (313.107 nm)    | 0.0001 (ppm)    | 5.28     | 0.0001 (ppm)    | -350.4657    |
| 11/1/2017 02:43:31 | R1710073-015  | Ca (227.547 nm)    | 24.7674 (ppm)   | 0.91     | 24.7674 (ppm)   | 1398.7071    |
| 11/1/2017 02:43:31 | R1710073-015  | Cd (214.439 nm)    | 0.0002 (ppm)    | 58.35    | 0.0002 (ppm)    | 18.8661      |
| 11/1/2017 02:43:31 | R1710073-015  | Co (230.786 nm)    | 0.0017 (ppm)    | 6.95     | 0.0017 (ppm)    | 13.4016      |
| 11/1/2017 02:43:31 | R1710073-015  | Cr (267.716 nm)    | -0.0004 u (ppm) | 33.90    | -0.0004 (ppm)   | -22.1834     |
| 11/1/2017 02:43:31 | R1710073-015  | Cu (327.395 nm)    | 0.0007 (ppm)    | 17.35    | 0.0007 (ppm)    | 56.4920      |
| 11/1/2017 02:43:31 | R1710073-015  | Fe (234.350 nm)    | 0.0122 (ppm)    | 4.39     | 0.0122 (ppm)    | 148.4802     |
| 11/1/2017 02:43:31 | R1710073-015  | K (766.491 nm)     | 4.3019 (ppm)    | 0.67     | 4.3019 (ppm)    | 12971.1703   |
| 11/1/2017 02:43:31 | R1710073-015  | Mg (279.078 nm)    | 5.4174 (ppm)    | 0.56     | 5.4174 (ppm)    | 10453.2278   |
| 11/1/2017 02:43:31 | R1710073-015  | Mn (257.610 nm)    | 0.7120 (ppm)    | 0.42     | 0.7120 (ppm)    | 223163.8683  |
| 11/1/2017 02:43:31 | R1710073-015  | Mo (202.032 nm)    | 0.0004 u (ppm)  | > 100.00 | 0.0004 (ppm)    | 11.1605      |
| 11/1/2017 02:43:31 | R1710073-015  | Na (588.995 nm)    | 99.6854 o (ppm) | 0.70     | 99.6854 (ppm)   | 4527704.6682 |
| 11/1/2017 02:43:31 | R1710073-015  | Ni (230.299 nm)    | 0.0004 (ppm)    | 23.44    | 0.0004 (ppm)    | -18.1587     |

| Date Time          | Label        | Element Label (nm) | Conc             | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|--------------|--------------------|------------------|----------|-----------------|--------------|
| 11/1/2017 02:43:31 | R1710073-015 | Pb (220.353 nm)    | -0.0010 u (ppm)  | 45.67    | -0.0010 (ppm)   | 2.8211       |
| 11/1/2017 02:43:31 | R1710073-015 | Sb (217.582 nm)    | -0.0012 u (ppm)  | > 100.00 | -0.0012 (ppm)   | -0.8419      |
| 11/1/2017 02:43:31 | R1710073-015 | Se (196.026 nm)    | -0.0012 u (ppm)  | > 100.00 | -0.0012 (ppm)   | -0.2460      |
| 11/1/2017 02:43:31 | R1710073-015 | Sn (189.925 nm)    | 0.0002 u (ppm)   | > 100.00 | 0.0002 (ppm)    | 0.1878       |
| 11/1/2017 02:43:31 | R1710073-015 | Sr (216.596 nm)    | 0.1983 (ppm)     | 1.07     | 0.1983 (ppm)    | 2814.6134    |
| 11/1/2017 02:43:31 | R1710073-015 | Ti (336.122 nm)    | 0.0008 (ppm)     | 1.67     | 0.0008 (ppm)    | -322.7484    |
| 11/1/2017 02:43:31 | R1710073-015 | Tl (351.923 nm)    | 0.0023 u (ppm)   | > 100.00 | 0.0023 (ppm)    | 13.5961      |
| 11/1/2017 02:43:31 | R1710073-015 | V (292.401 nm)     | 0.0004 (ppm)     | 45.02    | 0.0004 (ppm)    | 121.8748     |
| 11/1/2017 02:43:31 | R1710073-015 | Y (360.074 nm)     | 0.92 (Ratio)     | 0.72     | 0.92 (Ratio)    | 783053.73    |
| 11/1/2017 02:43:31 | R1710073-015 | Y_R (360.074 nm)   | 0.92 (Ratio)     | 0.72     | 0.92 (Ratio)    | 783307.27    |
| 11/1/2017 02:43:31 | R1710073-015 | Zn (213.857 nm)    | 0.0038 (ppm)     | 1.52     | 0.0038 (ppm)    | 78.8754      |
| 11/1/2017 02:46:49 | R1710073-016 | Ag (328.068 nm)    | -0.0002 u (ppm)  | 74.67    | -0.0002 (ppm)   | -115.8745    |
| 11/1/2017 02:46:49 | R1710073-016 | Al (394.401 nm)    | 0.2147 (ppm)     | 0.79     | 0.2147 (ppm)    | 2873.9952    |
| 11/1/2017 02:46:49 | R1710073-016 | As (188.980 nm)    | 0.0009 (ppm)     | 62.99    | 0.0009 (ppm)    | -0.6695      |
| 11/1/2017 02:46:49 | R1710073-016 | B (249.772 nm)     | 0.0401 (ppm)     | 0.60     | 0.0401 (ppm)    | 1144.9266    |
| 11/1/2017 02:46:49 | R1710073-016 | Ba (230.424 nm)    | 0.1498 (ppm)     | 0.50     | 0.1498 (ppm)    | 5037.5717    |
| 11/1/2017 02:46:49 | R1710073-016 | Be (313.107 nm)    | 0.0001 (ppm)     | 12.80    | 0.0001 (ppm)    | -379.1067    |
| 11/1/2017 02:46:49 | R1710073-016 | Ca (227.547 nm)    | 25.5657 (ppm)    | 0.56     | 25.5657 (ppm)   | 1443.6481    |
| 11/1/2017 02:46:49 | R1710073-016 | Cd (214.439 nm)    | 0.0001 (ppm)     | 53.68    | 0.0001 (ppm)    | 16.5066      |
| 11/1/2017 02:46:49 | R1710073-016 | Co (230.786 nm)    | 0.0016 (ppm)     | 37.99    | 0.0016 (ppm)    | 12.4055      |
| 11/1/2017 02:46:49 | R1710073-016 | Cr (267.716 nm)    | -0.0003 u (ppm)  | 14.62    | -0.0003 (ppm)   | -18.0652     |
| 11/1/2017 02:46:49 | R1710073-016 | Cu (327.395 nm)    | 0.0038 (ppm)     | 2.35     | 0.0038 (ppm)    | 246.9595     |
| 11/1/2017 02:46:49 | R1710073-016 | Fe (234.350 nm)    | 0.0064 (ppm)     | 5.14     | 0.0064 (ppm)    | 83.7497      |
| 11/1/2017 02:46:49 | R1710073-016 | K (766.491 nm)     | 4.3643 (ppm)     | 0.68     | 4.3643 (ppm)    | 13159.3848   |
| 11/1/2017 02:46:49 | R1710073-016 | Mg (279.078 nm)    | 5.5674 (ppm)     | 0.56     | 5.5674 (ppm)    | 10742.7440   |
| 11/1/2017 02:46:49 | R1710073-016 | Mn (257.610 nm)    | 0.7382 (ppm)     | 0.56     | 0.7382 (ppm)    | 231383.4545  |
| 11/1/2017 02:46:49 | R1710073-016 | Mo (202.032 nm)    | 0.0001 u (ppm)   | > 100.00 | 0.0001 (ppm)    | 8.4304       |
| 11/1/2017 02:46:49 | R1710073-016 | Na (588.995 nm)    | 101.7392 o (ppm) | 0.65     | 101.7392 (ppm)  | 4621102.5636 |
| 11/1/2017 02:46:49 | R1710073-016 | Ni (230.299 nm)    | 0.0018 (ppm)     | 32.01    | 0.0018 (ppm)    | -8.7407      |
| 11/1/2017 02:46:49 | R1710073-016 | Pb (220.353 nm)    | -0.0010 u (ppm)  | 67.59    | -0.0010 (ppm)   | 2.9407       |
| 11/1/2017 02:46:49 | R1710073-016 | Sb (217.582 nm)    | 0.0007 u (ppm)   | > 100.00 | 0.0007 (ppm)    | 1.7963       |
| 11/1/2017 02:46:49 | R1710073-016 | Se (196.026 nm)    | -0.0012 u (ppm)  | > 100.00 | -0.0012 (ppm)   | -0.2832      |
| 11/1/2017 02:46:49 | R1710073-016 | Sn (189.925 nm)    | 0.0001 u (ppm)   | > 100.00 | 0.0001 (ppm)    | 0.0304       |
| 11/1/2017 02:46:49 | R1710073-016 | Sr (216.596 nm)    | 0.2026 (ppm)     | 0.43     | 0.2026 (ppm)    | 2875.5373    |
| 11/1/2017 02:46:49 | R1710073-016 | Ti (336.122 nm)    | 0.0007 (ppm)     | 7.64     | 0.0007 (ppm)    | -339.8309    |
| 11/1/2017 02:46:49 | R1710073-016 | Tl (351.923 nm)    | 0.0018 u (ppm)   | > 100.00 | 0.0018 (ppm)    | 12.2298      |
| 11/1/2017 02:46:49 | R1710073-016 | V (292.401 nm)     | 0.0003 (ppm)     | 16.10    | 0.0003 (ppm)    | 121.3365     |
| 11/1/2017 02:46:49 | R1710073-016 | Y (360.074 nm)     | 0.91 (Ratio)     | 0.80     | 0.91 (Ratio)    | 774128.88    |
| 11/1/2017 02:46:49 | R1710073-016 | Y_R (360.074 nm)   | 0.91 (Ratio)     | 0.80     | 0.91 (Ratio)    | 774385.05    |
| 11/1/2017 02:46:49 | R1710073-016 | Zn (213.857 nm)    | 0.0086 (ppm)     | 0.85     | 0.0086 (ppm)    | 213.7381     |
| 11/1/2017 02:50:08 | R1710073-017 | Ag (328.068 nm)    | -0.0001 u (ppm)  | 84.01    | -0.0001 (ppm)   | -111.4166    |
| 11/1/2017 02:50:08 | R1710073-017 | Al (394.401 nm)    | 0.0401 (ppm)     | 0.56     | 0.0401 (ppm)    | 639.2301     |
| 11/1/2017 02:50:08 | R1710073-017 | As (188.980 nm)    | 0.0035 (ppm)     | 34.02    | 0.0035 (ppm)    | 1.6602       |
| 11/1/2017 02:50:08 | R1710073-017 | B (249.772 nm)     | 0.0097 (ppm)     | 3.25     | 0.0097 (ppm)    | 301.7134     |
| 11/1/2017 02:50:08 | R1710073-017 | Ba (230.424 nm)    | 0.0603 (ppm)     | 0.88     | 0.0603 (ppm)    | 2029.9100    |
| 11/1/2017 02:50:08 | R1710073-017 | Be (313.107 nm)    | 0.0000 (ppm)     | 49.06    | 0.0000 (ppm)    | -496.0970    |
| 11/1/2017 02:50:08 | R1710073-017 | Ca (227.547 nm)    | 9.7124 (ppm)     | 0.87     | 9.7124 (ppm)    | 551.1756     |
| 11/1/2017 02:50:08 | R1710073-017 | Cd (214.439 nm)    | 0.0001 (ppm)     | > 100.00 | 0.0001 (ppm)    | 15.5551      |
| 11/1/2017 02:50:08 | R1710073-017 | Co (230.786 nm)    | -0.0002 u (ppm)  | > 100.00 | -0.0002 (ppm)   | -5.9358      |
| 11/1/2017 02:50:08 | R1710073-017 | Cr (267.716 nm)    | -0.0001 u (ppm)  | > 100.00 | -0.0001 (ppm)   | -4.8618      |
| 11/1/2017 02:50:08 | R1710073-017 | Cu (327.395 nm)    | 0.0004 (ppm)     | 21.12    | 0.0004 (ppm)    | 37.9620      |



| Date Time          | Label        | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity   |
|--------------------|--------------|--------------------|-----------------|----------|-----------------|-------------|
| 11/1/2017 02:50:08 | R1710073-017 | Fe (234.350 nm)    | 11.6348 (ppm)   | 0.50     | 11.6348 (ppm)   | 129964.1124 |
| 11/1/2017 02:50:08 | R1710073-017 | K (766.491 nm)     | 3.3916 (ppm)    | 0.79     | 3.3916 (ppm)    | 10224.6284  |
| 11/1/2017 02:50:08 | R1710073-017 | Mg (279.078 nm)    | 10.1299 (ppm)   | 0.53     | 10.1299 (ppm)   | 19546.8364  |
| 11/1/2017 02:50:08 | R1710073-017 | Mn (257.610 nm)    | 0.4492 (ppm)    | 0.48     | 0.4492 (ppm)    | 140795.9059 |
| 11/1/2017 02:50:08 | R1710073-017 | Mo (202.032 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | 6.4378      |
| 11/1/2017 02:50:08 | R1710073-017 | Na (588.995 nm)    | 11.2076 (ppm)   | 0.84     | 11.2076 (ppm)   | 504203.7160 |
| 11/1/2017 02:50:08 | R1710073-017 | Ni (230.299 nm)    | -0.0077 u (ppm) | 12.33    | -0.0077 (ppm)   | -72.7975    |
| 11/1/2017 02:50:08 | R1710073-017 | Pb (220.353 nm)    | -0.0023 u (ppm) | 54.27    | -0.0023 (ppm)   | 0.1701      |
| 11/1/2017 02:50:08 | R1710073-017 | Sb (217.582 nm)    | -0.0017 u (ppm) | > 100.00 | -0.0017 (ppm)   | -1.5649     |
| 11/1/2017 02:50:08 | R1710073-017 | Se (196.026 nm)    | -0.0011 u (ppm) | > 100.00 | -0.0011 (ppm)   | -0.1290     |
| 11/1/2017 02:50:08 | R1710073-017 | Sn (189.925 nm)    | -0.0003 u (ppm) | > 100.00 | -0.0003 (ppm)   | -0.3915     |
| 11/1/2017 02:50:08 | R1710073-017 | Sr (216.596 nm)    | 0.1561 (ppm)    | 0.82     | 0.1561 (ppm)    | 2216.3811   |
| 11/1/2017 02:50:08 | R1710073-017 | Ti (336.122 nm)    | 0.0010 (ppm)    | 5.38     | 0.0010 (ppm)    | -277.7337   |
| 11/1/2017 02:50:08 | R1710073-017 | Ti (351.923 nm)    | 0.0010 u (ppm)  | > 100.00 | 0.0010 (ppm)    | 10.0096     |
| 11/1/2017 02:50:08 | R1710073-017 | V (292.401 nm)     | 0.0006 (ppm)    | 6.31     | 0.0006 (ppm)    | 129.7246    |
| 11/1/2017 02:50:08 | R1710073-017 | Y (360.074 nm)     | 0.93 (Ratio)    | 0.90     | 0.93 (Ratio)    | 790252.59   |
| 11/1/2017 02:50:08 | R1710073-017 | Y_R (360.074 nm)   | 0.93 (Ratio)    | 0.90     | 0.93 (Ratio)    | 790622.34   |
| 11/1/2017 02:50:08 | R1710073-017 | Zn (213.857 nm)    | 0.0052 (ppm)    | 1.21     | 0.0052 (ppm)    | 117.5011    |
| 11/1/2017 02:53:26 | R1710073-018 | Ag (328.068 nm)    | -0.0002 u (ppm) | 56.32    | -0.0002 (ppm)   | -115.3401   |
| 11/1/2017 02:53:26 | R1710073-018 | Al (394.401 nm)    | 0.0105 (ppm)    | 6.44     | 0.0105 (ppm)    | 260.8345    |
| 11/1/2017 02:53:26 | R1710073-018 | As (188.980 nm)    | 0.0009 u (ppm)  | > 100.00 | 0.0009 (ppm)    | -0.6898     |
| 11/1/2017 02:53:26 | R1710073-018 | B (249.772 nm)     | 0.0092 (ppm)    | 1.78     | 0.0092 (ppm)    | 289.6524    |
| 11/1/2017 02:53:26 | R1710073-018 | Ba (230.424 nm)    | 0.0594 (ppm)    | 1.05     | 0.0594 (ppm)    | 1998.7010   |
| 11/1/2017 02:53:26 | R1710073-018 | Be (313.107 nm)    | 0.0000 (ppm)    | 80.35    | 0.0000 (ppm)    | -504.6627   |
| 11/1/2017 02:53:26 | R1710073-018 | Ca (227.547 nm)    | 9.6320 (ppm)    | 1.09     | 9.6320 (ppm)    | 546.6515    |
| 11/1/2017 02:53:26 | R1710073-018 | Cd (214.439 nm)    | 0.0002 (ppm)    | 44.14    | 0.0002 (ppm)    | 17.0276     |
| 11/1/2017 02:53:26 | R1710073-018 | Co (230.786 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | -4.0678     |
| 11/1/2017 02:53:26 | R1710073-018 | Cr (267.716 nm)    | -0.0002 u (ppm) | 61.52    | -0.0002 (ppm)   | -12.7730    |
| 11/1/2017 02:53:26 | R1710073-018 | Cu (327.395 nm)    | 0.0001 (ppm)    | 59.34    | 0.0001 (ppm)    | 17.2329     |
| 11/1/2017 02:53:26 | R1710073-018 | Fe (234.350 nm)    | 11.1640 (ppm)   | 0.56     | 11.1640 (ppm)   | 124705.6900 |
| 11/1/2017 02:53:26 | R1710073-018 | K (766.491 nm)     | 3.3639 (ppm)    | 0.61     | 3.3639 (ppm)    | 10140.9699  |
| 11/1/2017 02:53:26 | R1710073-018 | Mg (279.078 nm)    | 9.9950 (ppm)    | 0.52     | 9.9950 (ppm)    | 19286.5907  |
| 11/1/2017 02:53:26 | R1710073-018 | Mn (257.610 nm)    | 0.4393 (ppm)    | 0.50     | 0.4393 (ppm)    | 137692.9981 |
| 11/1/2017 02:53:26 | R1710073-018 | Mo (202.032 nm)    | 0.0002 (ppm)    | 90.63    | 0.0002 (ppm)    | 9.5499      |
| 11/1/2017 02:53:26 | R1710073-018 | Na (588.995 nm)    | 11.0691 (ppm)   | 0.61     | 11.0691 (ppm)   | 497902.3556 |
| 11/1/2017 02:53:26 | R1710073-018 | Ni (230.299 nm)    | -0.0073 u (ppm) | 17.18    | -0.0073 (ppm)   | -70.1187    |
| 11/1/2017 02:53:26 | R1710073-018 | Pb (220.353 nm)    | -0.0003 u (ppm) | > 100.00 | -0.0003 (ppm)   | 4.3785      |
| 11/1/2017 02:53:26 | R1710073-018 | Sb (217.582 nm)    | -0.0007 u (ppm) | > 100.00 | -0.0007 (ppm)   | -0.1219     |
| 11/1/2017 02:53:26 | R1710073-018 | Se (196.026 nm)    | -0.0018 u (ppm) | 47.80    | -0.0018 (ppm)   | -0.7646     |
| 11/1/2017 02:53:26 | R1710073-018 | Sn (189.925 nm)    | -0.0006 u (ppm) | > 100.00 | -0.0006 (ppm)   | -0.7901     |
| 11/1/2017 02:53:26 | R1710073-018 | Sr (216.596 nm)    | 0.1550 (ppm)    | 0.65     | 0.1550 (ppm)    | 2200.4956   |
| 11/1/2017 02:53:26 | R1710073-018 | Ti (336.122 nm)    | 0.0005 (ppm)    | 5.73     | 0.0005 (ppm)    | -385.9665   |
| 11/1/2017 02:53:26 | R1710073-018 | Ti (351.923 nm)    | 0.0021 (ppm)    | > 100.00 | 0.0021 (ppm)    | 12.9654     |
| 11/1/2017 02:53:26 | R1710073-018 | V (292.401 nm)     | 0.0005 (ppm)    | 40.94    | 0.0005 (ppm)    | 127.6890    |
| 11/1/2017 02:53:26 | R1710073-018 | Y (360.074 nm)     | 0.93 (Ratio)    | 0.87     | 0.93 (Ratio)    | 793701.45   |
| 11/1/2017 02:53:26 | R1710073-018 | Y_R (360.074 nm)   | 0.93 (Ratio)    | 0.87     | 0.93 (Ratio)    | 794043.53   |
| 11/1/2017 02:53:26 | R1710073-018 | Zn (213.857 nm)    | 0.0070 (ppm)    | 1.26     | 0.0070 (ppm)    | 169.7568    |
| 11/1/2017 02:56:45 | R1710073-019 | Ag (328.068 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | -111.3460   |
| 11/1/2017 02:56:45 | R1710073-019 | Al (394.401 nm)    | 0.2326 (ppm)    | 0.39     | 0.2326 (ppm)    | 3103.1269   |
| 11/1/2017 02:56:45 | R1710073-019 | As (188.980 nm)    | 0.1542 (ppm)    | 0.72     | 0.1542 (ppm)    | 136.3517    |
| 11/1/2017 02:56:45 | R1710073-019 | B (249.772 nm)     | 0.0235 (ppm)    | 0.25     | 0.0235 (ppm)    | 685.7554    |

| Date Time          | Label        | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|--------------|--------------------|-----------------|----------|-----------------|--------------|
| 11/1/2017 02:56:45 | R1710073-019 | Ba (230.424 nm)    | 0.0218 (ppm)    | 0.71     | 0.0218 (ppm)    | 734.2627     |
| 11/1/2017 02:56:45 | R1710073-019 | Be (313.107 nm)    | 0.0000 (ppm)    | 20.88    | 0.0000 (ppm)    | -457.3189    |
| 11/1/2017 02:56:45 | R1710073-019 | Ca (227.547 nm)    | 29.2400 (ppm)   | 0.54     | 29.2400 (ppm)   | 1650.4938    |
| 11/1/2017 02:56:45 | R1710073-019 | Cd (214.439 nm)    | 0.0001 u (ppm)  | > 100.00 | 0.0001 (ppm)    | 16.0409      |
| 11/1/2017 02:56:45 | R1710073-019 | Co (230.786 nm)    | 0.0003 (ppm)    | 55.85    | 0.0003 (ppm)    | -0.9233      |
| 11/1/2017 02:56:45 | R1710073-019 | Cr (267.716 nm)    | 0.0002 (ppm)    | 34.37    | 0.0002 (ppm)    | 10.8602      |
| 11/1/2017 02:56:45 | R1710073-019 | Cu (327.395 nm)    | 0.0003 (ppm)    | 17.13    | 0.0003 (ppm)    | 30.3421      |
| 11/1/2017 02:56:45 | R1710073-019 | Fe (234.350 nm)    | 12.2646 o (ppm) | 0.37     | 12.2646 (ppm)   | 136998.4867  |
| 11/1/2017 02:56:45 | R1710073-019 | K (766.491 nm)     | 4.4023 (ppm)    | 0.53     | 4.4023 (ppm)    | 13274.1843   |
| 11/1/2017 02:56:45 | R1710073-019 | Mg (279.078 nm)    | 9.4068 (ppm)    | 0.45     | 9.4068 (ppm)    | 18151.5138   |
| 11/1/2017 02:56:45 | R1710073-019 | Mn (257.610 nm)    | 0.1486 (ppm)    | 0.26     | 0.1486 (ppm)    | 46593.2558   |
| 11/1/2017 02:56:45 | R1710073-019 | Mo (202.032 nm)    | 0.0001 u (ppm)  | > 100.00 | 0.0001 (ppm)    | 8.4761       |
| 11/1/2017 02:56:45 | R1710073-019 | Na (588.995 nm)    | 38.1129 (ppm)   | 0.65     | 38.1129 (ppm)   | 1727712.5793 |
| 11/1/2017 02:56:45 | R1710073-019 | Ni (230.299 nm)    | -0.0073 u (ppm) | 21.43    | -0.0073 (ppm)   | -69.6148     |
| 11/1/2017 02:56:45 | R1710073-019 | Pb (220.353 nm)    | -0.0004 u (ppm) | > 100.00 | -0.0004 (ppm)   | 4.1776       |
| 11/1/2017 02:56:45 | R1710073-019 | Sb (217.582 nm)    | -0.0013 u (ppm) | 24.01    | -0.0013 (ppm)   | -0.9944      |
| 11/1/2017 02:56:45 | R1710073-019 | Se (196.026 nm)    | 0.0009 u (ppm)  | > 100.00 | 0.0009 (ppm)    | 1.5267       |
| 11/1/2017 02:56:45 | R1710073-019 | Sn (189.925 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | -0.0948      |
| 11/1/2017 02:56:45 | R1710073-019 | Sr (216.596 nm)    | 0.2304 (ppm)    | 0.21     | 0.2304 (ppm)    | 3270.9436    |
| 11/1/2017 02:56:45 | R1710073-019 | Ti (336.122 nm)    | 0.0027 (ppm)    | 2.80     | 0.0027 (ppm)    | 78.8066      |
| 11/1/2017 02:56:45 | R1710073-019 | Tl (351.923 nm)    | 0.0025 u (ppm)  | > 100.00 | 0.0025 (ppm)    | 14.1227      |
| 11/1/2017 02:56:45 | R1710073-019 | V (292.401 nm)     | 0.0013 (ppm)    | 2.99     | 0.0013 (ppm)    | 154.7400     |
| 11/1/2017 02:56:45 | R1710073-019 | Y (360.074 nm)     | 0.92 (Ratio)    | 0.56     | 0.92 (Ratio)    | 784008.95    |
| 11/1/2017 02:56:45 | R1710073-019 | Y_R (360.074 nm)   | 0.92 (Ratio)    | 0.57     | 0.92 (Ratio)    | 784344.20    |
| 11/1/2017 02:56:45 | R1710073-019 | Zn (213.857 nm)    | 0.0042 (ppm)    | 1.81     | 0.0042 (ppm)    | 91.4046      |
| 11/1/2017 03:00:04 | R1710073-020 | Ag (328.068 nm)    | -0.0001 u (ppm) | 56.37    | -0.0001 (ppm)   | -110.9897    |
| 11/1/2017 03:00:04 | R1710073-020 | Al (394.401 nm)    | 0.0318 (ppm)    | 3.99     | 0.0318 (ppm)    | 532.3214     |
| 11/1/2017 03:00:04 | R1710073-020 | As (188.980 nm)    | 0.0179 (ppm)    | 15.22    | 0.0179 (ppm)    | 14.5407      |
| 11/1/2017 03:00:04 | R1710073-020 | B (249.772 nm)     | 0.0207 (ppm)    | 0.69     | 0.0207 (ppm)    | 606.3838     |
| 11/1/2017 03:00:04 | R1710073-020 | Ba (230.424 nm)    | 0.0201 (ppm)    | 0.87     | 0.0201 (ppm)    | 677.9363     |
| 11/1/2017 03:00:04 | R1710073-020 | Be (313.107 nm)    | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | -525.8273    |
| 11/1/2017 03:00:04 | R1710073-020 | Ca (227.547 nm)    | 28.8452 (ppm)   | 0.43     | 28.8452 (ppm)   | 1628.2642    |
| 11/1/2017 03:00:04 | R1710073-020 | Cd (214.439 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | 12.1351      |
| 11/1/2017 03:00:04 | R1710073-020 | Co (230.786 nm)    | 0.0004 (ppm)    | 49.23    | 0.0004 (ppm)    | 0.1622       |
| 11/1/2017 03:00:04 | R1710073-020 | Cr (267.716 nm)    | 0.0008 (ppm)    | 12.85    | 0.0008 (ppm)    | 37.8355      |
| 11/1/2017 03:00:04 | R1710073-020 | Cu (327.395 nm)    | 0.0002 (ppm)    | 9.00     | 0.0002 (ppm)    | 25.6087      |
| 11/1/2017 03:00:04 | R1710073-020 | Fe (234.350 nm)    | 5.3766 (ppm)    | 0.53     | 5.3766 (ppm)    | 60064.8553   |
| 11/1/2017 03:00:04 | R1710073-020 | K (766.491 nm)     | 4.3223 (ppm)    | 0.78     | 4.3223 (ppm)    | 13032.6910   |
| 11/1/2017 03:00:04 | R1710073-020 | Mg (279.078 nm)    | 9.2581 (ppm)    | 0.54     | 9.2581 (ppm)    | 17864.5752   |
| 11/1/2017 03:00:04 | R1710073-020 | Mn (257.610 nm)    | 0.1398 (ppm)    | 0.29     | 0.1398 (ppm)    | 43831.8984   |
| 11/1/2017 03:00:04 | R1710073-020 | Mo (202.032 nm)    | 0.0006 (ppm)    | 49.82    | 0.0006 (ppm)    | 13.6959      |
| 11/1/2017 03:00:04 | R1710073-020 | Na (588.995 nm)    | 37.6212 (ppm)   | 0.72     | 37.6212 (ppm)   | 1705353.6204 |
| 11/1/2017 03:00:04 | R1710073-020 | Ni (230.299 nm)    | -0.0036 u (ppm) | 19.73    | -0.0036 (ppm)   | -44.8298     |
| 11/1/2017 03:00:04 | R1710073-020 | Pb (220.353 nm)    | -0.0013 u (ppm) | 82.47    | -0.0013 (ppm)   | 2.2282       |
| 11/1/2017 03:00:04 | R1710073-020 | Sb (217.582 nm)    | -0.0010 u (ppm) | > 100.00 | -0.0010 (ppm)   | -0.6169      |
| 11/1/2017 03:00:04 | R1710073-020 | Se (196.026 nm)    | -0.0014 u (ppm) | > 100.00 | -0.0014 (ppm)   | -0.3923      |
| 11/1/2017 03:00:04 | R1710073-020 | Sn (189.925 nm)    | -0.0018 u (ppm) | 91.30    | -0.0018 (ppm)   | -2.2220      |
| 11/1/2017 03:00:04 | R1710073-020 | Sr (216.596 nm)    | 0.2252 (ppm)    | 0.56     | 0.2252 (ppm)    | 3196.5337    |
| 11/1/2017 03:00:04 | R1710073-020 | Ti (336.122 nm)    | 0.0006 (ppm)    | 2.48     | 0.0006 (ppm)    | -352.0858    |
| 11/1/2017 03:00:04 | R1710073-020 | Tl (351.923 nm)    | 0.0011 u (ppm)  | > 100.00 | 0.0011 (ppm)    | 10.3135      |
| 11/1/2017 03:00:04 | R1710073-020 | V (292.401 nm)     | 0.0006 (ppm)    | 3.72     | 0.0006 (ppm)    | 128.6370     |

| Date Time          | Label        | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|--------------|--------------------|-----------------|----------|-----------------|--------------|
| 11/1/2017 03:00:04 | R1710073-020 | Y (360.074 nm)     | 0.91 (Ratio)    | 0.78     | 0.91 (Ratio)    | 778628.30    |
| 11/1/2017 03:00:04 | R1710073-020 | Y_R (360.074 nm)   | 0.91 (Ratio)    | 0.78     | 0.91 (Ratio)    | 779024.84    |
| 11/1/2017 03:00:04 | R1710073-020 | Zn (213.857 nm)    | 0.0041 (ppm)    | 2.24     | 0.0041 (ppm)    | 88.5137      |
| 11/1/2017 03:03:22 | R1710073-021 | Ag (328.068 nm)    | 0.0000 u (ppm)  | 75.14    | 0.0000 (ppm)    | -106.7806    |
| 11/1/2017 03:03:22 | R1710073-021 | Al (394.401 nm)    | 0.0591 (ppm)    | 0.94     | 0.0591 (ppm)    | 882.5484     |
| 11/1/2017 03:03:22 | R1710073-021 | As (188.980 nm)    | 0.0180 (ppm)    | 7.88     | 0.0180 (ppm)    | 14.6657      |
| 11/1/2017 03:03:22 | R1710073-021 | B (249.772 nm)     | 0.0168 (ppm)    | 0.59     | 0.0168 (ppm)    | 499.7929     |
| 11/1/2017 03:03:22 | R1710073-021 | Ba (230.424 nm)    | 0.0329 (ppm)    | 0.70     | 0.0329 (ppm)    | 1106.9567    |
| 11/1/2017 03:03:22 | R1710073-021 | Be (313.107 nm)    | 0.0003 (ppm)    | 3.80     | 0.0003 (ppm)    | -127.7912    |
| 11/1/2017 03:03:22 | R1710073-021 | Ca (227.547 nm)    | 23.0752 (ppm)   | 0.59     | 23.0752 (ppm)   | 1303.4437    |
| 11/1/2017 03:03:22 | R1710073-021 | Cd (214.439 nm)    | 0.0002 (ppm)    | 73.43    | 0.0002 (ppm)    | 17.3444      |
| 11/1/2017 03:03:22 | R1710073-021 | Co (230.786 nm)    | 0.0002 u (ppm)  | > 100.00 | 0.0002 (ppm)    | -1.7493      |
| 11/1/2017 03:03:22 | R1710073-021 | Cr (267.716 nm)    | 0.0002 (ppm)    | 25.73    | 0.0002 (ppm)    | 7.8108       |
| 11/1/2017 03:03:22 | R1710073-021 | Cu (327.395 nm)    | 0.0006 (ppm)    | 6.97     | 0.0006 (ppm)    | 49.0797      |
| 11/1/2017 03:03:22 | R1710073-021 | Fe (234.350 nm)    | 8.0861 (ppm)    | 0.28     | 8.0861 (ppm)    | 90328.0304   |
| 11/1/2017 03:03:22 | R1710073-021 | K (766.491 nm)     | 3.8135 (ppm)    | 0.35     | 3.8135 (ppm)    | 11497.5307   |
| 11/1/2017 03:03:22 | R1710073-021 | Mg (279.078 nm)    | 7.6242 (ppm)    | 0.35     | 7.6242 (ppm)    | 14711.5809   |
| 11/1/2017 03:03:22 | R1710073-021 | Mn (257.610 nm)    | 0.1459 (ppm)    | 0.13     | 0.1459 (ppm)    | 45720.6648   |
| 11/1/2017 03:03:22 | R1710073-021 | Mo (202.032 nm)    | 0.0003 (ppm)    | 50.04    | 0.0003 (ppm)    | 10.1481      |
| 11/1/2017 03:03:22 | R1710073-021 | Na (588.995 nm)    | 30.2380 (ppm)   | 0.43     | 30.2380 (ppm)   | 1369604.6357 |
| 11/1/2017 03:03:22 | R1710073-021 | Ni (230.299 nm)    | -0.0077 u (ppm) | 16.48    | -0.0077 (ppm)   | -72.2313     |
| 11/1/2017 03:03:22 | R1710073-021 | Pb (220.353 nm)    | -0.0011 u (ppm) | 32.35    | -0.0011 (ppm)   | 2.5977       |
| 11/1/2017 03:03:22 | R1710073-021 | Sb (217.582 nm)    | -0.0023 u (ppm) | 82.24    | -0.0023 (ppm)   | -2.3898      |
| 11/1/2017 03:03:22 | R1710073-021 | Se (196.026 nm)    | 0.0039 (ppm)    | 53.22    | 0.0039 (ppm)    | 4.1436       |
| 11/1/2017 03:03:22 | R1710073-021 | Sn (189.925 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | -0.0638      |
| 11/1/2017 03:03:22 | R1710073-021 | Sr (216.596 nm)    | 0.1759 (ppm)    | 0.24     | 0.1759 (ppm)    | 2496.3063    |
| 11/1/2017 03:03:22 | R1710073-021 | Ti (336.122 nm)    | 0.0018 (ppm)    | 2.25     | 0.0018 (ppm)    | -109.0752    |
| 11/1/2017 03:03:22 | R1710073-021 | Tl (351.923 nm)    | -0.0014 u (ppm) | > 100.00 | -0.0014 (ppm)   | 3.5323       |
| 11/1/2017 03:03:22 | R1710073-021 | V (292.401 nm)     | 0.0008 (ppm)    | 0.63     | 0.0008 (ppm)    | 136.0706     |
| 11/1/2017 03:03:22 | R1710073-021 | Y (360.074 nm)     | 0.92 (Ratio)    | 0.65     | 0.92 (Ratio)    | 783113.84    |
| 11/1/2017 03:03:22 | R1710073-021 | Y_R (360.074 nm)   | 0.92 (Ratio)    | 0.65     | 0.92 (Ratio)    | 783474.46    |
| 11/1/2017 03:03:22 | R1710073-021 | Zn (213.857 nm)    | 0.0066 (ppm)    | 0.62     | 0.0066 (ppm)    | 157.2659     |
| 11/1/2017 03:06:41 | R1710073-022 | Ag (328.068 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | -104.3618    |
| 11/1/2017 03:06:41 | R1710073-022 | Al (394.401 nm)    | 0.0227 (ppm)    | 0.30     | 0.0227 (ppm)    | 416.4696     |
| 11/1/2017 03:06:41 | R1710073-022 | As (188.980 nm)    | 0.0065 (ppm)    | 23.29    | 0.0065 (ppm)    | 4.3333       |
| 11/1/2017 03:06:41 | R1710073-022 | B (249.772 nm)     | 0.0155 (ppm)    | 1.71     | 0.0155 (ppm)    | 464.1896     |
| 11/1/2017 03:06:41 | R1710073-022 | Ba (230.424 nm)    | 0.0339 (ppm)    | 0.25     | 0.0339 (ppm)    | 1139.9608    |
| 11/1/2017 03:06:41 | R1710073-022 | Be (313.107 nm)    | 0.0001 (ppm)    | 5.59     | 0.0001 (ppm)    | -327.5143    |
| 11/1/2017 03:06:41 | R1710073-022 | Ca (227.547 nm)    | 23.0834 (ppm)   | 0.47     | 23.0834 (ppm)   | 1303.9032    |
| 11/1/2017 03:06:41 | R1710073-022 | Cd (214.439 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | 12.5951      |
| 11/1/2017 03:06:41 | R1710073-022 | Co (230.786 nm)    | 0.0001 u (ppm)  | > 100.00 | 0.0001 (ppm)    | -2.9486      |
| 11/1/2017 03:06:41 | R1710073-022 | Cr (267.716 nm)    | -0.0002 u (ppm) | 24.57    | -0.0002 (ppm)   | -10.6976     |
| 11/1/2017 03:06:41 | R1710073-022 | Cu (327.395 nm)    | 0.0003 (ppm)    | 80.63    | 0.0003 (ppm)    | 32.1481      |
| 11/1/2017 03:06:41 | R1710073-022 | Fe (234.350 nm)    | 4.2717 (ppm)    | 0.46     | 4.2717 (ppm)    | 47723.5952   |
| 11/1/2017 03:06:41 | R1710073-022 | K (766.491 nm)     | 3.8525 (ppm)    | 0.69     | 3.8525 (ppm)    | 11615.2679   |
| 11/1/2017 03:06:41 | R1710073-022 | Mg (279.078 nm)    | 7.5993 (ppm)    | 0.35     | 7.5993 (ppm)    | 14663.5864   |
| 11/1/2017 03:06:41 | R1710073-022 | Mn (257.610 nm)    | 0.1459 (ppm)    | 0.13     | 0.1459 (ppm)    | 45729.0131   |
| 11/1/2017 03:06:41 | R1710073-022 | Mo (202.032 nm)    | 0.0002 u (ppm)  | > 100.00 | 0.0002 (ppm)    | 8.6231       |
| 11/1/2017 03:06:41 | R1710073-022 | Na (588.995 nm)    | 30.6576 (ppm)   | 0.60     | 30.6576 (ppm)   | 1388684.2356 |
| 11/1/2017 03:06:41 | R1710073-022 | Ni (230.299 nm)    | -0.0070 u (ppm) | 7.30     | -0.0070 (ppm)   | -68.1030     |
| 11/1/2017 03:06:41 | R1710073-022 | Pb (220.353 nm)    | -0.0008 u (ppm) | 43.16    | -0.0008 (ppm)   | 3.2592       |

| Date Time          | Label                                 | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|---------------------------------------|--------------------|-----------------|----------|-----------------|--------------|
| 11/1/2017 03:06:41 | R1710073-022                          | Sb (217.582 nm)    | -0.0002 u (ppm) | > 100.00 | -0.0002 (ppm)   | 0.5540       |
| 11/1/2017 03:06:41 | R1710073-022                          | Se (196.026 nm)    | 0.0007 u (ppm)  | > 100.00 | 0.0007 (ppm)    | 1.4099       |
| 11/1/2017 03:06:41 | R1710073-022                          | Sn (189.925 nm)    | 0.0006 u (ppm)  | > 100.00 | 0.0006 (ppm)    | 0.6254       |
| 11/1/2017 03:06:41 | R1710073-022                          | Sr (216.596 nm)    | 0.1742 (ppm)    | 0.28     | 0.1742 (ppm)    | 2473.3929    |
| 11/1/2017 03:06:41 | R1710073-022                          | Ti (336.122 nm)    | 0.0008 (ppm)    | 4.84     | 0.0008 (ppm)    | -323.0738    |
| 11/1/2017 03:06:41 | R1710073-022                          | Tl (351.923 nm)    | -0.0016 u (ppm) | > 100.00 | -0.0016 (ppm)   | 2.9217       |
| 11/1/2017 03:06:41 | R1710073-022                          | V (292.401 nm)     | 0.0004 (ppm)    | 24.03    | 0.0004 (ppm)    | 123.4497     |
| 11/1/2017 03:06:41 | R1710073-022                          | Y (360.074 nm)     | 0.92 (Ratio)    | 0.69     | 0.92 (Ratio)    | 784723.10    |
| 11/1/2017 03:06:41 | R1710073-022                          | Y_R (360.074 nm)   | 0.92 (Ratio)    | 0.69     | 0.92 (Ratio)    | 785139.91    |
| 11/1/2017 03:06:41 | R1710073-022                          | Zn (213.857 nm)    | 0.0073 (ppm)    | 1.09     | 0.0073 (ppm)    | 178.6316     |
| 11/1/2017 03:10:00 | Continuing Calibration Verification 1 | Ag (328.068 nm)    | 0.5017 (ppm)    | 0.35     | 0.5017 (ppm)    | 35744.1982   |
| 11/1/2017 03:10:00 | Continuing Calibration Verification 1 | Al (394.401 nm)    | 9.6109 (ppm)    | 0.60     | 9.6109 (ppm)    | 123123.3898  |
| 11/1/2017 03:10:00 | Continuing Calibration Verification 1 | As (188.980 nm)    | 1.0031 (ppm)    | 0.60     | 1.0031 (ppm)    | 895.2504     |
| 11/1/2017 03:10:00 | Continuing Calibration Verification 1 | B (249.772 nm)     | 2.4781 (ppm)    | 0.39     | 2.4781 (ppm)    | 68645.3655   |
| 11/1/2017 03:10:00 | Continuing Calibration Verification 1 | Ba (230.424 nm)    | 10.6398 (ppm)   | 0.47     | 10.6398 (ppm)   | 357701.5459  |
| 11/1/2017 03:10:00 | Continuing Calibration Verification 1 | Be (313.107 nm)    | 0.2606 (ppm)    | 0.39     | 0.2606 (ppm)    | 384465.1701  |
| 11/1/2017 03:10:00 | Continuing Calibration Verification 1 | Ce (227.547 nm)    | 24.3786 (ppm)   | 0.78     | 24.3786 (ppm)   | 1376.8149    |
| 11/1/2017 03:10:00 | Continuing Calibration Verification 1 | Cd (214.439 nm)    | 0.5260 (ppm)    | 0.47     | 0.5260 (ppm)    | 11400.3761   |
| 11/1/2017 03:10:00 | Continuing Calibration Verification 1 | Co (230.786 nm)    | 2.6934 (ppm)    | 0.40     | 2.6934 (ppm)    | 26587.9332   |
| 11/1/2017 03:10:00 | Continuing Calibration Verification 1 | Cr (267.716 nm)    | 0.5258 (ppm)    | 0.37     | 0.5258 (ppm)    | 26033.1195   |
| 11/1/2017 03:10:00 | Continuing Calibration Verification 1 | Cu (327.395 nm)    | 1.2099 (ppm)    | 0.49     | 1.2099 (ppm)    | 75131.9411   |
| 11/1/2017 03:10:00 | Continuing Calibration Verification 1 | Fe (234.350 nm)    | 5.0301 (ppm)    | 0.47     | 5.0301 (ppm)    | 56194.6710   |
| 11/1/2017 03:10:00 | Continuing Calibration Verification 1 | K (766.491 nm)     | 24.4289 (ppm)   | 0.63     | 24.4289 (ppm)   | 73700.1925   |
| 11/1/2017 03:10:00 | Continuing Calibration Verification 1 | Mg (279.078 nm)    | 26.0579 (ppm)   | 0.48     | 26.0579 (ppm)   | 50282.8647   |
| 11/1/2017 03:10:00 | Continuing Calibration Verification 1 | Mn (257.610 nm)    | 0.7784 (ppm)    | 0.45     | 0.7784 (ppm)    | 243981.9553  |
| 11/1/2017 03:10:00 | Continuing Calibration Verification 1 | Mo (202.032 nm)    | 2.4995 (ppm)    | 0.40     | 2.4995 (ppm)    | 25486.5304   |
| 11/1/2017 03:10:00 | Continuing Calibration Verification 1 | Na (588.995 nm)    | 24.6594 (ppm)   | 0.82     | 24.6594 (ppm)   | 1115917.4049 |
| 11/1/2017 03:10:00 | Continuing Calibration Verification 1 | Ni (230.299 nm)    | 2.1134 (ppm)    | 0.49     | 2.1134 (ppm)    | 14216.7650   |
| 11/1/2017 03:10:00 | Continuing Calibration Verification 1 | Pb (220.353 nm)    | 0.5225 (ppm)    | 0.84     | 0.5225 (ppm)    | 1121.3941    |
| 11/1/2017 03:10:00 | Continuing Calibration Verification 1 | Sb (217.582 nm)    | 5.0180 (ppm)    | 0.62     | 5.0180 (ppm)    | 6863.1538    |
| 11/1/2017 03:10:00 | Continuing Calibration Verification 1 | Se (196.026 nm)    | 0.5112 (ppm)    | 0.11     | 0.5112 (ppm)    | 438.5425     |
| 11/1/2017 03:10:00 | Continuing Calibration Verification 1 | Sn (189.925 nm)    | 5.3385 (ppm)    | 0.51     | 5.3385 (ppm)    | 6464.6056    |
| 11/1/2017 03:10:00 | Continuing Calibration Verification 1 | Sr (216.596 nm)    | 2.6561 (ppm)    | 0.37     | 2.6561 (ppm)    | 37712.4526   |
| 11/1/2017 03:10:00 | Continuing Calibration Verification 1 | Ti (336.122 nm)    | 2.5565 (ppm)    | 0.34     | 2.5565 (ppm)    | 534417.9683  |
| 11/1/2017 03:10:00 | Continuing Calibration Verification 1 | Tl (351.923 nm)    | 1.0021 (ppm)    | 0.49     | 1.0021 (ppm)    | 2759.8876    |
| 11/1/2017 03:10:00 | Continuing Calibration Verification 1 | V (292.401 nm)     | 2.5913 (ppm)    | 0.49     | 2.5913 (ppm)    | 91701.3153   |
| 11/1/2017 03:10:00 | Continuing Calibration Verification 1 | Y (360.074 nm)     | 0.89 (Ratio)    | 1.00     | 0.89 (Ratio)    | 75769.118    |
| 11/1/2017 03:10:00 | Continuing Calibration Verification 1 | Y_R (360.074 nm)   | 0.89 (Ratio)    | 1.00     | 0.89 (Ratio)    | 758080.58    |
| 11/1/2017 03:10:00 | Continuing Calibration Verification 1 | Zn (213.857 nm)    | 1.0497 (ppm)    | 0.44     | 1.0497 (ppm)    | 29340.4603   |
| 11/1/2017 03:13:18 | Continuing Calibration Blank 1        | Ag (328.068 nm)    | 0.0005 (ppm)    | 83.75    | 0.0005 (ppm)    | -68.8925     |
| 11/1/2017 03:13:18 | Continuing Calibration Blank 1        | Al (394.401 nm)    | 0.0103 (ppm)    | 61.48    | 0.0103 (ppm)    | 257.3868     |
| 11/1/2017 03:13:18 | Continuing Calibration Blank 1        | As (188.980 nm)    | 0.0024 (ppm)    | 62.86    | 0.0024 (ppm)    | 0.6457       |
| 11/1/2017 03:13:18 | Continuing Calibration Blank 1        | B (249.772 nm)     | 0.0063 (ppm)    | 41.90    | 0.0063 (ppm)    | 208.0020     |
| 11/1/2017 03:13:18 | Continuing Calibration Blank 1        | Ba (230.424 nm)    | 0.0139 (ppm)    | 59.74    | 0.0139 (ppm)    | 470.1224     |
| 11/1/2017 03:13:18 | Continuing Calibration Blank 1        | Be (313.107 nm)    | 0.0003 (ppm)    | 61.20    | 0.0003 (ppm)    | -111.9139    |
| 11/1/2017 03:13:18 | Continuing Calibration Blank 1        | Ce (227.547 nm)    | 0.0445 (ppm)    | 33.97    | 0.0445 (ppm)    | 6.9211       |
| 11/1/2017 03:13:18 | Continuing Calibration Blank 1        | Cd (214.439 nm)    | 0.0007 (ppm)    | 67.81    | 0.0007 (ppm)    | 28.7174      |
| 11/1/2017 03:13:18 | Continuing Calibration Blank 1        | Co (230.786 nm)    | 0.0031 Z (ppm)  | 53.33    | 0.0031 (ppm)    | 26.9431 Z    |
| 11/1/2017 03:13:18 | Continuing Calibration Blank 1        | Cr (267.716 nm)    | 0.0006 (ppm)    | 63.86    | 0.0006 (ppm)    | 27.2360      |
| 11/1/2017 03:13:18 | Continuing Calibration Blank 1        | Cu (327.395 nm)    | 0.0015 (ppm)    | 53.05    | 0.0015 (ppm)    | 106.3740     |
| 11/1/2017 03:13:18 | Continuing Calibration Blank 1        | Fe (234.350 nm)    | 0.0066 (ppm)    | 52.34    | 0.0066 (ppm)    | 86.0053      |

0.050u

| Date Time          | Label                             | Element Label (nm) | Conc             | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|-----------------------------------|--------------------|------------------|----------|-----------------|--------------|
| 11/1/2017 03:13:18 | Continuing Calibration Blank 1    | K (766.491 nm)     | 0.0611 (ppm)     | 43.59    | 0.0611 (ppm)    | 175.6157     |
| 11/1/2017 03:13:18 | Continuing Calibration Blank 1    | Mg (279.078 nm)    | 0.0261 (ppm)     | 69.82    | 0.0261 (ppm)    | 49.6098      |
| 11/1/2017 03:13:18 | Continuing Calibration Blank 1    | Mn (257.610 nm)    | 0.0014 (ppm)     | 32.38    | 0.0014 (ppm)    | 451.6414     |
| 11/1/2017 03:13:18 | Continuing Calibration Blank 1    | Mo (202.032 nm)    | 0.0050 (ppm)     | 26.40    | 0.0050 (ppm)    | 57.7514      |
| 11/1/2017 03:13:18 | Continuing Calibration Blank 1    | Na (588.995 nm)    | -0.0093 u (ppm)  | > 100.00 | -0.0093 (ppm)   | -5884.6775   |
| 11/1/2017 03:13:18 | Continuing Calibration Blank 1    | Ni (230.299 nm)    | 0.0016 (ppm)     | 90.29    | 0.0016 (ppm)    | -9.9378      |
| 11/1/2017 03:13:18 | Continuing Calibration Blank 1    | Pb (220.353 nm)    | 0.0008 (ppm)     | 35.29    | 0.0008 (ppm)    | 6.7401       |
| 11/1/2017 03:13:18 | Continuing Calibration Blank 1    | Sb (217.582 nm)    | 0.0049 (ppm)     | 70.09    | 0.0049 (ppm)    | 7.5394       |
| 11/1/2017 03:13:18 | Continuing Calibration Blank 1    | Se (196.026 nm)    | -0.0003 u (ppm)  | > 100.00 | -0.0003 (ppm)   | 0.5565       |
| 11/1/2017 03:13:18 | Continuing Calibration Blank 1    | Sn (189.925 nm)    | 0.0062 (ppm)     | 56.92    | 0.0062 (ppm)    | 7.3920       |
| 11/1/2017 03:13:18 | Continuing Calibration Blank 1    | Sr (216.596 nm)    | 0.0030 (ppm)     | 59.57    | 0.0030 (ppm)    | 41.7491      |
| 11/1/2017 03:13:18 | Continuing Calibration Blank 1    | Ti (336.122 nm)    | 0.0037 (ppm)     | 46.02    | 0.0037 (ppm)    | 286.0445     |
| 11/1/2017 03:13:18 | Continuing Calibration Blank 1    | Tl (351.923 nm)    | 0.0046 (ppm)     | 17.02    | 0.0046 (ppm)    | 19.8073      |
| 11/1/2017 03:13:18 | Continuing Calibration Blank 1    | V (292.401 nm)     | 0.0031 Z (ppm)   | 57.75    | 0.0031 (ppm)    | 218.7701 Z   |
| 11/1/2017 03:13:18 | Continuing Calibration Blank 1    | Y (360.074 nm)     | 0.92 (Ratio)     | 0.84     | 0.92 (Ratio)    | 784837.07    |
| 11/1/2017 03:13:18 | Continuing Calibration Blank 1    | Y_R (360.074 nm)   | 0.92 (Ratio)     | 0.84     | 0.92 (Ratio)    | 785298.22    |
| 11/1/2017 03:13:18 | Continuing Calibration Blank 1    | Zn (213.857 nm)    | 0.0011 (ppm)     | 63.16    | 0.0011 (ppm)    | 3.4278       |
| 11/1/2017 03:16:37 | Contract Required Detection Limit | Ag (328.068 nm)    | 0.0099 (ppm)     | 2.02     | 0.0099 (ppm)    | 600.6755     |
| 11/1/2017 03:16:37 | Contract Required Detection Limit | Al (394.401 nm)    | 0.1792 (ppm)     | 0.93     | 0.1792 (ppm)    | 2419.7803    |
| 11/1/2017 03:16:37 | Contract Required Detection Limit | As (188.980 nm)    | 0.0204 (ppm)     | 12.42    | 0.0204 (ppm)    | 16.7678      |
| 11/1/2017 03:16:37 | Contract Required Detection Limit | B (249.772 nm)     | 0.1957 (ppm)     | 0.60     | 0.1957 (ppm)    | 5452.7122    |
| 11/1/2017 03:16:37 | Contract Required Detection Limit | Ba (230.424 nm)    | 0.2211 (ppm)     | 0.41     | 0.2211 (ppm)    | 7434.6091    |
| 11/1/2017 03:16:37 | Contract Required Detection Limit | Be (313.107 nm)    | 0.0051 (ppm)     | 0.42     | 0.0051 (ppm)    | 6981.0462    |
| 11/1/2017 03:16:37 | Contract Required Detection Limit | Ca (227.547 nm)    | 0.9837 (ppm)     | 1.89     | 0.9837 (ppm)    | 59.7897      |
| 11/1/2017 03:16:37 | Contract Required Detection Limit | Cd (214.439 nm)    | 0.0110 (ppm)     | 0.28     | 0.0110 (ppm)    | 250.8538     |
| 11/1/2017 03:16:37 | Contract Required Detection Limit | Co (230.786 nm)    | 0.0539 (ppm)     | 0.88     | 0.0539 (ppm)    | 528.4063     |
| 11/1/2017 03:16:37 | Contract Required Detection Limit | Cr (267.716 nm)    | 0.0109 (ppm)     | 0.78     | 0.0109 (ppm)    | 536.6242     |
| 11/1/2017 03:16:37 | Contract Required Detection Limit | Cu (327.395 nm)    | 0.0247 (ppm)     | 1.25     | 0.0247 (ppm)    | 1545.0872    |
| 11/1/2017 03:16:37 | Contract Required Detection Limit | Fe (234.350 nm)    | 0.1083 (ppm)     | 0.23     | 0.1083 (ppm)    | 1220.9455    |
| 11/1/2017 03:16:37 | Contract Required Detection Limit | K (766.491 nm)     | 0.9419 (ppm)     | 0.75     | 0.9419 (ppm)    | 2833.2743    |
| 11/1/2017 03:16:37 | Contract Required Detection Limit | Mg (279.078 nm)    | 1.0389 (ppm)     | 0.36     | 1.0389 (ppm)    | 2003.9945    |
| 11/1/2017 03:16:37 | Contract Required Detection Limit | Mn (257.610 nm)    | 0.0169 (ppm)     | 0.77     | 0.0169 (ppm)    | 5297.9532    |
| 11/1/2017 03:16:37 | Contract Required Detection Limit | Mo (202.032 nm)    | 0.0272 (ppm)     | 0.86     | 0.0272 (ppm)    | 284.2249     |
| 11/1/2017 03:16:37 | Contract Required Detection Limit | Na (588.995 nm)    | 0.9619 (ppm)     | 0.61     | 0.9619 (ppm)    | 38284.0429   |
| 11/1/2017 03:16:37 | Contract Required Detection Limit | Ni (230.299 nm)    | 0.0417 (ppm)     | 1.51     | 0.0417 (ppm)    | 260.2353     |
| 11/1/2017 03:16:37 | Contract Required Detection Limit | Pb (220.353 nm)    | 0.0104 (ppm)     | 6.42     | 0.0104 (ppm)    | 27.2097      |
| 11/1/2017 03:16:37 | Contract Required Detection Limit | Sb (217.582 nm)    | 0.0616 (ppm)     | 2.87     | 0.0616 (ppm)    | 84.9907      |
| 11/1/2017 03:16:37 | Contract Required Detection Limit | Se (196.026 nm)    | 0.0079 R (ppm)   | 56.45    | 0.0079 (ppm)    | 7.5152 R     |
| 11/1/2017 03:16:37 | Contract Required Detection Limit | Sn (189.925 nm)    | 0.5339 (ppm)     | 0.46     | 0.5339 (ppm)    | 646.4053     |
| 11/1/2017 03:16:37 | Contract Required Detection Limit | Sr (216.596 nm)    | 0.1075 (ppm)     | 0.76     | 0.1075 (ppm)    | 1526.0926    |
| 11/1/2017 03:16:37 | Contract Required Detection Limit | Ti (336.122 nm)    | 0.0522 (ppm)     | 0.46     | 0.0522 (ppm)    | 10437.6357   |
| 11/1/2017 03:16:37 | Contract Required Detection Limit | Tl (351.923 nm)    | 0.0221 (ppm)     | 16.58    | 0.0221 (ppm)    | 68.0799      |
| 11/1/2017 03:16:37 | Contract Required Detection Limit | V (292.401 nm)     | 0.0518 (ppm)     | 0.79     | 0.0518 (ppm)    | 1940.6443    |
| 11/1/2017 03:16:37 | Contract Required Detection Limit | Y (360.074 nm)     | 0.92 (Ratio)     | 0.89     | 0.92 (Ratio)    | 787825.18    |
| 11/1/2017 03:16:37 | Contract Required Detection Limit | Y_R (360.074 nm)   | 0.92 (Ratio)     | 0.89     | 0.92 (Ratio)    | 788217.04    |
| 11/1/2017 03:16:37 | Contract Required Detection Limit | Zn (213.857 nm)    | 0.0207 (ppm)     | 0.67     | 0.0207 (ppm)    | 552.2575     |
| 11/1/2017 03:19:56 | Interference Check Solution A     | Ag (328.068 nm)    | 0.0001 u (ppm)   | > 100.00 | 0.0001 (ppm)    | -98.4171     |
| 11/1/2017 03:19:56 | Interference Check Solution A     | Al (394.401 nm)    | 265.5895 u (ppm) | 0.39     | 265.5895 (ppm)  | 3399060.5050 |
| 11/1/2017 03:19:56 | Interference Check Solution A     | As (188.980 nm)    | -0.0002 u (ppm)  | > 100.00 | -0.0002 (ppm)   | -1.6774      |
| 11/1/2017 03:19:56 | Interference Check Solution A     | B (249.772 nm)     | 0.0422 (ppm)     | 0.68     | 0.0422 (ppm)    | 1202.1078    |
| 11/1/2017 03:19:56 | Interference Check Solution A     | Ba (230.424 nm)    | 0.0012 (ppm)     | 32.30    | 0.0012 (ppm)    | 41.1672      |

0.0504

| Date Time          | Label                          | Element Label (nm) | Conc             | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|--------------------------------|--------------------|------------------|----------|-----------------|--------------|
| 11/1/2017 03:19:56 | Interference Check Solution A  | Be (313.107 nm)    | 0.0000 (ppm)     | 10.77    | 0.0000 (ppm)    | -581.0469    |
| 11/1/2017 03:19:56 | Interference Check Solution A  | Ca (227.547 nm)    | 267.3467 o (ppm) | 0.40     | 267.3467 (ppm)  | 15054.8075   |
| 11/1/2017 03:19:56 | Interference Check Solution A  | Cd (214.439 nm)    | -0.0007 u (ppm)  | 21.38    | -0.0007 (ppm)   | -2.0460      |
| 11/1/2017 03:19:56 | Interference Check Solution A  | Co (230.786 nm)    | -0.0021 u (ppm)  | 16.47    | -0.0021 (ppm)   | -24.0703     |
| 11/1/2017 03:19:56 | Interference Check Solution A  | Cr (267.716 nm)    | -0.0001 u (ppm)  | 98.17    | -0.0001 (ppm)   | -5.4982      |
| 11/1/2017 03:19:56 | Interference Check Solution A  | Cu (327.395 nm)    | 0.0008 (ppm)     | 26.50    | 0.0008 (ppm)    | 63.7808      |
| 11/1/2017 03:19:56 | Interference Check Solution A  | Fe (234.350 nm)    | 92.8478 o (ppm)  | 0.43     | 92.8478 (ppm)   | 1037052.3876 |
| 11/1/2017 03:19:56 | Interference Check Solution A  | K (766.491 nm)     | 0.0586 (ppm)     | 17.51    | 0.0586 (ppm)    | 168.0164     |
| 11/1/2017 03:19:56 | Interference Check Solution A  | Mg (279.078 nm)    | 276.1091 o (ppm) | 0.29     | 276.1091 (ppm)  | 532802.5270  |
| 11/1/2017 03:19:56 | Interference Check Solution A  | Mn (257.610 nm)    | 0.0025 (ppm)     | 7.18     | 0.0025 (ppm)    | 781.6482     |
| 11/1/2017 03:19:56 | Interference Check Solution A  | Mo (202.032 nm)    | 0.0008 (ppm)     | 30.82    | 0.0008 (ppm)    | 15.2737      |
| 11/1/2017 03:19:56 | Interference Check Solution A  | Na (588.995 nm)    | -0.0324 u (ppm)  | 5.95     | -0.0324 (ppm)   | -6933.8301   |
| 11/1/2017 03:19:56 | Interference Check Solution A  | Ni (230.299 nm)    | -0.0025 u (ppm)  | 10.75    | -0.0025 (ppm)   | -37.7089     |
| 11/1/2017 03:19:56 | Interference Check Solution A  | Pb (220.353 nm)    | -0.0023 u (ppm)  | > 100.00 | -0.0023 (ppm)   | 0.2300       |
| 11/1/2017 03:19:56 | Interference Check Solution A  | Sb (217.582 nm)    | -0.0042 u (ppm)  | > 100.00 | -0.0042 (ppm)   | -4.9620      |
| 11/1/2017 03:19:56 | Interference Check Solution A  | Se (196.026 nm)    | 0.0066 (ppm)     | 39.70    | 0.0066 (ppm)    | 6.4390       |
| 11/1/2017 03:19:56 | Interference Check Solution A  | Sn (189.925 nm)    | -0.0008 u (ppm)  | > 100.00 | -0.0008 (ppm)   | -0.9936      |
| 11/1/2017 03:19:56 | Interference Check Solution A  | Sr (216.596 nm)    | 0.0194 (ppm)     | 4.45     | 0.0194 (ppm)    | 275.2460     |
| 11/1/2017 03:19:56 | Interference Check Solution A  | Ti (336.122 nm)    | 0.0017 (ppm)     | 1.84     | 0.0017 (ppm)    | -128.9329    |
| 11/1/2017 03:19:56 | Interference Check Solution A  | Tl (351.923 nm)    | 0.0042 u (ppm)   | 93.20    | 0.0042 (ppm)    | 18.7465      |
| 11/1/2017 03:19:56 | Interference Check Solution A  | V (292.401 nm)     | 0.0037 K (ppm)   | 4.23     | 0.0037 (ppm)    | 239.1679 K   |
| 11/1/2017 03:19:56 | Interference Check Solution A  | Y (360.074 nm)     | 0.82 (Ratio)     | 0.68     | 0.82 (Ratio)    | 703429.35    |
| 11/1/2017 03:19:56 | Interference Check Solution A  | Y_R (360.074 nm)   | 0.82 (Ratio)     | 0.68     | 0.82 (Ratio)    | 703640.53    |
| 11/1/2017 03:19:56 | Interference Check Solution A  | Zn (213.857 nm)    | 0.0118 K (ppm)   | 1.12     | 0.0118 (ppm)    | 302.4076 K   |
| 11/1/2017 03:23:15 | Interference Check Solution AB | Ag (328.068 nm)    | 0.2193 (ppm)     | 0.23     | 0.2193 (ppm)    | 15568.2937   |
| 11/1/2017 03:23:15 | Interference Check Solution AB | Al (394.401 nm)    | 265.8844 o (ppm) | 0.33     | 265.8844 (ppm)  | 3402834.6540 |
| 11/1/2017 03:23:15 | Interference Check Solution AB | As (188.980 nm)    | 0.1053 (ppm)     | 4.59     | 0.1053 (ppm)    | 92.6682      |
| 11/1/2017 03:23:15 | Interference Check Solution AB | B (249.772 nm)     | 0.0423 (ppm)     | 0.27     | 0.0423 (ppm)    | 1205.4112    |
| 11/1/2017 03:23:15 | Interference Check Solution AB | Ba (230.424 nm)    | 0.5465 (ppm)     | 0.20     | 0.5465 (ppm)    | 18375.2629   |
| 11/1/2017 03:23:15 | Interference Check Solution AB | Be (313.107 nm)    | 0.5217 (ppm)     | 0.12     | 0.5217 (ppm)    | 770126.2542  |
| 11/1/2017 03:23:15 | Interference Check Solution AB | Ca (227.547 nm)    | 266.1450 o (ppm) | 0.26     | 266.1450 (ppm)  | 14987.1540   |
| 11/1/2017 03:23:15 | Interference Check Solution AB | Cd (214.439 nm)    | 1.0110 (ppm)     | 0.15     | 1.0110 (ppm)    | 21900.4510   |
| 11/1/2017 03:23:15 | Interference Check Solution AB | Co (230.786 nm)    | 0.5163 (ppm)     | 0.43     | 0.5163 (ppm)    | 5093.3835    |
| 11/1/2017 03:23:15 | Interference Check Solution AB | Cr (267.716 nm)    | 0.5163 (ppm)     | 0.23     | 0.5163 (ppm)    | 25564.8489   |
| 11/1/2017 03:23:15 | Interference Check Solution AB | Cu (327.395 nm)    | 0.5249 (ppm)     | 0.41     | 0.5249 (ppm)    | 32599.6053   |
| 11/1/2017 03:23:15 | Interference Check Solution AB | Fe (234.350 nm)    | 93.1748 o (ppm)  | 0.13     | 93.1748 (ppm)   | 1040704.7316 |
| 11/1/2017 03:23:15 | Interference Check Solution AB | K (766.491 nm)     | 0.0172 (ppm)     | 38.38    | 0.0172 (ppm)    | 43.0266      |
| 11/1/2017 03:23:15 | Interference Check Solution AB | Mg (279.078 nm)    | 276.5718 o (ppm) | 0.20     | 276.5718 (ppm)  | 533695.3916  |
| 11/1/2017 03:23:15 | Interference Check Solution AB | Mn (257.610 nm)    | 0.5125 (ppm)     | 0.14     | 0.5125 (ppm)    | 160627.2798  |
| 11/1/2017 03:23:15 | Interference Check Solution AB | Mo (202.032 nm)    | 0.0006 (ppm)     | 41.64    | 0.0006 (ppm)    | 13.6270      |
| 11/1/2017 03:23:15 | Interference Check Solution AB | Na (588.995 nm)    | -0.0240 u (ppm)  | 5.46     | -0.0240 (ppm)   | -6552.7200   |
| 11/1/2017 03:23:15 | Interference Check Solution AB | Ni (230.299 nm)    | 0.9939 (ppm)     | 0.18     | 0.9939 (ppm)    | 6675.0406    |
| 11/1/2017 03:23:15 | Interference Check Solution AB | Pb (220.353 nm)    | 0.0507 (ppm)     | 3.48     | 0.0507 (ppm)    | 113.3485     |
| 11/1/2017 03:23:15 | Interference Check Solution AB | Sb (217.582 nm)    | 0.6298 (ppm)     | 0.48     | 0.6298 (ppm)    | 862.0476     |
| 11/1/2017 03:23:15 | Interference Check Solution AB | Se (196.026 nm)    | 0.0548 (ppm)     | 12.83    | 0.0548 (ppm)    | 47.6741      |
| 11/1/2017 03:23:15 | Interference Check Solution AB | Sn (189.925 nm)    | 0.0027 (ppm)     | 86.38    | 0.0027 (ppm)    | 3.1508       |
| 11/1/2017 03:23:15 | Interference Check Solution AB | Sr (216.596 nm)    | 0.0206 (ppm)     | 1.28     | 0.0206 (ppm)    | 291.8463     |
| 11/1/2017 03:23:15 | Interference Check Solution AB | Ti (336.122 nm)    | 0.0014 (ppm)     | 3.72     | 0.0014 (ppm)    | -188.8800    |
| 11/1/2017 03:23:15 | Interference Check Solution AB | Tl (351.923 nm)    | 0.1178 (ppm)     | 2.97     | 0.1178 (ppm)    | 331.0007     |
| 11/1/2017 03:23:15 | Interference Check Solution AB | V (292.401 nm)     | 0.5233 (ppm)     | 0.23     | 0.5233 (ppm)    | 18607.0339   |
| 11/1/2017 03:23:15 | Interference Check Solution AB | Y (360.074 nm)     | 0.83 (Ratio)     | 0.59     | 0.83 (Ratio)    | 704668.61    |

| Date Time          | Label                               | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|-------------------------------------|--------------------|-----------------|----------|-----------------|--------------|
| 11/1/2017 03:23:15 | Interference Check Solution AB      | Y_R (360.074 nm)   | 0.83 (Ratio)    | 0.59     | 0.83 (Ratio)    | 704857.78    |
| 11/1/2017 03:23:15 | Interference Check Solution AB      | Zn (213.857 nm)    | 1.0767 (ppm)    | 0.20     | 1.0767 (ppm)    | 30093.7858   |
| 11/1/2017 03:26:34 | Continuing Calibration Verification | Ag (328.068 nm)    | 0.5055 (ppm)    | 0.54     | 0.5055 (ppm)    | 36012.3161   |
| 11/1/2017 03:26:34 | Continuing Calibration Verification | Al (394.401 nm)    | 9.8088 (ppm)    | 0.77     | 9.8088 (ppm)    | 125655.4601  |
| 11/1/2017 03:26:34 | Continuing Calibration Verification | As (188.980 nm)    | 1.0043 (ppm)    | 0.46     | 1.0043 (ppm)    | 896.3075     |
| 11/1/2017 03:26:34 | Continuing Calibration Verification | B (249.772 nm)     | 2.4953 (ppm)    | 0.35     | 2.4953 (ppm)    | 69122.3170   |
| 11/1/2017 03:26:34 | Continuing Calibration Verification | Ba (230.424 nm)    | 10.7550 (ppm)   | 0.35     | 10.7550 (ppm)   | 361574.9027  |
| 11/1/2017 03:26:34 | Continuing Calibration Verification | Be (313.107 nm)    | 0.2635 (ppm)    | 0.45     | 0.2635 (ppm)    | 388771.5110  |
| 11/1/2017 03:26:34 | Continuing Calibration Verification | Ca (227.547 nm)    | 24.5421 (ppm)   | 0.89     | 24.5421 (ppm)   | 1386.0192    |
| 11/1/2017 03:26:34 | Continuing Calibration Verification | Cd (214.439 nm)    | 0.5313 (ppm)    | 0.58     | 0.5313 (ppm)    | 11516.6877   |
| 11/1/2017 03:26:34 | Continuing Calibration Verification | Co (230.786 nm)    | 2.7185 (ppm)    | 0.59     | 2.7185 (ppm)    | 26835.7462   |
| 11/1/2017 03:26:34 | Continuing Calibration Verification | Cr (267.716 nm)    | 0.5335 (ppm)    | 0.51     | 0.5335 (ppm)    | 26412.6319   |
| 11/1/2017 03:26:34 | Continuing Calibration Verification | Cu (327.395 nm)    | 1.2122 (ppm)    | 0.58     | 1.2122 (ppm)    | 75273.2416   |
| 11/1/2017 03:26:34 | Continuing Calibration Verification | Fe (234.350 nm)    | 5.1478 (ppm)    | 0.82     | 5.1478 (ppm)    | 57508.5948   |
| 11/1/2017 03:26:34 | Continuing Calibration Verification | K (766.491 nm)     | 24.5056 (ppm)   | 0.61     | 24.5056 (ppm)   | 73931.4334   |
| 11/1/2017 03:26:34 | Continuing Calibration Verification | Mg (279.078 nm)    | 26.5149 (ppm)   | 0.71     | 26.5149 (ppm)   | 51164.7063   |
| 11/1/2017 03:26:34 | Continuing Calibration Verification | Mn (257.610 nm)    | 0.7865 (ppm)    | 0.45     | 0.7865 (ppm)    | 246535.5484  |
| 11/1/2017 03:26:34 | Continuing Calibration Verification | Mo (202.032 nm)    | 2.5276 (ppm)    | 0.41     | 2.5276 (ppm)    | 25772.4325   |
| 11/1/2017 03:26:34 | Continuing Calibration Verification | Na (588.995 nm)    | 24.6241 (ppm)   | 0.77     | 24.6241 (ppm)   | 1114314.2044 |
| 11/1/2017 03:26:34 | Continuing Calibration Verification | Ni (230.299 nm)    | 2.1356 (ppm)    | 0.49     | 2.1356 (ppm)    | 14366.0025   |
| 11/1/2017 03:26:34 | Continuing Calibration Verification | Pb (220.353 nm)    | 0.5234 (ppm)    | 0.38     | 0.5234 (ppm)    | 1123.2852    |
| 11/1/2017 03:26:34 | Continuing Calibration Verification | Sb (217.582 nm)    | 5.0610 (ppm)    | 0.65     | 5.0610 (ppm)    | 6922.0124    |
| 11/1/2017 03:26:34 | Continuing Calibration Verification | Se (196.026 nm)    | 0.5152 (ppm)    | 1.78     | 0.5152 (ppm)    | 442.0032     |
| 11/1/2017 03:26:34 | Continuing Calibration Verification | Sn (189.925 nm)    | 5.3999 (ppm)    | 0.62     | 5.3999 (ppm)    | 6538.8412    |
| 11/1/2017 03:26:34 | Continuing Calibration Verification | Sr (216.596 nm)    | 2.7011 (ppm)    | 0.64     | 2.7011 (ppm)    | 38351.1559   |
| 11/1/2017 03:26:34 | Continuing Calibration Verification | Ti (336.122 nm)    | 2.5761 (ppm)    | 0.54     | 2.5761 (ppm)    | 538534.3928  |
| 11/1/2017 03:26:34 | Continuing Calibration Verification | Tl (351.923 nm)    | 1.0089 (ppm)    | 0.98     | 1.0089 (ppm)    | 2778.3831    |
| 11/1/2017 03:26:34 | Continuing Calibration Verification | V (292.401 nm)     | 2.6188 (ppm)    | 0.43     | 2.6188 (ppm)    | 92676.2987   |
| 11/1/2017 03:26:34 | Continuing Calibration Verification | Y (360.074 nm)     | 0.88 (Ratio)    | 0.93     | 0.88 (Ratio)    | 754384.19    |
| 11/1/2017 03:26:34 | Continuing Calibration Verification | Y_R (360.074 nm)   | 0.88 (Ratio)    | 0.94     | 0.88 (Ratio)    | 754642.10    |
| 11/1/2017 03:26:34 | Continuing Calibration Verification | Zn (213.857 nm)    | 1.0625 (ppm)    | 0.58     | 1.0625 (ppm)    | 29698.4938   |
| 11/1/2017 03:29:53 | Continuing Calibration Blank        | Ag (328.068 nm)    | 0.0001 (ppm)    | 39.60    | 0.0001 (ppm)    | -96.2642     |
| 11/1/2017 03:29:53 | Continuing Calibration Blank        | Al (394.401 nm)    | 0.0395 (ppm)    | 23.63    | 0.0395 (ppm)    | 631.9104     |
| 11/1/2017 03:29:53 | Continuing Calibration Blank        | As (188.980 nm)    | 0.0005 u (ppm)  | > 100.00 | 0.0005 (ppm)    | -0.9910      |
| 11/1/2017 03:29:53 | Continuing Calibration Blank        | B (249.772 nm)     | 0.0051 (ppm)    | 26.43    | 0.0051 (ppm)    | 175.1164     |
| 11/1/2017 03:29:53 | Continuing Calibration Blank        | Ba (230.424 nm)    | 0.0056 (ppm)    | 24.29    | 0.0056 (ppm)    | 189.4191     |
| 11/1/2017 03:29:53 | Continuing Calibration Blank        | Be (313.107 nm)    | 0.0002 (ppm)    | 23.62    | 0.0002 (ppm)    | -234.7473    |
| 11/1/2017 03:29:53 | Continuing Calibration Blank        | Ca (227.547 nm)    | 0.0794 (ppm)    | 37.42    | 0.0794 (ppm)    | 8.8862       |
| 11/1/2017 03:29:53 | Continuing Calibration Blank        | Cd (214.439 nm)    | 0.0005 (ppm)    | 17.92    | 0.0005 (ppm)    | 23.5797      |
| 11/1/2017 03:29:53 | Continuing Calibration Blank        | Co (230.786 nm)    | 0.0015 (ppm)    | 36.45    | 0.0015 (ppm)    | 11.3990      |
| 11/1/2017 03:29:53 | Continuing Calibration Blank        | Cr (267.716 nm)    | 0.0004 (ppm)    | 31.23    | 0.0004 (ppm)    | 16.3480      |
| 11/1/2017 03:29:53 | Continuing Calibration Blank        | Cu (327.395 nm)    | 0.0007 (ppm)    | 40.82    | 0.0007 (ppm)    | 56.7533      |
| 11/1/2017 03:29:53 | Continuing Calibration Blank        | Fe (234.350 nm)    | 0.0196 (ppm)    | 23.90    | 0.0196 (ppm)    | 230.3653     |
| 11/1/2017 03:29:53 | Continuing Calibration Blank        | K (766.491 nm)     | 0.0403 (ppm)    | 10.60    | 0.0403 (ppm)    | 112.7014     |
| 11/1/2017 03:29:53 | Continuing Calibration Blank        | Mg (279.078 nm)    | 0.0519 (ppm)    | 21.99    | 0.0519 (ppm)    | 99.5531      |
| 11/1/2017 03:29:53 | Continuing Calibration Blank        | Mn (257.610 nm)    | 0.0010 (ppm)    | 4.96     | 0.0010 (ppm)    | 302.3145     |
| 11/1/2017 03:29:53 | Continuing Calibration Blank        | Mo (202.032 nm)    | 0.0032 (ppm)    | 17.70    | 0.0032 (ppm)    | 39.7456      |
| 11/1/2017 03:29:53 | Continuing Calibration Blank        | Na (588.995 nm)    | -0.0277 u (ppm) | 6.65     | -0.0277 (ppm)   | -6719.8994   |
| 11/1/2017 03:29:53 | Continuing Calibration Blank        | Ni (230.299 nm)    | 0.0005 u (ppm)  | > 100.00 | 0.0005 (ppm)    | -17.3022     |
| 11/1/2017 03:29:53 | Continuing Calibration Blank        | Pb (220.353 nm)    | 0.0008 (ppm)    | > 100.00 | 0.0008 (ppm)    | 6.8570       |
| 11/1/2017 03:29:53 | Continuing Calibration Blank        | Sb (217.582 nm)    | 0.0038 (ppm)    | 76.13    | 0.0038 (ppm)    | 5.9893       |

| Date Time          | Label                        | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity |
|--------------------|------------------------------|--------------------|-----------------|----------|-----------------|-----------|
| 11/1/2017 03:29:53 | Continuing Calibration Blank | Se (196.026 nm)    | -0.0013 u (ppm) | > 100.00 | -0.0013 (ppm)   | -0.3330   |
| 11/1/2017 03:29:53 | Continuing Calibration Blank | Sn (189.925 nm)    | 0.0034 (ppm)    | 39.53    | 0.0034 (ppm)    | 4.0009    |
| 11/1/2017 03:29:53 | Continuing Calibration Blank | Sr (216.596 nm)    | 0.0012 (ppm)    | 39.85    | 0.0012 (ppm)    | 16.0141   |
| 11/1/2017 03:29:53 | Continuing Calibration Blank | Ti (336.122 nm)    | 0.0019 (ppm)    | 16.34    | 0.0019 (ppm)    | -80.9203  |
| 11/1/2017 03:29:53 | Continuing Calibration Blank | Tl (351.923 nm)    | 0.0037 (ppm)    | 38.98    | 0.0037 (ppm)    | 17.4411   |
| 11/1/2017 03:29:53 | Continuing Calibration Blank | V (292.401 nm)     | 0.0015 (ppm)    | 31.09    | 0.0015 (ppm)    | 163.3433  |
| 11/1/2017 03:29:53 | Continuing Calibration Blank | Y (360.074 nm)     | 0.91 (Ratio)    | 0.79     | 0.91 (Ratio)    | 777767.98 |
| 11/1/2017 03:29:53 | Continuing Calibration Blank | Y_R (360.074 nm)   | 0.91 (Ratio)    | 0.79     | 0.91 (Ratio)    | 778049.01 |
| 11/1/2017 03:29:53 | Continuing Calibration Blank | Zn (213.857 nm)    | 0.0005 (ppm)    | 24.68    | 0.0005 (ppm)    | -12.3614  |



Ag (328.068 nm)  
Intensity = 71449.4313 \* Concentration - 103.5199  
Correlation coefficient: 0.99999

As (188.980 nm)

Intensity = 893.9141 \* Concentration - 1.4556  
Correlation coefficient: 0.99999

B (249.772 nm)

Intensity = 27687.2353 \* Concentration + 33.7366  
Correlation coefficient: 0.99999

Ba (230.424 nm)

Intensity = 33619.0553 \* Concentration + 1.8955  
Correlation coefficient: 0.99995

Be (313.107 nm)

Intensity = 1477195.0274 \* Concentration - 523.7467  
Correlation coefficient: 1.00000

Cd (214.439 nm)

Intensity = 21649.3728 \* Concentration + 13.5722  
Correlation coefficient: 0.99999

Co (230.786 nm)

Intensity = 9872.7714 \* Concentration - 3.5604  
Correlation coefficient: 0.99999

Cr (267.716 nm)

Intensity = 49514.1968 \* Concentration - 1.0703  
Correlation coefficient: 1.00000

Cu (327.395 nm)

Intensity = 62085.1746 \* Concentration + 12.9636  
Correlation coefficient: 0.99999

K (766.491 nm)

Intensity = 3017.2847 \* Concentration - 8.8328  
Correlation coefficient: 0.99996

Mn (257.610 nm)

Intensity = 313439.0056 \* Concentration + 4.3915  
Correlation coefficient: 0.99999

Mo (202.032 nm)

Intensity = 10193.6244 \* Concentration + 7.0792  
Correlation coefficient: 1.00000

Na (588.995 nm)

Intensity = 45474.7279 \* Concentration - 5460.2635  
Correlation coefficient: 1.00000

Ni (230.299 nm)

Intensity = 6736.6611 \* Concentration - 20.6132  
Correlation coefficient: 0.99998

Pb (220.353 nm)

Intensity = 2136.5608 \* Concentration + 5.0502  
Correlation coefficient: 0.99999

Sb (217.582 nm)

Intensity = 1367.5513 \* Concentration + 0.8064  
Correlation coefficient: 1.00000

Se (196.026 nm)

Intensity = 856.4191 \* Concentration + 0.7762  
Correlation coefficient: 0.99999

Sn (189.925 nm)  
Intensity = 1210.9429 \* Concentration - 0.0732  
Correlation coefficient: 0.99999

Ti (336.122 nm)  
Intensity = 209234.6557 \* Concentration - 481.7161  
Correlation coefficient: 1.00000

Ti (351.923 nm)  
Intensity = 2746.7145 \* Concentration + 7.3004  
Correlation coefficient: 0.99997

V (292.401 nm)  
Intensity = 35346.7404 \* Concentration + 108.9825  
Correlation coefficient: 1.00000

Zn (213.857 nm)  
Intensity = 27975.5895 \* Concentration - 26.6762  
Correlation coefficient: 1.00000

Al (394.401 nm)  
Intensity = 12797.6981 \* Concentration + 125.8898  
Correlation coefficient: 0.99989

Ca (227.547 nm)  
Intensity = 56.2954 \* Concentration + 4.4141  
Correlation coefficient: 0.99995

Fe (234.350 nm)  
Intensity = 11169.2474 \* Concentration + 11.8400  
Correlation coefficient: 0.99998

Mg (279.078 nm)  
Intensity = 1929.6839 \* Concentration - 0.6701  
Correlation coefficient: 1.00000

Sr (216.596 nm)  
Intensity = 14198.6624 \* Concentration - 0.6593  
Correlation coefficient: 0.99999

# Preparation Information Benchsheet

Prep Run#: 301737

Team: Metals/KMCLAEN

Prep Workflow: MetDigAqICP

Prep Method: EPA 3005A/3010A

Status: Prepped

Prep Date/Time: 10/26/17 05:45 PM

| # | Lab Code     | Client ID    | B#  | Amt. Ext. | Method /Test  | pH | AE | BN | Final Vol | Sample Desc. (Initial/Final) | SpikeAmt./Inv. ID  | Comments  |
|---|--------------|--------------|-----|-----------|---|----|----|----|-----------|------------------------------|--|---|
| 1 | RQ1711141-01 | MB           |     | 50mL      | 6010C/Ag T, Ag T DOD, Al T, Al T DOD, As T DOD, B T, Ba T, Ba T DOD, Be T, Be T DOD, Ca T, Ca T DOD, Cd T, Cd T DOD, Co T, Co T DOD, Cr T, Cr T DOD, Cu T, Cu T DOD, Fe T, Fe T DOD, K T, K T DOD, Mg T, Mg T DOD, Mn T, Mn T DOD, Mo T, Na T, Na T DOD, Ni T, Ni T DOD, Pb T, Pb T DOD, Sb T DOD, Se T, Se T DOD, Sn T, Sr T, Ti T DOD, V T, V T DOD, Zn T, Zn T DOD | <2 |    |    | 50.00mL   | Colorless-Clear              |  | HB: 7<br>Well: 14<br>Temp: 94.0C<br>Corr. Factor: 0.0C<br>Corr. Temp: 94.0C |
| 2 | RQ1711141-02 | LCS          |     | 50mL      | 6010C/Ag T, Ag T DOD, Al T, Al T DOD, As T DOD, B T, Ba T, Ba T DOD, Be T, Be T DOD, Ca T, Ca T DOD, Cd T, Cd T DOD, Co T, Co T DOD, Cr T, Cr T DOD, Cu T, Cu T DOD, Fe T, Fe T DOD, K T, K T DOD, Mg T, Mg T DOD, Mn T, Mn T DOD, Mo T, Na T, Na T DOD, Ni T, Ni T DOD, Pb T, Pb T DOD, Sb T DOD, Se T, Se T DOD, Sn T, Sr T, Ti T DOD, V T, V T DOD, Zn T, Zn T DOD | <2 |    |    | 50.00mL   | Colorless-Clear              | 0.1000 mL/180703;<br>0.0500 mL/180701;<br>0.5000 mL/182726;<br>0.5000 mL/182727;<br>0.2500 mL/184175 |   |
| 3 | R1710018-001 | PCERI-MW25S  | .01 | 50mL      | 6010C/Ag T DOD, Al T DOD, As T DOD, Ba T DOD, Be T DOD, Ca T DOD, Cd T DOD, Co T DOD, Cr T DOD, Cu T DOD, Fe T DOD, K T DOD, Mg T DOD, Mn T DOD, Na T DOD, Ni T DOD, Pb T DOD, Sb T DOD, Se T DOD, Ti T DOD, V T DOD, Zn T DOD  | <2 |    |    | 50.00mL   | Colorless-Clear              |  | Tier IV   |
| 4 | R1710018-002 | DUP-101717-1 | .01 | 50mL      | 6010C/Ag T DOD, Al T DOD, As T DOD, Ba T DOD, Be T DOD, Ca T DOD, Cd T DOD, Co T DOD, Cr T DOD, Cu T DOD, Fe T DOD, K T DOD, Mg T DOD, Mn T DOD, Na T DOD, Ni T DOD, Pb T DOD, Sb T DOD, Se T DOD, Ti T DOD, V T DOD, Zn T DOD  | <2 |    |    | 50.00mL   | Colorless-Clear              |  |   |

# Preparation Information Benchsheet

Prep Run#: 301737

Prep Workflow: MetDigAqICP

Status: Prepped

Team: Metals/KMCLAEN

Prep Method: EPA 3005A/3010A

Prep Date/Time: 10/26/17 05:45 PM

|    |              |                  |     |      |  |    |  |         |                             |  |  |
|----|--------------|------------------|-----|------|--|----|--|---------|-----------------------------|--|--|
| 5  | R1710018-003 | PCERI-MW25I      | .04 | 50mL | 6010C/Ag T DOD, Al T DOD, As T DOD, Ba T DOD, Be T DOD, Ca T DOD, Cd T DOD, Co T DOD, Cr T DOD, Cu T DOD, Fe T DOD, K T DOD, Mg T DOD, Mn T DOD, Na T DOD, Ni T DOD, Pb T DOD, Sb T DOD, Se T DOD, Ti T DOD, V T DOD, Zn T DOD | <2 |  | 50.00mL | Purple-Cloudy/Purple-Cloudy |  |  |
| 6  | R1710018-004 | PCERI-IMW-05     | .04 | 50mL | 6010C/Ag T DOD, Al T DOD, As T DOD, Ba T DOD, Be T DOD, Ca T DOD, Cd T DOD, Co T DOD, Cr T DOD, Cu T DOD, Fe T DOD, K T DOD, Mg T DOD, Mn T DOD, Na T DOD, Ni T DOD, Pb T DOD, Sb T DOD, Se T DOD, Ti T DOD, V T DOD, Zn T DOD | <2 |  | 50.00mL | Colorless-Clear             |  |  |
| 7  | R1710018-005 | PCERI-IMW-06     | .01 | 50mL | 6010C/Ag T DOD, Al T DOD, As T DOD, Ba T DOD, Be T DOD, Ca T DOD, Cd T DOD, Co T DOD, Cr T DOD, Cu T DOD, Fe T DOD, K T DOD, Mg T DOD, Mn T DOD, Na T DOD, Ni T DOD, Pb T DOD, Sb T DOD, Se T DOD, Ti T DOD, V T DOD, Zn T DOD | <2 |  | 50.00mL | Colorless-Clear             |  |  |
| 8  | RQ1711141-03 | R1710018-005 MS  | .01 | 50mL | 6010C/Ag T DOD, Al T DOD, As T DOD, Ba T DOD, Be T DOD, Ca T DOD, Cd T DOD, Co T DOD, Cr T DOD, Cu T DOD, Fe T DOD, K T DOD, Mg T DOD, Mn T DOD, Na T DOD, Ni T DOD, Pb T DOD, Sb T DOD, Se T DOD, Ti T DOD, V T DOD, Zn T DOD | <2 |  | 50.00mL | Colorless-Clear             | 0.0500 mL/180701;<br>0.1000 mL/180703;<br>0.5000 mL/182726;<br>0.5000 mL/182727;<br>0.2500 mL/184175 |  |
| 9  | RQ1711141-04 | R1710018-005 DMS | .01 | 50mL | 6010C/Ag T DOD, Al T DOD, As T DOD, Ba T DOD, Be T DOD, Ca T DOD, Cd T DOD, Co T DOD, Cr T DOD, Cu T DOD, Fe T DOD, K T DOD, Mg T DOD, Mn T DOD, Na T DOD, Ni T DOD, Pb T DOD, Sb T DOD, Se T DOD, Ti T DOD, V T DOD, Zn T DOD | <2 |  | 50.00mL | Colorless-Clear             | 0.0500 mL/180701;<br>0.5000 mL/182727;<br>0.1000 mL/180703;<br>0.2500 mL/184175;<br>0.5000 mL/182726 |  |
| 10 | R1710018-006 | PCERI-IMW-03     | .04 | 50mL | 6010C/Ag T DOD, Al T DOD, As T DOD, Ba T DOD, Be T DOD, Ca T DOD, Cd T DOD, Co T DOD, Cr T DOD, Cu T DOD, Fe T DOD, K T DOD, Mg T DOD, Mn T DOD, Na T DOD, Ni T DOD, Pb T DOD, Sb T DOD, Se T DOD, Ti T DOD, V T DOD, Zn T DOD | <2 |  | 50.00mL | Pink-Clear/Colorless-Clear  |  |  |

# Preparation Information Benchsheet

Prep Run#: 301737

Prep Workflow: MetDigAqICP

Status: Prepped

Team: Metals/KMCLAEN

Prep Method: EPA 3005A/3010A

Prep Date/Time: 10/26/17 05:45 PM

|    |              |                      |     |      |  |    |  |         |                               |  |  |
|----|--------------|----------------------|-----|------|--|----|--|---------|-------------------------------|--|--|
| 11 | R1710018-007 | PCERI-IMW-04         | .04 | 50mL | 6010C/Ag T DOD, Al T DOD, As T DOD, Ba T DOD, Be T DOD, Ca T DOD, Cd T DOD, Co T DOD, Cr T DOD, Cu T DOD, Fe T DOD, K T DOD, Mg T DOD, Mn T DOD, Na T DOD, Ni T DOD, Pb T DOD, Sb T DOD, Se T DOD, Ti T DOD, V T DOD, Zn T DOD | <2 |  | 50.00mL | Purple-Cloudy/Colorless-Clear |  |  |
| 12 | R1710018-008 | PCERI-MW19S          | .04 | 50mL | 6010C/Ag T DOD, Al T DOD, As T DOD, Ba T DOD, Be T DOD, Ca T DOD, Cd T DOD, Co T DOD, Cr T DOD, Cu T DOD, Fe T DOD, K T DOD, Mg T DOD, Mn T DOD, Na T DOD, Ni T DOD, Pb T DOD, Sb T DOD, Se T DOD, Ti T DOD, V T DOD, Zn T DOD | <2 |  | 50.00mL | Pink-Clear/Colorless-Clear    |  |  |
| 13 | R1710018-009 | PCERI-MW19I          | .04 | 50mL | 6010C/Ag T DOD, Al T DOD, As T DOD, Ba T DOD, Be T DOD, Ca T DOD, Cd T DOD, Co T DOD, Cr T DOD, Cu T DOD, Fe T DOD, K T DOD, Mg T DOD, Mn T DOD, Na T DOD, Ni T DOD, Pb T DOD, Sb T DOD, Se T DOD, Ti T DOD, V T DOD, Zn T DOD | <2 |  | 50.00mL | Purple-Cloudy/Purple-Cloudy   |  |  |
| 14 | R1710018-010 | PCERI-IMW-01         | .04 | 50mL | 6010C/Ag T DOD, Al T DOD, As T DOD, Ba T DOD, Be T DOD, Ca T DOD, Cd T DOD, Co T DOD, Cr T DOD, Cu T DOD, Fe T DOD, K T DOD, Mg T DOD, Mn T DOD, Na T DOD, Ni T DOD, Pb T DOD, Sb T DOD, Se T DOD, Ti T DOD, V T DOD, Zn T DOD | <2 |  | 50.00mL | Pink-Clear/Colorless-Clear    |  |  |
| 15 | R1710018-011 | PCERI-IMW-02         | .01 | 50mL | 6010C/Ag T DOD, Al T DOD, As T DOD, Ba T DOD, Be T DOD, Ca T DOD, Cd T DOD, Co T DOD, Cr T DOD, Cu T DOD, Fe T DOD, K T DOD, Mg T DOD, Mn T DOD, Na T DOD, Ni T DOD, Pb T DOD, Sb T DOD, Se T DOD, Ti T DOD, V T DOD, Zn T DOD | <2 |  | 50.00mL | Colorless-Clear               |  |  |
| 16 | R1710069-003 | 1710191315B ST-7-453 | .01 | 50mL | 6010C/Ag T, Al T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Mo T, Na T, Ni T, Pb T, Se T, Sn T, Sr T, V T, Zn T  | <2 |  | 50.00mL | Colorless-Clear               |  |  |

# Preparation Information Benchsheet

Prep Run#: 301737

Prep Workflow: MetDigAqICP

Status: Prepped

Team: Metals/KMCLAEN

Prep Method: EPA 3005A/3010A

Prep Date/Time: 10/26/17 05:45 PM

|    |              |                      |     |      |   |    |  |         |                                   |  |  |
|----|--------------|----------------------|-----|------|---|----|--|---------|-----------------------------------|--|--|
| 17 | R1710069-010 | 1710191400B ST-7-544 | .01 | 50mL | 6010C/Ag T, Al T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Mo T, Na T, Ni T, Pb T, Se T, Sn T, Sr T, V T, Zn T | <2 |  | 50.00mL | Colorless-Clear                   |  |  |
| 18 | R1710091-001 | Outfall 01-1017      | .01 | 50mL | 6010C/Al T, Fe T, Zn T  | <2 |  | 50.00mL | Colorless-Cloudy/Colorless-Cloudy |  |  |
| 19 | R1710091-002 | Outfall 03-1017      | .04 | 50mL | 6010C/Al T, Fe T, Zn T  | <2 |  | 50.00mL | Colorless-Clear                   |  |  |
| 20 | R1710091-003 | Outfall 04-1017      | .06 | 50mL | 6010C/Al T, Fe T, Zn T  | <2 |  | 50.00mL | Colorless-Clear                   |  |  |
| 21 | R1710191-001 | SE-0115-UT           | .04 | 50mL | 6010C/Ca T, Cd T, Fe T, K T, Mg T, Mn T, Na T, Pb T   | <2 |  | 50.00mL | Colorless-Clear                   |  |  |
| 22 | R1710191-002 | SE-0115-SB           | .04 | 50mL | 6010C/Ca T, Cd T, Fe T, K T, Mg T, Mn T, Na T, Pb T   | <2 |  | 50.00mL | Colorless-Clear                   |  |  |

### Spiking Solutions

|       |                         |              |        |              |           |             |            |        |         |
|-------|-------------------------|--------------|--------|--------------|-----------|-------------|------------|--------|---------|
| Name: | Selenium 1000 ug/mL Se  | Inventory ID | 180701 | Logbook Ref: | M7080014F | Expires On: | 10/12/2018 | Lot #: | 1635013 |
| Name: | Strontium 1000 ug/mL Sr | Inventory ID | 180703 | Logbook Ref: | M7080014G | Expires On: | 10/12/2018 | Lot #: | 1610313 |
| Name: | Custom LCS STD A Metals | Inventory ID | 182726 | Logbook Ref: | M7600001W | Expires On: | 07/11/2018 | Lot #: | 16K061  |
| Name: | Custom LCS STD B Metals | Inventory ID | 182727 | Logbook Ref: | M7600001X | Expires On: | 07/11/2018 | Lot #: | 16K062  |
| Name: | Tin 1000 ug/mL Sn       | Inventory ID | 184175 | Logbook Ref: | M7600002T | Expires On: | 03/31/2019 | Lot #: | 1713622 |

### Preparation Materials

1:1 HCl Metals Grade      M7600003D (184968)      Hot Block Cups      50 mL Lot 1703076 (182080)      Nitric Acid Metals Grade HNO3      M7600002W (184969)  
 Thermometer      293 (12952)

### Preparation Steps

Step: Digestion  
 Started: 10/26/17 17:45  
 Finished: 10/27/17 08:42  
 By: KMCLAEN  
 Comments

Comments: DOD check M7290046      10/26/17

Reviewed By: Nicol [Signature]      Date: 10/30/17

### Chain of Custody

|                  |                    |       |                 |                   |
|------------------|--------------------|-------|-----------------|-------------------|
| Relinquished By: | <u>Kung McJann</u> | Date: | <u>10/27/17</u> | Extracts Examined |
| Received By:     | <u>RA01</u>        | Date: | <u>10/27/17</u> |                   |

# Preparation Information Benchsheet

Prep Run#: 301957  
 Team: Metals/KMCLAEN

Prep Workflow: MetDigAqICP  
 Prep Method: EPA 3005A/3010A

Status: Prepped  
 Prep Date/Time: 10/30/17 03:33 PM

| #  | Lab Code     | Client ID        | B#  | Amt. Ext | Method /Test  | pH | AE | BN | Final Vol | Sample Desc. (Initial/Final) | SpikeAmt./Inv. ID  | Comments  |
|----|--------------|------------------|-----|----------|---|----|----|----|-----------|------------------------------|--|---|
| 1  | RQ1711245-01 | MB               |     | 50mL     | 6010C/As T, Ba T, Ca D DOD, Ca T, Cd T, Cr T, Cu T, Fe T, K T, Mg D DOD, Mg T, Mn T, Na T, Ni T, Pb D DOD, Pb T, Pb T DOD, Se T, Zn T | <2 |    |    | 50.00mL   | Colorless-Clear              |  | HB: 1<br>Well: D1<br>Temp: 92.0C<br>Corr. Factor: 0.0C<br>Corr. Temp: 92.0C |
| 2  | RQ1711245-02 | LCS              |     | 50mL     | 6010C/As T, Ba T, Ca D DOD, Ca T, Cd T, Cr T, Cu T, Fe T, K T, Mg D DOD, Mg T, Mn T, Na T, Ni T, Pb D DOD, Pb T, Pb T DOD, Se T, Zn T | <2 |    |    | 50.00mL   | Colorless-Clear              | 0.1000 mL/180703;<br>0.5000 mL/182727;<br>0.2500 mL/184175;<br>0.5000 mL/182726;<br>0.0500 mL/180701 |   |
| 3  | R1710031-019 | EBI-1017         | .04 | 50mL     | 6010C/As T, Ba T, Ca T, Cd T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Se T, Zn T   | <2 |    |    | 50.00mL   | Colorless-Clear              |  |   |
| 4  | R1710033-001 | PCM-01-1017      | .06 | 50mL     | 6010C/As T  | <2 |    |    | 50.00mL   | Colorless-Clear              |  |   |
| 5  | R1710033-002 | PCM-02-1017      | .06 | 50mL     | 6010C/As T  | <2 |    |    | 50.00mL   | Colorless-Clear              |  |   |
| 6  | R1710033-003 | PCM-05-1017      | .06 | 50mL     | 6010C/As T  | <2 |    |    | 50.00mL   | Colorless-Clear              |  |   |
| 7  | R1710033-004 | PCM-07R-1017     | .06 | 50mL     | 6010C/As T  | <2 |    |    | 50.00mL   | Colorless-Clear              |  |   |
| 8  | R1710033-005 | PCM-10-1017      | .06 | 50mL     | 6010C/As T  | <2 |    |    | 50.00mL   | Colorless-Clear              |  |   |
| 9  | RQ1711245-07 | R1710033-005 MS  | .06 | 50mL     | 6010C/As T  | <2 |    |    | 50.00mL   | Colorless-Clear              | 0.5000 mL/182726;<br>0.1000 mL/180703;<br>0.0500 mL/180701;<br>0.5000 mL/182727;<br>0.2500 mL/184175 |   |
| 10 | RQ1711245-08 | R1710033-005 DMS | .06 | 50mL     | 6010C/As T  | <2 |    |    | 50.00mL   | Colorless-Clear              | 0.0500 mL/180701;<br>0.5000 mL/182727;<br>0.5000 mL/182726;<br>0.1000 mL/180703;<br>0.2500 mL/184175 |   |
| 11 | K1710862-001 | QUSW2017A01      | .02 | 50mL     | 6010C/Ca D DOD, Mg D DOD, Pb D DOD, Pb T DOD  | <2 |    |    | 50.00mL   | Colorless-Clear              |  |   |
| 12 | K1710862-002 | QUSW2017A02      | .02 | 50mL     | 6010C/Ca D DOD, Mg D DOD, Pb D DOD, Pb T DOD  | <2 |    |    | 50.00mL   | Colorless-Clear              |  | Tier IV   |
| 13 | K1710862-003 | QUSW2017B01      | .03 | 50mL     | 6010C/Ca D DOD, Mg D DOD, Pb D DOD  | <2 |    |    | 50.00mL   | Colorless-Clear              |  |   |
| 14 | K1710862-004 | QUSW2017C01      | .03 | 50mL     | 6010C/Ca D DOD, Mg D DOD, Pb D DOD  | <2 |    |    | 50.00mL   | Colorless-Clear              |  |   |
| 15 | K1710862-005 | QUSW2017D01      | .03 | 50mL     | 6010C/Ca D DOD, Mg D DOD, Pb D DOD  | <2 |    |    | 50.00mL   | Colorless-Clear              |  |   |
| 16 | K1710862-006 | QUSW2617A01      | .02 | 50mL     | 6010C/Ca D DOD, Mg D DOD, Pb D DOD, Pb T DOD  | <2 |    |    | 50.00mL   | Colorless-Clear              |  |   |
| 17 | RQ1711245-03 | K1710862-006 MS  | .02 | 50mL     | 6010C/Pb T DOD  | <2 |    |    | 50.00mL   | Colorless-Clear              | 0.1000 mL/180703;<br>0.5000 mL/182727;<br>0.2500 mL/184175;<br>0.0500 mL/180701;<br>0.5000 mL/182726 |   |
| 18 | RQ1711245-04 | K1710862-006 DMS | .02 | 50mL     | 6010C/Pb T DOD  | <2 |    |    | 50.00mL   | Colorless-Clear              | 0.2500 mL/184175;<br>0.0500 mL/180701;<br>0.5000 mL/182727;<br>0.1000 mL/180703;<br>0.5000 mL/182726 |   |



# Preparation Information Benchsheet

Prep Run#: 301957

Prep Workflow: MetDigAqICP

Status: Prepped

Team: Metals/KMCLAEN

Prep Method: EPA 3005A/3010A

Prep Date/Time: 10/30/17 03:33 PM

|    |              |                  |     |      |                                    |    |  |         |                 |  |
|----|--------------|------------------|-----|------|------------------------------------|----|--|---------|-----------------|--|
| 19 | RQ1711245-05 | K1710862-006 MS  | .04 | 50mL | 6010C/Ca D DOD, Mg D DOD, Pb D DOD | <2 |  | 50.00mL | Colorless-Clear | 0.0500 mL/180701;<br>0.1000 mL/180703;<br>0.5000 mL/182727;<br>0.2500 mL/184175;<br>0.5000 mL/182726 |
| 20 | RQ1711245-06 | K1710862-006 DMS | .04 | 50mL | 6010C/Ca D DOD, Mg D DOD, Pb D DOD | <2 |  | 50.00mL | Colorless-Clear | 0.5000 mL/182726;<br>0.5000 mL/182727;<br>0.1000 mL/180703;<br>0.0500 mL/180701;<br>0.2500 mL/184175 |
| 21 | K1710862-007 | QUSW2617A04      | .03 | 50mL | 6010C/Ca D DOD, Mg D DOD, Pb D DOD | <2 |  | 50.00mL | Colorless-Clear |  |
| 22 | K1710862-008 | QUSW2617B01      | .03 | 50mL | 6010C/Ca D DOD, Mg D DOD, Pb D DOD | <2 |  | 50.00mL | Colorless-Clear |  |
| 23 | K1710862-009 | QUSW2617C01      | .03 | 50mL | 6010C/Ca D DOD, Mg D DOD, Pb D DOD | <2 |  | 50.00mL | Colorless-Clear |  |
| 24 | K1710862-010 | QUSW2617D01      | .03 | 50mL | 6010C/Ca D DOD, Mg D DOD, Pb D DOD | <2 |  | 50.00mL | Colorless-Clear |  |
| 25 | K1710862-014 | QUSD2617A04      | .02 | 50mL | 6010C/Pb T DOD                     | <2 |  | 50.00mL | Colorless-Clear |  |

### Spiking Solutions

|                               |                     |                        |                        |                |
|-------------------------------|---------------------|------------------------|------------------------|----------------|
| Name: Selenium 1000 ug/mL Se  | Inventory ID 180701 | Logbook Ref: M7080014F | Expires On: 10/12/2018 | Lot #: 1635013 |
| Name: Strontium 1000 ug/mL Sr | Inventory ID 180703 | Logbook Ref: M7080014G | Expires On: 10/12/2018 | Lot #: 1610313 |
| Name: Custom LCS STD A Metals | Inventory ID 182726 | Logbook Ref: M7600001W | Expires On: 07/11/2018 | Lot #: 16K061  |
| Name: Custom LCS STD B Metals | Inventory ID 182727 | Logbook Ref: M7600001X | Expires On: 07/11/2018 | Lot #: 16K062  |
| Name: Tin 1000 ug/mL Sn       | Inventory ID 184175 | Logbook Ref: M7600002T | Expires On: 03/31/2019 | Lot #: 1713622 |

### Preparation Materials

1:1 HCl Metals Grade M7600003D (184968) Hot Block Cups 50 mL Lot 1703076 (182080) Nitric Acid Metals Grade HNO3 M7600002W (184969)  
 Thermometer 294 (12954)

### Preparation Steps

Step: Digestion  
 Started: 10/30/17 15:33  
 Finished: 10/31/17 14:47  
 By: KMCLAEN

Comments

Comments: DOD CHECK M7290046 10/31/17

Reviewed By: *Neel* Date: 10/31/17 Spike Witness: NMANSEN Date: \_\_\_\_\_

# Preparation Information Benchsheet

Prep Run#: 301957  
Team: Metals/KMCLAEN

Prep WorkFlow: MetDigAqICP  
Prep Method: EPA 3005A/3010A

Status: Prepped  
Prep Date/Time: 10/30/17 03:33 PM

## Chain of Custody

Relinquished By: King Mofaen  
Received By: RAOI

Date: 10/31/17  
Date: 10/31/17

### Extracts Examined

Yes No

# Preparation Information Benchsheet

Prep Run#: 301960  
Team: Metals/KMCLAEN

Prep Workflow: MetDigAqICP  
Prep Method: EPA 3005A/3010A

Status: Prepped  
Prep Date/Time: 10/30/17 03:55 PM

| # | Lab Code     | Client ID        | B#  | Amt. Ext. | Method /Test   | pH | AE | BN | Final Vol | Sample Desc. (Initial/Final) | SpikeAmt./Inv. ID  | Comments   |
|---|--------------|------------------|-----|-----------|--|----|----|----|-----------|------------------------------|--|--|
| 1 | RQ1711248-01 | MB               |     | 50mL      | 6010C/Ag T, Al T, As T, Ba T, Be T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Ti T, V T, Zn T | <2 |    |    | 50.00mL   | Colorless-Clear              |  | HB: 1<br>Well: D1<br>Temp: 92.0C<br>Corr. Factor: 0.0C<br>Corr. Temp: 92.0C<br><br>Plunge Filtered |
| 2 | RQ1711248-02 | LCS              |     | 50mL      | 6010C/Ag T, Al T, As T, Ba T, Be T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Ti T, V T, Zn T | <2 |    |    | 50.00mL   | Colorless-Clear              | 0.0500 mL/180701;<br>0.5000 mL/182726;<br>0.1000 mL/180703;<br>0.5000 mL/182727;<br>0.2500 mL/184175 | Plunge Filtered  |
| 3 | R1710054-001 | SW-1             | .08 | 50mL      | 6010C/Ag T, Al T, As T, Ba T, Be T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Ti T, V T, Zn T | <2 |    |    | 50.00mL   | Colorless-Clear              |  | <del>From #</del><br>JM 10/31/17   |
| 4 | RQ1711248-03 | R1710054-001 MS  | .08 | 50mL      | 6010C/Ag T, Al T, As T, Ba T, Be T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Ti T, V T, Zn T | <2 |    |    | 50.00mL   | Colorless-Clear              | 0.5000 mL/182727;<br>0.1000 mL/180703;<br>0.0500 mL/180701;<br>0.5000 mL/182726;<br>0.2500 mL/184175 |  |
| 5 | RQ1711248-04 | R1710054-001 DMS | .08 | 50mL      | 6010C/Ag T, Al T, As T, Ba T, Be T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Ti T, V T, Zn T | <2 |    |    | 50.00mL   | Colorless-Clear              | 0.0500 mL/180701;<br>0.5000 mL/182726;<br>0.1000 mL/180703;<br>0.2500 mL/184175;<br>0.5000 mL/182727 |  |
| 6 | R1710054-002 | SW-2             | .01 | 50mL      | 6010C/Ag T, Al T, As T, Ba T, Be T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Ti T, V T, Zn T | <2 |    |    | 50.00mL   | Colorless-Clear              |  |  |
| 7 | R1710054-004 | MW-2             | .09 | 50mL      | 6010C/Ag T, Al T, As T, Ba T, Be T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Ti T, V T, Zn T | <2 |    |    | 50.00mL   | Colorless-Clear              |  |  |
| 8 | R1710054-006 | MW-3             | .09 | 50mL      | 6010C/Ag T, Al T, As T, Ba T, Be T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Ti T, V T, Zn T | <2 |    |    | 50.00mL   | Colorless-Clear              |  |  |

# Preparation Information Benchsheet

Prep Run#: 301960

Prep Workflow: MetDigAqICP

Status: Prepped

Team: Metals/KMCLAEN

Prep Method: EPA 3005A/3010A

Prep Date/Time: 10/30/17 03:55 PM

|    |              |           |     |      |   |    |  |         |                             |  |                 |
|----|--------------|-----------|-----|------|---|----|--|---------|-----------------------------|--|-----------------|
| 9  | R1710054-008 | MW-4      | .09 | 50mL | 6010C/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Tl T, V T, Zn T | <2 |  | 50.00mL | Colorless-Clear             |  |                 |
|    |              | 10        |     |      |   |    |  |         |                             |  |                 |
| 10 | R1710054-010 | MW-5      | .09 | 50mL | 6010C/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Tl T, V T, Zn T | <2 |  | 50.00mL | Colorless-Clear             |  |                 |
| 11 | R1710054-012 | MW-6      | .09 | 50mL | 6010C/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Tl T, V T, Zn T | <2 |  | 50.00mL | Colorless-Clear             |  |                 |
|    |              | 10        |     |      |   |    |  |         |                             |  |                 |
| 12 | R1710054-013 | DUPE-X    | .08 | 50mL | 6010C/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Tl T, V T, Zn T | <2 |  | 50.00mL | Colorless-Clear             |  |                 |
| 13 | R1710113-001 | MW-7      | .02 | 50mL | 6010C/Ag T, Al T, As T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Tl T, V T, Zn T      | <2 |  | 50.00mL | Colorless-Clear             |  | Tier IV         |
|    |              | 10        |     |      |   |    |  |         |                             |  |                 |
| 14 | R1710113-002 | MW-3      | .02 | 50mL | 6010C/Ag T, Al T, As T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Tl T, V T, Zn T      | <2 |  | 50.00mL | Yellow-Cloudy/Yellow-Clear  |  |                 |
| 15 | R1710113-003 | MW-3 Diss | .01 | 50mL | 6010C/Ag D, Al D, As D, Ba D, Be D, Ca D, Cd D, Co D, Cr D, Cu D, Fe D, K D, Mg D, Mn D, Na D, Ni D, Pb D, Sb D, Se D, Tl D, V D, Zn D      | <2 |  | 50.00mL | Yellow-Cloudy/Yellow-Clear  |  | Plunge Filtered |
| 16 | R1710113-004 | MW-D      | .02 | 50mL | 6010C/Ag T, Al T, As T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Tl T, V T, Zn T      | <2 |  | 50.00mL | Yellow-Cloudy/Yellow-Cloudy |  |                 |
| 17 | R1710113-005 | MW-D Diss | .01 | 50mL | 6010C/Ag D, Al D, As D, Ba D, Be D, Ca D, Cd D, Co D, Cr D, Cu D, Fe D, K D, Mg D, Mn D, Na D, Ni D, Pb D, Sb D, Se D, Tl D, V D, Zn D      | <2 |  | 50.00mL | Yellow-Clear/Yellow-Clear   |  |                 |
| 18 | R1710113-006 | MW-8      | .02 | 50mL | 6010C/Ag T, Al T, As T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Tl T, V T, Zn T      | <2 |  | 50.00mL | Brown-Cloudy/Brown-Cloudy   |  | Plunge Filtered |

# Preparation Information Benchsheet

Prep Run#: 301960

Prep WorkFlow: MetDigAqICP

Status: Prepped

Team: Metals/KMCLAEN

Prep Method: EPA 3005A/3010A

Prep Date/Time: 10/30/17 03:55 PM

|    |              |                            |     |      |   |    |  |         |                           |  |                 |
|----|--------------|----------------------------|-----|------|---|----|--|---------|---------------------------|--|-----------------|
| 19 | R1710113-007 | MW-8 Diss                  | .01 | 50mL | 6010C/Ag D, Al D, As D, Ba D, Be D, Ca D, Cd D, Co D, Cr D, Cu D, Fe D, K D, Mg D, Mn D, Na D, Ni D, Pb D, Sb D, Se D, Ti D, V D, Zn D      | <2 |  | 50.00mL | Brown-Cloudy/Brown-Cloudy |  | Plunge Filtered |
| 20 | R1710200-001 | Primary Leachate Composite | .11 | 50mL | 6010C/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Ti T, V T, Zn T | <2 |  | 50.00mL | Colorless-Clear           |  |                 |
| 21 | R1710200-003 | Secondary Leachate         | .11 | 50mL | 6010C/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Ti T, V T, Zn T | <2 |  | 50.00mL | Colorless-Clear           |  |                 |

### Spiking Solutions

|                               |                     |                        |                        |                |
|-------------------------------|---------------------|------------------------|------------------------|----------------|
| Name: Selenium 1000 ug/mL Se  | Inventory ID 180701 | Logbook Ref: M7080014F | Expires On: 10/12/2018 | Lot #: 1635013 |
| Name: Strontium 1000 ug/mL Sr | Inventory ID 180703 | Logbook Ref: M7080014G | Expires On: 10/12/2018 | Lot #: 1610313 |
| Name: Custom LCS STD A Metals | Inventory ID 182726 | Logbook Ref: M7600001W | Expires On: 07/11/2018 | Lot #: 16K061  |
| Name: Custom LCS STD B Metals | Inventory ID 182727 | Logbook Ref: M7600001X | Expires On: 07/11/2018 | Lot #: 16K062  |
| Name: Tin 1000 ug/mL Sn       | Inventory ID 184175 | Logbook Ref: M7600002T | Expires On: 03/31/2019 | Lot #: 1713622 |

### Preparation Materials

1:1 HCl Metals Grade M7600003D (184968) Hot Block Cups 50 mL Lot 1703076 (182080) Nitric Acid Metals Grade HNO3 M7600002W (184969)  
 Plunger Filter 184141 (184141) Thermometer 294 (12954)

### Preparation Steps

Step: Digestion  
 Started: 10/30/17 15:55  
 Finished: 10/31/17 15:28  
 By: KMCLAEN  
 Comments

Comments: \_\_\_\_\_

Reviewed By: *Michael J...* Date: 10/31/17 Spike Witness: NMANSEN Date: \_\_\_\_\_

### Chain of Custody

Relinquished By: *Henry McJannet* Date: 10/31/17 Extracts Examined  
 Received By: *RAOI* Date: 10/31/17 Yes No

# Preparation Information Benchsheet

Prep Run#: 301955

Team: Metals/KMCLAEN

Prep Workflow: MetDigAqICP

Prep Method: EPA 3005A/3010A

Status: Prepped

Prep Date/Time: 10/30/17 03:33 PM

| #  | Lab Code     | Client ID        | B#  | Amt. Ext. | Method /Test   | pH | AE | BN | Final Vol | Sample Desc. (Initial/Final) | SpikeAmt./Inv. ID  | Comments  |
|----|--------------|------------------|-----|-----------|--|----|----|----|-----------|------------------------------|--|---|
| 1  | RQ1711235-01 | MB               |     | 50mL      | 6010C/Ag T, Ba T, Be T, Cd D, Cd T, Cr T, Cu T, Fe T, Mg T, Mn T, Ni T, Sb T, Zn T | <2 |    |    | 50.00mL   | Colorless-Clear              |  | HB: 7<br>Well: D1<br>Temp: 92.5C<br>Corr. Factor: 0.0C<br>Corr. Temp: 92.5C |
| 2  | RQ1711235-02 | LCS              |     | 50mL      | 6010C/Ag T, Ba T, Be T, Cd D, Cd T, Cr T, Cu T, Fe T, Mg T, Mn T, Ni T, Sb T, Zn T | <2 |    |    | 50.00mL   | Colorless-Clear              | 0.2500 mL/184175;<br>0.0500 mL/180701;<br>0.1000 mL/180703;<br>0.5000 mL/182726;<br>0.5000 mL/182727 |   |
| 3  | R1710073-001 | GZA-3C           | .11 | 50mL      | 6010C/Ag T, Ba T, Be T, Cd T, Cr T, Cu T, Fe T, Mg T, Mn T, Ni T, Sb T, Zn T       | <2 |    |    | 50.00mL   | Colorless-Clear              |  | Tier IV   |
| 4  | R1710073-002 | GZA-3C Diss      | .01 | 50mL      | 6010C/Cd D   | <2 |    |    | 50.00mL   | Colorless-Clear              |  |   |
| 5  | R1710073-003 | GZA-3B           | .11 | 50mL      | 6010C/Ag T, Ba T, Be T, Cd T, Cr T, Cu T, Fe T, Mg T, Mn T, Ni T, Sb T, Zn T       | <2 |    |    | 50.00mL   | Colorless-Clear              |  |   |
| 6  | R1710073-004 | GZA-3B Diss      | .01 | 50mL      | 6010C/Cd D   | <2 |    |    | 50.00mL   | Colorless-Clear              |  |   |
| 7  | R1710073-005 | GZA-3A           | .11 | 50mL      | 6010C/Ag T, Ba T, Be T, Cd T, Cr T, Cu T, Fe T, Mg T, Mn T, Ni T, Sb T, Zn T       | <2 |    |    | 50.00mL   | Colorless-Clear              |  |   |
| 8  | R1710073-006 | GZA-3A Diss      | .01 | 50mL      | 6010C/Cd D   | <2 |    |    | 50.00mL   | Colorless-Clear              |  |   |
| 9  | R1710073-007 | GZA-6B           | .11 | 50mL      | 6010C/Ag T, Ba T, Be T, Cd T, Cr T, Cu T, Fe T, Mg T, Mn T, Ni T, Sb T, Zn T       | <2 |    |    | 50.00mL   | Colorless-Clear              |  |   |
| 10 | R1710073-008 | GZA-6B Diss      | .01 | 50mL      | 6010C/Cd D   | <2 |    |    | 50.00mL   | Colorless-Clear              |  |   |
| 11 | R1710073-009 | GZA-6A           | .11 | 50mL      | 6010C/Ag T, Ba T, Be T, Cd T, Cr T, Cu T, Fe T, Mg T, Mn T, Ni T, Sb T, Zn T       | <2 |    |    | 50.00mL   | Colorless-Clear              |  |   |
| 12 | R1710073-010 | GZA-6A Diss      | .01 | 50mL      | 6010C/Cd D   | <2 |    |    | 50.00mL   | Colorless-Clear              |  |   |
| 13 | R1710073-013 | RFW-2D           | .19 | 50mL      | 6010C/Ag T, Ba T, Be T, Cd T, Cr T, Cu T, Fe T, Mg T, Mn T, Ni T, Sb T, Zn T       | <2 |    |    | 50.00mL   | Colorless-Clear              |  |   |
| 14 | RQ1711235-03 | R1710073-013 MS  | .19 | 50mL      | 6010C/Ag T, Ba T, Be T, Cd T, Cr T, Cu T, Fe T, Mg T, Mn T, Ni T, Sb T, Zn T       | <2 |    |    | 50.00mL   | Colorless-Clear              | 0.5000 mL/182726;<br>0.1000 mL/180703;<br>0.5000 mL/182727;<br>0.0500 mL/180701;<br>0.2500 mL/184175 |   |
| 15 | RQ1711235-04 | R1710073-013 DMS | .19 | 50mL      | 6010C/Ag T, Ba T, Be T, Cd T, Cr T, Cu T, Fe T, Mg T, Mn T, Ni T, Sb T, Zn T       | <2 |    |    | 50.00mL   | Colorless-Clear              | 0.5000 mL/182726;<br>0.2500 mL/184175;<br>0.0500 mL/180701;<br>0.1000 mL/180703;<br>0.5000 mL/182727 |   |
| 16 | R1710073-014 | RFW-2D Diss      | .01 | 50mL      | 6010C/Cd D   | <2 |    |    | 50.00mL   | Colorless-Clear              |  |   |
| 17 | RQ1711235-05 | R1710073-014 MS  | .01 | 50mL      | 6010C/Cd D   | <2 |    |    | 50.00mL   | Colorless-Clear              | 0.5000 mL/182727;<br>0.0500 mL/180701;<br>0.2500 mL/184175;<br>0.1000 mL/180703;<br>0.5000 mL/182726 |   |

# Preparation Information Benchsheet

Prep Run#: 301955

Prep Workflow: MetDigAqICP

Status: Prepped

Team: Metals/KMCLAEN

Prep Method: EPA 3005A/3010A

Prep Date/Time: 10/30/17 03:33 PM

|    |              |                  |     |      |  |    |  |         |                 |  |
|----|--------------|------------------|-----|------|--|----|--|---------|-----------------|--|
| 18 | RQ1711235-06 | R1710073-014 DMS | .01 | 50mL | 6010C/Cd D   | <2 |  | 50.00mL | Colorless-Clear | 0.1000 mL/180703;<br>0.5000 mL/182727;<br>0.0500 mL/180701;<br>0.5000 mL/182726;<br>0.2500 mL/184175 |
| 19 | R1710073-015 | RFW-2S           | .11 | 50mL | 6010C/Ag T, Ba T, Be T, Cd T, Cr T, Cu T, Fe T, Mg T, Mn T, Ni T, Sb T, Zn T | <2 |  | 50.00mL | Colorless-Clear |  |
| 20 | R1710073-016 | RFW-2S Diss      | .01 | 50mL | 6010C/Cd D   | <2 |  | 50.00mL | Colorless-Clear |  |
| 21 | R1710073-017 | RFW-2B           | .11 | 50mL | 6010C/Ag T, Ba T, Be T, Cd T, Cr T, Cu T, Fe T, Mg T, Mn T, Ni T, Sb T, Zn T | <2 |  | 50.00mL | Colorless-Clear |  |
| 22 | R1710073-018 | RFW-2B Diss      | .01 | 50mL | 6010C/Cd D   | <2 |  | 50.00mL | Colorless-Clear |  |
| 23 | R1710073-019 | RFW-4S           | .11 | 50mL | 6010C/Ag T, Ba T, Be T, Cd T, Cr T, Cu T, Fe T, Mg T, Mn T, Ni T, Sb T, Zn T | <2 |  | 50.00mL | Colorless-Clear |  |
| 24 | R1710073-020 | RFW-4S Diss      | .01 | 50mL | 6010C/Cd D   | <2 |  | 50.00mL | Colorless-Clear |  |
| 25 | R1710073-021 | RFW-4D           | .11 | 50mL | 6010C/Ag T, Ba T, Be T, Cd T, Cr T, Cu T, Fe T, Mg T, Mn T, Ni T, Sb T, Zn T | <2 |  | 50.00mL | Colorless-Clear |  |
| 26 | R1710073-022 | RFW-4D Diss      | .01 | 50mL | 6010C/Cd D   | <2 |  | 50.00mL | Colorless-Clear |  |

### Spiking Solutions

|                               |                     |                        |                        |                |
|-------------------------------|---------------------|------------------------|------------------------|----------------|
| Name: Selenium 1000 ug/mL Se  | Inventory ID 180701 | Logbook Ref: M7080014F | Expires On: 10/12/2018 | Lot #: 1635013 |
| Name: Strontium 1000 ug/mL Sr | Inventory ID 180703 | Logbook Ref: M7080014G | Expires On: 10/12/2018 | Lot #: 1610313 |
| Name: Custom LCS STD A Metals | Inventory ID 182726 | Logbook Ref: M7600001W | Expires On: 07/11/2018 | Lot #: 16K061  |
| Name: Custom LCS STD B Metals | Inventory ID 182727 | Logbook Ref: M7600001X | Expires On: 07/11/2018 | Lot #: 16K062  |
| Name: Tin 1000 ug/mL Sn       | Inventory ID 184175 | Logbook Ref: M7600002T | Expires On: 03/31/2019 | Lot #: 1713622 |

### Preparation Materials

1:1 HCl Metals Grade M7600003D (184968) Hot Block Cups 50 mL Lot 1703076 (182080) Nitric Acid Metals Grade HNO3 M7600002W (184969)  
 Thermometer 293 (12952)

### Preparation Steps

Step: Digestion  
 Started: 10/30/17 15:33  
 Finished: 10/31/17 14:35  
 By: KMCLAEN

Comments

Comments:

*Preparation Information Benchsheet*

Prep Run#: 301955  
Team: Metals/KMCLAEN

Prep WorkFlow: MetDigAqICP  
Prep Method: EPA 3005A/3010A

Status: Prepped  
Prep Date/Time: 10/30/17 03:33 PM

Reviewed By: Nicola A Date: 10/31/17 Spike Witness: NMANSEN Date: \_\_\_\_\_

Chain of Custody

|                  |                       |       |                 |                             |
|------------------|-----------------------|-------|-----------------|-----------------------------|
| Relinquished By: | <u>Kelly McJannet</u> | Date: | <u>10/31/17</u> | Extracts Examined<br>Yes No |
| Received By:     | <u>PAOI</u>           | Date: | <u>10/31/17</u> |                             |



**Frequency:**

**Pipettes:** 3 trials for both bias and precision  
 DOD Projects - Daily before use at each volume of use, or if more than 3 volumes of use, a high, medium, and low.  
 Non-DOD: Monthly at high, medium, and low.

**Repeaters, Dispensers, and Repipettors:** 3 trials for both bias and precision  
 If used for dilutions - Daily before use and each time the volume is changed.  
 If not used for dilutions - monthly

**Calculations:**

$\% \text{Recovery} = \text{Mean}/\text{Nominal Volume} \cdot 100$

$\% \text{RSD} = \text{Stdev}/\text{Volume} \cdot 100$

**Limits:**

$\% \text{Recovery}: 98-102$

$\% \text{RSD}: \leq 1$  (Pipets);  $\leq 3$  (Repeaters, Dispensers, and Repipettors)

| Date     | Init. | Pipettor ID | Volume (mL) | Trial #1 (g) | Trial #2 (g) | Trial #3 (g) | Mean (g) | Bias %Recovery | Pass/Fail | Precision %RSD | Pass/Fail | Recal? Y/N | Balance ID | Comments/Corrective Action |
|----------|-------|-------------|-------------|--------------|--------------|--------------|----------|----------------|-----------|----------------|-----------|------------|------------|----------------------------|
| 10/31/17 | NM    | M35         | 0.5000      | 0.4968       | 0.4974       | 0.4966       | 0.4969   | 99.39%         | P         | 0.083          | P         | N          | R-10       | DOD Check                  |
|          | ↓     | ↓           | 1.0000      | 0.9993       | 0.9986       | 1.0001       | 0.9993   | 99.93%         | P         | 0.075          | P         | N          | ↓          | ↓                          |
|          | ↓     | M25         | 0.0100      | 0.0099       | 0.0099       | 0.0099       | 0.0099   | 99%            | P         | 0              | P         | N          | ↓          | ↓                          |
|          | ↓     | ↓           | 0.1000      | 0.0994       | 0.0998       | 0.0996       | 0.0996   | 99.6%          | P         | 0.2            | P         | N          | ↓          | ↓                          |
|          |       |             |             |              |              |              |          |                |           |                |           |            |            |                            |
|          |       |             |             |              |              |              |          |                |           |                |           |            |            |                            |
|          |       |             |             |              |              |              |          |                |           |                |           |            |            |                            |
|          |       |             |             |              |              |              |          |                |           |                |           |            |            |                            |
|          |       |             |             |              |              |              |          |                |           |                |           |            |            |                            |
|          |       |             |             |              |              |              |          |                |           |                |           |            |            |                            |
|          |       |             |             |              |              |              |          |                |           |                |           |            |            |                            |
|          |       |             |             |              |              |              |          |                |           |                |           |            |            |                            |
|          |       |             |             |              |              |              |          |                |           |                |           |            |            |                            |
|          |       |             |             |              |              |              |          |                |           |                |           |            |            |                            |
|          |       |             |             |              |              |              |          |                |           |                |           |            |            |                            |
|          |       |             |             |              |              |              |          |                |           |                |           |            |            |                            |
|          |       |             |             |              |              |              |          |                |           |                |           |            |            |                            |
|          |       |             |             |              |              |              |          |                |           |                |           |            |            |                            |
|          |       |             |             |              |              |              |          |                |           |                |           |            |            |                            |

**Frequency:**

**Pipettes:** 3 trials for both bias and precision  
 DOD Projects - Daily before use at each volume of use, or if more than 3 volumes of use, a high, medium, and low.  
 Non-DOD: Monthly at high, medium, and low.

**Repeaters, Dispensers, and Repipettors:** 3 trials for both bias and precision  
 If used for dilutions - Daily before use and each time the volume is changed.  
 If not used for dilutions - monthly

**Calculations:**

$\% \text{Recovery} = \text{Mean} / \text{Nominal Volume} * 100$   
 $\% \text{RSD} = \text{Stdev} / \text{Volume} * 100$

**Limits:**

$\% \text{Recovery:}$  98-102  
 $\% \text{RSD:}$   $\leq 1$  (Pipets);  $\leq 3$  (Repeaters, Dispensers, and Repipettors)

| Date     | Init. | Pipettor ID | Volume<br>(mL) | Trial #1<br>(g) | Trial #2<br>(g) | Trial #3<br>(g) | Mean   | Bias      | Pass/ | Precision | Pass/ | Recal? | Balance | Comments/         |
|----------|-------|-------------|----------------|-----------------|-----------------|-----------------|--------|-----------|-------|-----------|-------|--------|---------|-------------------|
|          |       |             |                |                 |                 |                 | (g)    | %Recovery | Fail  | %RSD      | Fail  | Y/N    | ID      | Corrective Action |
| 10/25/17 | KSM   | M26         | 0.2500         | 0.2501          | 0.2489          | 0.2495          | 0.2495 | 99.8      | P     | 0.24      | P     | N      | R-10    | DOD check         |
|          |       |             | 0.5000         | 0.4999          | 0.4989          | 0.4996          | 0.4994 | 99.89     | P     | 0.102     | P     | N      |         |                   |
|          |       |             | 0.7500         | 0.7489          | 0.7491          | 0.7493          | 0.7491 | 99.88     | P     | 0.076     | P     | N      |         |                   |
|          |       |             | 1.0000         | 0.9991          | 0.9989          | 0.9999          | 0.9993 | 99.93     | P     | 0.0529    | P     | N      |         |                   |
|          |       | M31         | 0.0500         | 0.0500          | 0.0499          | 0.0498          | 0.0499 | 99.8      | P     | 0.2       | P     | N      |         |                   |
|          |       |             | 0.0750         | 0.0751          | 0.0752          | 0.0750          | 0.0751 | 100.13    | P     | 0.13      | P     | N      |         |                   |
|          |       |             | 0.0999         | 0.0999          | 0.0999          | 0.0999          | 0.0999 | 100.00    | P     | 0.000     | P     | N      |         |                   |
| 10/26/17 | KSM   | M31         | 0.0500         | 0.0501          | 0.0500          | 0.0498          | 0.0499 | 99.93     | P     | 0.305     | D     | N      | R-10    | DOD check         |
|          |       |             | 0.1000         | 0.1001          | 0.1002          | 0.0999          | 0.1000 | 100       | P     | 0.153     | P     | N      |         |                   |
|          |       | M27         | 0.2500         | 0.2489          | 0.2491          | 0.2493          | 0.2494 | 99.64     | P     | 0.08      | D     | N      |         |                   |
|          |       | M23         | 0.5000         | 0.4989          | 0.4999          | 0.5001          | 0.4996 | 99.92     | P     | 0.12      | D     | N      |         |                   |
| 10/30/17 | NM    | M35         | 0.5000         | 0.4947          | 0.4945          | 0.4948          | 0.4946 | 98.93     | P     | 0.0305    | P     | N      | R-19    | DOD check         |
|          |       |             | 1.0000         | 0.9905          | 0.9964          | -               | -      | -         | -     | -         | -     | -      | -       |                   |
|          |       |             | 1.0000         | 0.9992          | 0.9974          | 1.0011          | 0.9992 | 99.92     | P     | 0.185     | P     | N      | R-19    | DOD check         |
|          |       |             | 0.5000         | 0.4966          | 0.4957          | 0.4961          | 0.4959 | 99.186    | P     | 0.0416    | D     | N      |         |                   |
|          |       | M25         | 0.0100         | 0.0101          | 0.0100          | 0.0101          | 0.0100 | 100.6     | P     | 0.577     | P     | N      |         |                   |
|          |       |             | 0.1000         | 0.0990          | 0.0995          | 0.0994          | 0.0993 | 99.3      | P     | 0.269     | P     | N      |         |                   |
| 10/30/17 | KSM   | M23         | 0.5000         | 0.4974          | 0.4973          | 0.4980          | 0.4975 | 99.513    | P     | 0.0757    | P     | N      | R-19    | DOD check         |
|          |       |             |                |                 |                 |                 |        |           |       |           |       |        |         |                   |
|          |       |             |                |                 |                 |                 |        |           |       |           |       |        |         |                   |

Balance not level. Relevelled & recalibrated

11/13/17

✓ CK 10/30/17

OPTIMA 3/4/6 INTERNAL STANDARD (ADDED ON-LINE)

| Metal | ALS Lot # | Conc. (ppm) | Vol. (mls) | Final Vol. (mls) | Final Conc. (ppm) | Matrix            | Analyst/Date | Letter ID | Nitric Acid Lot # | Hydro-chloric Acid Lot # | Expiration Date | Pipet ID |
|-------|-----------|-------------|------------|------------------|-------------------|-------------------|--------------|-----------|-------------------|--------------------------|-----------------|----------|
|       |           |             |            |                  |                   | 5% HCl<br>2% HNO3 | NM 8/7/17    | A         | M760000IL         | M76000400                | 11/26/17        | M34      |
| Y     | M7080009L | 10000       | 2.0        | 2000             | 10.0              |                   | NM 8/11/17   | B         | M760000IL         | M760000IP                | 11/26/17        | M34      |
| CS    | M7080009K | 10000       | 2.0        |                  | 10.0              |                   | NM 8/15/17   | C         | M760000IL         | M760000IP                | 11/26/17        | M34      |
|       |           |             |            |                  |                   |                   | NM 8/23/17   | D         | M760000IL         | M760000IP                | 11/26/17        | M34      |
|       |           |             |            |                  |                   |                   | NM 8/29/17   | E         | M760000IL         | M760000IP                | 11/26/17        | M34      |
|       |           |             |            |                  |                   |                   | NM 9/6/17    | F         | M760000IL         | M760000IP                | 11/26/17        | M34      |
|       |           |             |            |                  |                   |                   | NM 9/11/17   | G         | M760000IL         | M7600002I                | 11/26/17        | M34      |
|       |           |             |            |                  |                   |                   | NM 9/15/17   | H         | M760000IL         | M7600002I                | 11/26/17        | M34      |
|       |           |             |            |                  |                   |                   | NM 9/25/17   | I         | M760000IL         | M7600002I                | 11/26/17        | M34      |
|       |           |             |            |                  |                   |                   | NM 9/29/17   | J         | M7600002W         | M7600002I                | 11/26/17        | M34      |
|       |           |             |            |                  |                   |                   | NM 10/10/17  | K         | M7600002W         | M7600002I                | 11/26/17        | M34      |
|       |           |             |            |                  |                   |                   | NM 10/16/17  | L         | M7600002W         | M7600002I                | 11/26/17        | M34      |
|       |           |             |            |                  |                   |                   | NM 10/20/17  | M         | M7600002W         | M7600003D                | 11/26/17        | M35      |
|       |           |             |            |                  |                   |                   | N            |           |                   |                          |                 |          |
|       |           |             |            |                  |                   |                   | O            |           |                   |                          |                 |          |
|       |           |             |            |                  |                   |                   | P            |           |                   |                          |                 |          |
|       |           |             |            |                  |                   |                   | Q            |           |                   |                          |                 |          |
|       |           |             |            |                  |                   |                   | R            |           |                   |                          |                 |          |
|       |           |             |            |                  |                   |                   | S            |           |                   |                          |                 |          |
|       |           |             |            |                  |                   |                   | T            |           |                   |                          |                 |          |
|       |           |             |            |                  |                   |                   | V            |           |                   |                          |                 |          |

*JAR 10/20/17*

OPTIMA 3/5/6 ICSAB STANDARD (Standard is prepared every 6 months or as necessary)

| Element      | ALS Lot # | Conc. (ppm) | Vol. (mls) | Final Vol. (mls) | Final Conc. (ppm) |
|--------------|-----------|-------------|------------|------------------|-------------------|
| Int. A Sol'n | M7080014M | Multi       | 25         | 500              | Multi             |
| AL           |           | 5000        |            |                  | 250               |
| CA           |           | 5000        |            |                  | 250               |
| FE           |           | 2000        |            |                  | 100               |
| MG           |           | 5000        |            |                  | 250               |
| Int. B Sol'n | M7080013Q | Multi       | 5          |                  | Multi             |
| AG           |           | 20          |            |                  | 0.200             |
| BA           |           | 50          |            |                  | 0.500             |
| BE           |           | 50          |            |                  | 0.500             |
| CD           |           | 100         |            |                  | 1.00              |
| CO           |           | 50          |            |                  | 0.500             |
| CR           |           | 50          |            |                  | 0.500             |
| CU           |           | 50          |            |                  | 0.500             |
| MN           |           | 50          |            |                  | 0.500             |
| NI           |           | 100         |            |                  | 1.00              |
| NI           |           | 5           |            |                  | 0.0500            |
| PB           |           | 50          |            |                  | 0.500             |
| V            |           | 50          |            |                  | 0.500             |
| ZN           |           | 100         |            |                  | 1.00              |
| AS           |           | 10          |            |                  | 0.100             |
| SB           |           | 60          |            |                  | 0.600             |
| SE           |           | 5           |            |                  | 0.0500            |
| TL           |           | 10          |            |                  | 0.100             |

| Analyst/ Date | ID Letter | Nitric Acid Lot # / Concentration | Hydrochloric Acid Lot # / Concentration | Expiration Date | Pipet ID   |
|---------------|-----------|-----------------------------------|---|-----------------|------------|
| NM 8/8/17     | A         | M7600001L 2%                      | M7080014D 5%                            | 2/3/18          | Volumetric |
| NM 8/8/17     | B         | M7600001L 10%                     | M7080014D 5%                            | 2/3/18          | Volumetric |
| NM 8/31/17    | C         | M7600001L 2%                      | M7600001P 5%                            | 2/28/18         | Volumetric |
| NM 8/31/17    | D         | M7600001L 10%                     | M7600001P 5%                            | 2/28/18         | Volumetric |
| NM 9/15/17    | E         | M7600001L 2%                      | M7600002I 5%                            | 3/15/18         | Volumetric |
| NM 9/15/17    | F         | M7600001L 10%                     | M7600002I 5%                            | 3/15/18         | Volumetric |
| NM 10/13/17   | G         | M7600002W 2%                      | M7600002I 5%                            | 4/13/18         | Volumetric |
| NM 10/13/17   | H         | M7600002W 10%                     | M7600002I 5%                            | 4/13/18         | Volumetric |
|               | I         |                                   |   |                 |            |
|               | J         |                                   |   |                 |            |
|               | K         |                                   |   |                 |            |
|               | L         |                                   |   |                 |            |
|               | M         |                                   |   |                 |            |
|               | N         |                                   |   |                 |            |
|               | O         |                                   |   |                 |            |
|               | P         |                                   |   |                 |            |
|               | Q         |                                   |   |                 |            |
|               | R         |                                   |   |                 |            |
|               | S         |                                   |   |                 |            |
|               | T         |                                   |   |                 |            |
|               | U         |                                   |   |                 |            |
|               | V         |                                   |   |                 |            |

*S/Initial*

OPTIMA 3/5/6 ICSA STANDARD (Standard is prepared every 6 months or as necessary)

| Element      | ALS Lot # | Conc. (ppm) | Vol. (mls) | Final Vol. (mls) | Final Conc. (ppm) |
|--------------|-----------|-------------|------------|------------------|-------------------|
| Int. A Sol'n | M7600002F | Multi       | 50         | 1000             | Multi             |
| AL           |           | 5000        |            |                  | 250               |
| CA           |           | 5000        |            |                  | 250               |
| FE           |           | 2000        |            |                  | 100               |
| MG           |           | 5000        |            |                  | 250               |

| Analyst/Date | ID Letter | Nitric Acid Lot # / Concentration | Hydrochloric Acid Lot # / Concentration | Expiration Date | Pipet ID |
|--------------|-----------|-----------------------------------|---|-----------------|----------|
| NM 10/13/17  | A         | M7600002W 10%                     | M7600002I 5%                            | 4/23/18         | biomet   |
|              | B         |                                   |   |                 |          |
|              | C         |                                   |   |                 |          |
|              | D         |                                   |   |                 |          |
|              | E         |                                   |   |                 |          |
|              | F         |                                   |   |                 |          |
|              | G         |                                   |   |                 |          |
|              | H         |                                   |   |                 |          |
|              | I         |                                   |   |                 |          |
|              | J         |                                   |   |                 |          |
|              | K         |                                   |   |                 |          |
|              | L         |                                   |   |                 |          |
|              | M         |                                   |   |                 |          |
|              | N         |                                   |   |                 |          |
|              | O         |                                   |   |                 |          |
|              | P         |                                   |   |                 |          |
|              | Q         |                                   |   |                 |          |
|              | R         |                                   |   |                 |          |
|              | S         |                                   |   |                 |          |
|              | T         |                                   |   |                 |          |
|              | U         |                                   |   |                 |          |
|              | V         |                                   |   |                 |          |

✓ 10/13/17

OPTIMA 3/4/5/6 MRL (Standard is prepared every 6 months or as needed)

|               | Metal | ALS Lot #               | Conc. (ppm) | Vol. (mls) | Final Vol. (mls) | Final Conc. (ppm) |
|---------------|-------|-------------------------|-------------|------------|------------------|-------------------|
| Cal Std 1     | CA    | NM 8/22/17<br>M7080013D | 5000        | 0.200      | 1000             | 1.00              |
|               | MG    | M7080013E               | 5000        |            |                  | 1.00              |
|               | K     | M7080013E               | 5000        |            |                  | 1.00              |
|               | NA    | M7080013E               | 5000        |            |                  | 1.00              |
| Cal Std 2     | AG    | M7080013Y               | 100         | 0.100      |                  | 0.0100            |
|               | CR    |                         | 100         |            |                  | 0.0100            |
|               | MN    |                         | 150         |            |                  | 0.0150            |
|               | NI    |                         | 400         |            |                  | 0.0400            |
|               | ZN    |                         | 200         |            |                  | 0.0200            |
| Cal Std 3     | AL    | M7080014L               | 2000        | 0.100      |                  | 0.200             |
|               | BA    |                         | 2000        |            |                  | 0.200             |
|               | BE    |                         | 50          |            |                  | 0.0050            |
|               | CO    |                         | 500         |            |                  | 0.0500            |
|               | CU    |                         | 250         |            |                  | 0.0250            |
|               | FE    |                         | 1000        |            |                  | 0.100             |
|               | V     |                         | 500         |            |                  | 0.0500            |
| Cal Std 4     | AS    | M7600001I               | 100         | 0.200      |                  | 0.0200            |
|               | CD    |                         | 50          |            |                  | 0.0100            |
|               | PB    |                         | 50          |            |                  | 0.0100            |
|               | SE    |                         | 50          |            |                  | 0.0100            |
|               | TL    |                         | 100         |            |                  | 0.0200            |
| Single Metals | B     | M7080012Z               | 1000        | 0.200      |                  | 0.200             |
|               | MO    | M7080010V               | 1000        | 0.025      |                  | 0.0250            |
|               | SN    | M7600001H               | 1000        | 0.500      |                  | 0.500             |
|               | TI    | M7080013R               | 1000        | 0.050      |                  | 0.0500            |
|               | SB    | M7080011BB              | 1000        | 0.060      |                  | 0.0600            |
|               | SR    | M7080014G               | 1000        | 0.100      |                  | 0.100             |
|               | P     | -                       | 1000        | 0.100      |                  | 0.100             |

| Analyst/Date | Letter ID | Nitric Acid Lot#/Concentration | Hydrochloric Acid Lot #/Concentration | Expiration Date | Pipet ID |
|--------------|-----------|--------------------------------|---------------------------------------|-----------------|----------|
| NM 8/22/17   | A         | M7600001L 10%                  | M7600001P 5%                          | 2/17/18         | M25/M31  |
| NM 9/18/17   | B         | M7600001L 10%                  | M7600001P 5%                          | 2/17/18         | M25/M31  |
| NM 9/18/17   | C         | M7600001L 2%                   | M7600001P 5%                          | 2/17/18         | M25/M31  |
|              | D         |                                |                                       |                 |          |
|              | E         |                                |                                       |                 |          |
|              | F         |                                |                                       |                 |          |
|              | G         |                                |                                       |                 |          |
|              | H         |                                |                                       |                 |          |
|              | I         |                                |                                       |                 |          |
|              | J         |                                |                                       |                 |          |
|              | K         |                                |                                       |                 |          |
|              | L         |                                |                                       |                 |          |
|              | M         |                                |                                       |                 |          |
|              | N         |                                |                                       |                 |          |
|              | O         |                                |                                       |                 |          |
|              | P         |                                |                                       |                 |          |
|              | Q         |                                |                                       |                 |          |
|              | R         |                                |                                       |                 |          |
|              | S         |                                |                                       |                 |          |
|              | T         |                                |                                       |                 |          |
|              | U         |                                |                                       |                 |          |
|              | V         |                                |                                       |                 |          |
|              | W         |                                |                                       |                 |          |
|              | X         |                                |                                       |                 |          |
|              | Y         |                                |                                       |                 |          |
|              | Z         |                                |                                       |                 |          |
|              | AA        |                                |                                       |                 |          |
|              | BB        |                                |                                       |                 |          |

1/10/17

OPTIMA 3/4/5/6 HLCCV3

(Standard is prepared biweekly or as necessary)

|                 | Metal | ALS Lot #  | Conc. (ppm) | Vol. (mls) | Final Vol. (mls) | Final Conc. (ppm) |
|-----------------|-------|------------|-------------|------------|------------------|-------------------|
| Single Elements | CA    | M7080013D  | 10000       | 2.00       | 100              | 200               |
|                 | CU    | M7600001A  | 1000        | 0.40       |                  | 4.00              |
|                 | FE    | M7600001C  | 10000       | 0.40       |                  | 40.0              |
|                 | K     | M7080014AA | 10000       | 1.00       |                  | 100               |
|                 | TL    | M7600001N  | 1000        | 0.30       |                  | 3.00              |
|                 |       |            |             |            |                  |                   |

| Analyst / Date | Letter ID | Nitric Acid Lot #/<br>Concentration | Hydrochloric Acid Lot #/<br>Concentration | Expiration Date | Pipet ID |
|----------------|-----------|-------------------------------------|---|-----------------|----------|
| NM 8/9/17      | A         | M7600001L 2%                        | M7600001P 5%                              | 8/23/17         | M34      |
| NM 8/9/17      | B         | M7600001L 10%                       | M7600001P 5%                              | 8/23/17         | M34      |
| NM 8/24/17     | C         | M7600001L 2%                        | M7600001P 5%                              | 9/7/17          | M34      |
| NM 8/24/17     | D         | M7600001L 10%                       | M7600001P 5%                              | 9/7/17          | M34      |
| NM 9/8/17      | E         | M7600001L 2%                        | M7600001P 5%                              | 9/22/17         | M34      |
| NM 9/8/17      | F         | M7600001L 10%                       | M7600001P 5%                              | 9/22/17         | M34      |
| NM 9/25/17     | G         | M7600001L 2%                        | M7600002I 5%                              | 10/9/17         | M34      |
| NM 9/25/17     | H         | M7600001L 10%                       | M7600002I 5%                              | 10/9/17         | M34      |
| NM 10/10/17    | I         | M7600002W 2%                        | M7600002I 5%                              | 10/24/17        | M34      |
| NM 10/10/17    | J         | M7600002W 10%                       | M7600002I 5%                              | 10/24/17        | M34      |
| CK 10/25/17    | K         | M7600002W 2%                        | M7600003D 5%                              | 11/8/17         | M35      |
| CK 10/25/17    | L         | M7600002W 10%                       | M7600003D 5%                              | 11/8/17         | M35      |
|                | M         |                                     |   |                 |          |
|                | N         |                                     |   |                 |          |
|                | O         |                                     |   |                 |          |
|                | P         |                                     |   |                 |          |
|                | Q         |                                     |   |                 |          |
|                | R         |                                     |   |                 |          |
|                | S         |                                     |   |                 |          |

*J. K. 10/25/17*

OPTIMA 31/4/6 HLCCV2 (Standard is prepared every 2 weeks or as necessary)

|               | Metal     | ALS Lot #   | Conc. (ppm) | Vol. (mls) | Final Vol. (mls) | Final Conc. (ppm) |
|---------------|-----------|-------------|-------------|------------|------------------|-------------------|
| Cal Std 2     | AG        | M7080012M   | 100         | 2.00       | 100              | 2.00              |
|               | CR        |             | 100         |            |                  | Below             |
|               | MN        |             | 150         |            |                  | Below             |
|               | NI        |             | 400         |            |                  | 8.00              |
|               | ZN        |             | 200         |            |                  | 4.00              |
|               | Cal Std 3 | AL          | M7600001R   | 2000       | 2.00             |                   |
|               | BA        |             | 2000        |            |                  | 40.0              |
|               | BE        |             | 50          |            |                  | 1.00              |
|               | CO, V     |             | 500         |            |                  | 10.0              |
|               | CU        |             | 250         |            |                  | 5.00              |
|               | FE        |             | 1000        |            |                  | Below             |
| Cal Std 4     | AS, TL    | M7600001I   | 100         | 4.00       |                  | 4.00              |
|               | CD, SE    |             | 50          |            |                  | 2.00              |
|               | PB        |             | 50          |            |                  | Below             |
| Single Metals | B         | M7080012Z   | 1000        | 1.00       |                  | 10.0              |
|               | MO        | M7080010V   | 1000        | 1.00       |                  | 10.0              |
|               | TI        | M7080013R   | 1000        | 1.00       |                  | 10.0              |
|               | SR        | M7080014G   | 1000        | 1.00       |                  | 10.0              |
|               | CA        | M7080013D   | 10000       | 2.50       |                  | 250               |
|               | MG        | M7080013F   | 10000       | 5.00       |                  | 500               |
|               | NA        | M7080014Z   | 10000       | 1.50       |                  | 150               |
|               | CR        | M7080012P   | 1000        | 0.800      |                  | 10.0              |
|               | FE        | M7600001C   | 10000       | 0.300      |                  | 50                |
|               | AL        | M760000116G | 10000       | 4.60       |                  | 500               |
|               | MN        | M7080011R   | 1000        | 0.700      |                  | 10.00             |
|               | PB        | M7080011S   | 1000        | 0.800      |                  | 10.0              |
|               | K         | M7080014AA  | 10000       | 1.50       |                  | 150               |

| Analyst/Date | Letter ID | Nitric Acid Lot # / Concentration | Hydrochloric Acid Lot # / Concentration | Expiration Date | Pipet ID |
|--------------|-----------|-----------------------------------|---|-----------------|----------|
| CK102517     | A         | M7600002W 2%                      | M7600003D 5%                            | 11/8/17         | M35      |
| CK102517     | B         | M7600002W 10%                     | M7600003D 5%                            | 11/8/17         | M35      |
|              | C         |                                   |   |                 |          |
|              | D         |                                   |   |                 |          |
|              | E         |                                   |   |                 |          |
|              | F         |                                   |   |                 |          |
|              | G         |                                   |   |                 |          |
|              | H         |                                   |   |                 |          |
|              | I         |                                   |   |                 |          |
|              | J         |                                   |   |                 |          |
|              | K         |                                   |   |                 |          |
|              | L         |                                   |   |                 |          |
|              | M         |                                   |   |                 |          |
|              | N         |                                   |   |                 |          |
|              | O         |                                   |   |                 |          |
|              | P         |                                   |   |                 |          |
|              | Q         |                                   |   |                 |          |
|              | R         |                                   |   |                 |          |
|              | S         |                                   |   |                 |          |
|              | T         |                                   |   |                 |          |
|              | U         |                                   |   |                 |          |
|              | V         |                                   |   |                 |          |
|              | W         |                                   |   |                 |          |
|              | X         |                                   |   |                 |          |
|              | Y         |                                   |   |                 |          |
|              | Z         |                                   |   |                 |          |
|              | AA        |                                   |   |                 |          |



OPTIMA 3/4/5/6 ICV/CCV (Standard is prepared daily)  
 (ICV FOR ILM5.3 IS A 1/2 DILUTION OF THIS STANDARD)

|               | Metal | ALS Lot #  | Conc. (ppm) | Vol. (mls) | Final Vol. (mls) | Final Conc. (ppm) |
|---------------|-------|------------|-------------|------------|------------------|-------------------|
| Cal Std 1     | CA    | M7600001S  | 5000        | 1.00       | 200              | 25.0              |
|               | MG    |            | 5000        |            |                  | 25.0              |
|               | K     |            | 5000        |            |                  | 25.0              |
|               | NA    |            | 5000        |            |                  | 25.0              |
| Cal Std 2     | AG    | M7600001T  | 100         | 1.00       |                  | 0.500             |
|               | CR    |            | 100         |            |                  | 0.500             |
|               | MN    |            | 150         |            |                  | 0.750             |
|               | NI    |            | 400         |            |                  | 2.00              |
|               | ZN    |            | 200         |            |                  | 1.00              |
| Cal Std 3     | AL    | M7600001U  | 2000        | 1.00       |                  | 10.0              |
|               | BA    |            | 2000        |            |                  | 10.0              |
|               | BE    |            | 50          |            |                  | 0.250             |
|               | CO    |            | 500         |            |                  | 2.50              |
|               | CU    |            | 250         |            |                  | 1.25              |
|               | FE    |            | 1000        |            |                  | 5.00              |
|               | V     |            | 500         |            |                  | 2.50              |
|               |       |            |             |            |                  | 1.00              |
| Cal Std 4     | AS    | M7600001F  | 100         | 2.00       |                  | 0.500             |
|               | CD    |            | 50          |            |                  | 0.500             |
|               | PB    |            | 50          |            |                  | 0.500             |
|               | SE    |            | 50          |            |                  | 0.500             |
|               | TL    |            | 100         |            |                  | 1.00              |
| Single Metals | SB    | M7600001K  | 1000        | 1.00       |                  | 5.00              |
|               | SN    | M7600001E  | 1000        | 1.00       |                  | 5.00              |
|               | B     | M7080011FF | 1000        | 0.500      |                  | 2.50              |
|               | MO    | M7080011DD | 1000        | 0.500      |                  | 2.50              |
|               | TI    | M7080011EE | 1000        | 0.500      |                  | 2.50              |
|               | SR    | M7080011XX | 1000        | 0.500      |                  | 2.50              |
|               | P     |            | 1000        | 1.00       |                  | 5.00              |

| Analyst/Date | Letter ID | Nitric Acid Lot # / Concentration % | Hydrochloric Acid Lot # / Concentration | Pipet ID |
|--------------|-----------|-------------------------------------|---|----------|
| NM 10/5/17   | A         | M7600002W 10%                       | M7600002I 5%                            | M34      |
| NM 10/6/17   | B         | M7600002W 10%                       | M7600002I 5%                            | M34      |
| NM 10/9/17   | C         | M7600002W 2%                        | M7600002I 5%                            | M34      |
| NM 10/9/17   | D         | M7600002W 10%                       | M7600002I 5%                            | M34      |
| NM 10/10/17  | E         | M7600002W 2%                        | M7600002I 5%                            | M34      |
| NM 10/11/17  | F         | M7600002W 2%                        | M7600002I 5%                            | M34      |
| NM 10/11/17  | G         | M7600002W 10%                       | M7600002I 5%                            | M34      |
| NM 10/12/17  | H         | M7600002W 2%                        | M7600002I 5%                            | M34      |
| NM 10/12/17  | I         | M7600002W 10%                       | M7600002I 5%                            | M35      |
| NM 10/13/17  | J         | M7600002W 2%                        | M7600002I 5%                            | M34      |
| NM 10/13/17  | K         | M7600002W 10%                       | M7600002I 5%                            | M35      |
| NM 10/16/17  | L         | M7600002W 10%                       | M7600002I 5%                            | M34      |
| NM 10/16/17  | M         | M7600002W 2%                        | M7600002I 5%                            | M34      |
| NM 10/17/17  | N         | M7600002W 10%                       | M7600002I 5%                            | M34      |
| NM 10/18/17  | O         | M7600002W 10%                       | M7600002I 5%                            | M35      |
| NM 10/19/17  | P         | M7600002W 2%                        | M7600002I 5%                            | M35      |
| NM 10/19/17  | Q         | M7600002W 10%                       | M7600002I 5%                            | M35      |
| NM 10/20/17  | R         | M7600002W 2%                        | M7600002I 5%                            | M35      |
| NM 10/20/17  | S         | M7600002W 10%                       | M7600002I 5%                            | M35      |
| PK 10/24/17  | T         | M7600002W 2%                        | M7600003D 5%                            | M35      |
| CK 10/25/17  | U         | M7600002W 2%                        | M7600003D 5%                            | M35      |
| CK 10/25/17  | V         | M7600002W 10%                       | M7600003D 5%                            | M35      |
| CK 10/26/17  | W         | M7600002W 2%                        | M7600003D 5%                            | M35      |
| CK 10/27/17  | X         | M7600002W 2%                        | M7600003D 5%                            | M35      |
| NM 10/30/17  | Y         | M7600002W 10%                       | M7600003D 5%                            | M35      |
| NM 10/31/17  | Z         | M7600002W 10%                       | M7600003D 5%                            | M35      |
|              | AA        |                                     |   |          |
|              | BB        |                                     |   |          |

**OPTIMA 3/4/5/6 CALIBRATION STANDARD #5 / HLCCV1** (Standard is prepared weekly or as necessary)  
 (CALIBRATION STANDARD #3 IS A 1/100 DILUTION OF THIS STANDARD)  
 (CALIBRATION STANDARD #4 IS A 1/5 DILUTION OF THIS STANDARD)

|               | Metal     | ALS Lot #  | Conc. (ppm) | Vol. (mls) | Final Vol. (mls) | Final Conc. (ppm) |
|---------------|-----------|------------|-------------|------------|------------------|-------------------|
| Cal Std 2     | AG        | M7080012M  | 100         | 2.00       | 200              | 1.00              |
|               | CR        |            | 100         |            |                  | 1.00              |
|               | MN        |            | 150         |            |                  | 1.50              |
|               | NI        |            | 400         |            |                  | 4.00              |
|               | ZN        |            | 200         |            |                  | 2.00              |
|               | Cal Std 3 | AL         | M7600001B   | 2000       | 2.00             |                   |
| BA            |           |            | 2000        |            |                  | 20.0              |
| BE            |           |            | 50          |            |                  | 0.500             |
| CO            |           |            | 500         |            |                  | 5.00              |
| CU            |           |            | 250         |            |                  | 2.50              |
| FE            |           |            | 1000        |            |                  | 10.0              |
| V             |           |            | 500         |            |                  | 5.00              |
| Cal Std 4     |           | AS         | M7600001I   | 100        | 4.00             |                   |
|               | CD        |            | 50          |            |                  | 1.00              |
|               | PB        |            | 50          |            |                  | 1.00              |
|               | SE        |            | 50          |            |                  | 1.00              |
|               | TL        |            | 100         |            |                  | 2.00              |
| Single Metals | CA        | M7080014Y  | 10000       | 1.00       |                  | 50.0              |
|               | MG        | M7600002H  | 10000       | 1.00       |                  | 50.0              |
|               | K         | M7080014AA | 10000       | 1.00       |                  | 50.0              |
|               | NA        | M7080014Z  | 10000       | 1.00       |                  | 50.0              |
|               | SB        | M7600001G  | 1000        | 2.00       |                  | 10.0              |
|               | SN        | M7600002T  | 1000        | 2.00       |                  | 10.0              |
|               | B         | M7080012Z  | 1000        | 1.00       |                  | 5.00              |
|               | MO        | M7080010V  | 1000        | 1.00       |                  | 5.00              |
|               | TI        | M7080013R  | 1000        | 1.00       |                  | 5.00              |
|               | SR        | M7080014G  | 1000        | 1.00       |                  | 5.00              |

| Analyst/Date | Letter ID | Nitric Acid Lot#/Concentration | Hydrochloric Acid Lot #/Concentration | Expiration Date | Pipet ID |
|--------------|-----------|--------------------------------|---------------------------------------|-----------------|----------|
| CK10/26/17   | A         | M7600002W 2%                   | M7600003D 5%                          | 11/2/17         | M35      |
| CK10/26/17   | B         | M7600002W 10%                  | M7600003D 5%                          | 11/2/17         | M35      |
| CK10/30/17   | C         | M7600002W 2%                   | M7600003D 5%                          | 11/6/17         | M35      |
| CK10/30/17   | D         | M7600002W 10%                  | M7600003D 5%                          | 11/6/17         | M35      |
|              | E         |                                |                                       |                 |          |
|              | F         |                                |                                       |                 |          |
|              | G         |                                |                                       |                 |          |
|              | H         |                                |                                       |                 |          |
|              | I         |                                |                                       |                 |          |
|              | J         |                                |                                       |                 |          |
|              | K         |                                |                                       |                 |          |
|              | L         |                                |                                       |                 |          |
|              | M         |                                |                                       |                 |          |
|              | N         |                                |                                       |                 |          |
|              | O         |                                |                                       |                 |          |
|              | P         |                                |                                       |                 |          |
|              | Q         |                                |                                       |                 |          |
|              | R         |                                |                                       |                 |          |
|              | S         |                                |                                       |                 |          |
|              | T         |                                |                                       |                 |          |
|              | U         |                                |                                       |                 |          |
|              | V         |                                |                                       |                 |          |
|              | W         |                                |                                       |                 |          |
|              | X         |                                |                                       |                 |          |
|              | Y         |                                |                                       |                 |          |
|              | Z         |                                |                                       |                 |          |
|              | AA        |                                |                                       |                 |          |
|              | BB        |                                |                                       |                 |          |

**OPTIMA 3,4,5,6 CALIBRATION STANDARD #2**  
 (Standard is prepared weekly or as necessary)

|                | Metal      | ALS Lot #        | Conc. (ppm) | Vol. (mls) | Final Vol. (mls) | Final Conc. (ppm) |
|----------------|------------|------------------|-------------|------------|------------------|-------------------|
| Single Element | AL         | M7600001J        | 1000        | 0.100      | 1000             | 0.100             |
|                | AS         | M7080011X        | 1000        | 0.010      |                  | 0.010             |
|                | B          | M7080012Z        | 1000        | 0.200      |                  | 0.200             |
|                | BE         | M7080012V (1/10) | 100         | 0.030      |                  | 0.003             |
|                | CA         | M7080013D        | 10000       | 0.100      |                  | 1.00              |
|                | CD         | M7080010N (1/10) | 100         | 0.050      |                  | 0.005             |
|                | CU         | M7600001A        | 1000        | 0.020      |                  | 0.020             |
|                | K          | M7080014AA       | 10000       | 0.200      |                  | 2.00              |
|                | MG         | M7080013E        | 10000       | 0.100      |                  | 1.00              |
|                | NA         | M7080014Z        | 10000       | 0.100      |                  | 1.00              |
|                | PB         | M7080011S        | 1000        | 0.050      |                  | 0.050             |
|                | SB         | M7600001G        | 1000        | 0.060      |                  | 0.060             |
|                | SE         | M7080014E        | 1000        | 0.010      |                  | 0.010             |
| SN             | M76000002T | 1000             | 0.500       |            | 0.500            |                   |

| Analyst/Date | Letter ID | Nitric Acid Lot# | Hydrochloric Acid Lot # | Expiration Date | Pipet ID |
|--------------|-----------|------------------|-------------------------|-----------------|----------|
| CK 10/25/17  | A         | M7600002W 2%     | M7600003D 5%            | 11/1/17         | M35/m25  |
| CK 10/25/17  | B         | M7600002W 10%    | M7600003D 5%            | 11/1/17         | M35/m25  |
|              | C         |                  |                         |                 |          |
|              | D         |                  |                         |                 |          |
|              | E         |                  |                         |                 |          |
|              | F         |                  |                         |                 |          |
|              | G         |                  |                         |                 |          |
|              | H         |                  |                         |                 |          |
|              | I         |                  |                         |                 |          |
|              | J         |                  |                         |                 |          |
|              | K         |                  |                         |                 |          |
|              | L         |                  |                         |                 |          |
|              | M         |                  |                         |                 |          |
|              | N         |                  |                         |                 |          |
|              | O         |                  |                         |                 |          |
|              | P         |                  |                         |                 |          |
|              | Q         |                  |                         |                 |          |
|              | R         |                  |                         |                 |          |
|              | S         |                  |                         |                 |          |
|              | T         |                  |                         |                 |          |
|              | U         |                  |                         |                 |          |
|              | V         |                  |                         |                 |          |
|              | W         |                  |                         |                 |          |
|              | X         |                  |                         |                 |          |
|              | Y         |                  |                         |                 |          |
|              | Z         |                  |                         |                 |          |

*In metal*

OPTIMA 3,4,5,6 CALIBRATION STANDARD #1 (Standard is prepared weekly or as necessary)

|                    | Metal      | ALS Lot #  | Conc. (ppm) | Vol. (mls) | Final Vol. (mls) | Final Conc. (ppm) |
|--------------------|------------|------------|-------------|------------|------------------|-------------------|
| Cal Std. 1<br>Int. | AL         | M7620001C  | 20.0        | 1.00       | 1000             | 0.020             |
|                    | AS         |            | 5.00        |            |                  | 0.0050            |
|                    | CD         |            | 1.00        |            |                  | 0.0010            |
|                    | CO         |            | 3.00        |            |                  | 0.0030            |
|                    | CR         |            | 5.00        |            |                  | 0.0050            |
|                    | PB         |            | 5.00        |            |                  | 0.0050            |
|                    | V          |            | 3.00        |            |                  | 0.0030            |
|                    | Cal Std. 1 | CA         | M7080012EE  | 5000       | 0.100            |                   |
|                    | K          |            | 5000        |            |                  | BELOW             |
|                    | MG         |            | 5000        |            |                  | 0.500             |
|                    | NA         |            | 5000        |            |                  | 0.500             |
| Single<br>Element  | BA         | M7080014BB | 1000        | 0.020      |                  | 0.020             |
|                    | CU         | M7600001A  | 1000        | 0.010      |                  | 0.010             |
|                    | K          | M7080014AA | 10000       | 0.150      |                  | 2.00              |
|                    | MN         | M7080011R  | 1000        | 0.010      |                  | 0.010             |
|                    | MO         | M7080010V  | 1000        | 0.025      |                  | 0.025             |
|                    | SB         | M7600001G  | 1000        | 0.010      |                  | 0.010             |
|                    | TL         | M7600001N  | 1000        | 0.010      |                  | 0.010             |
|                    | ZN         | M7080009Y  | 1000        | 0.010      |                  | 0.010             |
|                    | P          |            | 1000        | 0.100      |                  | 0.100             |

| Analyst/<br>Date | Letter<br>ID | Nitric Acid<br>Lot#/<br>Concentration | Hydrochloric<br>Acid Lot #/<br>Concentration | Expiration<br>Date | Pipet<br>ID |
|------------------|--------------|---------------------------------------|--|--------------------|-------------|
| CK10/24/17       | A            | M7600002LW 2%                         | M7600002LW 3D 5%                             | 10/31/17           | M35/1025    |
| CK19/24/17       | B            | M7600002LW 10%                        | M7600002LW 3D 5%                             | 10/31/17           | M35/1025    |
|                  | C            |                                       |  |                    |             |
|                  | D            |                                       |  |                    |             |
|                  | E            |                                       |  |                    |             |
|                  | F            |                                       |  |                    |             |
|                  | G            |                                       |  |                    |             |
|                  | H            |                                       |  |                    |             |
|                  | I            |                                       |  |                    |             |
|                  | J            |                                       |  |                    |             |
|                  | K            |                                       |  |                    |             |
|                  | L            |                                       |  |                    |             |
|                  | M            |                                       |  |                    |             |
|                  | N            |                                       |  |                    |             |
|                  | O            |                                       |  |                    |             |
|                  | P            |                                       |  |                    |             |
|                  | Q            |                                       |  |                    |             |
|                  | R            |                                       |  |                    |             |
|                  | S            |                                       |  |                    |             |
|                  | T            |                                       |  |                    |             |
|                  | U            |                                       |  |                    |             |
|                  | V            |                                       |  |                    |             |
|                  | W            |                                       |  |                    |             |
|                  | X            |                                       |  |                    |             |
|                  | Y            |                                       |  |                    |             |
|                  | Z            |                                       |  |                    |             |

✓ M7600001C

## Sample Dilutions

Analyst: NM

Date: 10/31/17

Instrument: ICP6

Analysis: 6010C

### Common Dilutions

| Dilution | Matrix of Diluent | 1st Dilution   |                 |                 | 2nd Dilution   |                 |                 | 3rd Dilution   |                 |                 | 4th Dilution   |                 |                 | 5th Dilution   |                 |                 |
|----------|-------------------|----------------|-----------------|-----------------|----------------|-----------------|-----------------|----------------|-----------------|-----------------|----------------|-----------------|-----------------|----------------|-----------------|-----------------|
|          |                   | mL's of Sample | mL's of Diluent | Dilution Factor | mL's of Sample | mL's of Diluent | Dilution Factor | mL's of Sample | mL's of Diluent | Dilution Factor | mL's of Sample | mL's of Diluent | Dilution Factor | mL's of Sample | mL's of Diluent | Dilution Factor |
| 1/2      | HNO3/HCL          | 3              | 3               | 1/2             |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |
| 1/3      | HNO3/HCL          | 3              | 6               | 1/3             |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |
| 1/4      | HNO3/HCL          | 2              | 6               | 1/4             |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |
| 1/5      | HNO3/HCL          | 2              | 8               | 1/5             |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |
| 1/10     | HNO3/HCL          | 1              | 9               | 1/10            |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |
| 1/20     | HNO3/HCL          | 3              | 3               | 1/2             | 1              | 9               | 1/20            |                |                 |                 |                |                 |                 |                |                 |                 |
| 1/30     | HNO3/HCL          | 3              | 6               | 1/3             | 1              | 9               | 1/30            |                |                 |                 |                |                 |                 |                |                 |                 |
| 1/40     | HNO3/HCL          | 1              | 3               | 1/4             | 1              | 9               | 1/40            |                |                 |                 |                |                 |                 |                |                 |                 |
| 1/50     | HNO3/HCL          | 1              | 4               | 1/5             | 1              | 9               | 1/50            |                |                 |                 |                |                 |                 |                |                 |                 |
| 1/100    | HNO3/HCL          | 1              | 9               | 1/10            | 1              | 9               | 1/100           |                |                 |                 |                |                 |                 |                |                 |                 |
| 1/200    | HNO3/HCL          | 3              | 3               | 1/2             | 1              | 9               | 1/200           | 1              | 9               | 1/200           |                |                 |                 |                |                 |                 |
| 1/300    | HNO3/HCL          | 3              | 6               | 1/3             | 1              | 9               | 1/300           | 1              | 9               | 1/300           |                |                 |                 |                |                 |                 |
| 1/400    | HNO3/HCL          | 1              | 3               | 1/4             | 1              | 9               | 1/400           | 1              | 9               | 1/400           |                |                 |                 |                |                 |                 |
| 1/500    | HNO3/HCL          | 1              | 4               | 1/5             | 1              | 9               | 1/500           | 1              | 9               | 1/500           |                |                 |                 |                |                 |                 |
| 1/1000   | HNO3/HCL          | 1              | 9               | 1/10            | 1              | 9               | 1/1000          | 1              | 9               | 1/1000          |                |                 |                 |                |                 |                 |
| 1/2000   | HNO3/HCL          | 3              | 3               | 1/2             | 1              | 9               | 1/2000          | 1              | 9               | 1/2000          | 1              | 9               | 1/2000          |                |                 |                 |
| 1/3000   | HNO3/HCL          | 3              | 6               | 1/3             | 1              | 9               | 1/3000          | 1              | 9               | 1/3000          | 1              | 9               | 1/3000          |                |                 |                 |
| 1/4000   | HNO3/HCL          | 1              | 3               | 1/4             | 1              | 9               | 1/4000          | 1              | 9               | 1/4000          | 1              | 9               | 1/4000          |                |                 |                 |
| 1/10000  | HNO3/HCL          | 1              | 9               | 1/10            | 1              | 9               | 1/10000         | 1              | 9               | 1/10000         | 1              | 9               | 1/10000         |                |                 |                 |
| 1/20000  | HNO3/HCL          | 1              | 1               | 1/2             | 1              | 9               | 1/20000         | 1              | 9               | 1/20000         | 1              | 9               | 1/20000         | 1              | 9               | 1/20000         |
| 1/40000  | HNO3/HCL          | 1              | 3               | 1/4             | 1              | 9               | 1/40000         | 1              | 9               | 1/40000         | 1              | 9               | 1/40000         | 1              | 9               | 1/40000         |
| 1/100000 | HNO3/HCL          | 1              | 9               | 1/10            | 1              | 9               | 1/100000        | 1              | 9               | 1/100000        | 1              | 9               | 1/100000        | 1              | 9               | 1/100000        |

### Special Dilutions

| Dilution | Matrix of Diluent | 1st Dilution   |                 |                 | 2nd Dilution   |                 |                 | 3rd Dilution   |                 |                 | 4th Dilution   |                 |                 | 5th Dilution   |                 |                 |
|----------|-------------------|----------------|-----------------|-----------------|----------------|-----------------|-----------------|----------------|-----------------|-----------------|----------------|-----------------|-----------------|----------------|-----------------|-----------------|
|          |                   | mL's of Sample | mL's of Diluent | Dilution Factor | mL's of Sample | mL's of Diluent | Dilution Factor | mL's of Sample | mL's of Diluent | Dilution Factor | mL's of Sample | mL's of Diluent | Dilution Factor | mL's of Sample | mL's of Diluent | Dilution Factor |
|          |                   |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |
|          |                   |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |
|          |                   |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |
|          |                   |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |
|          |                   |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |
|          |                   |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |
|          |                   |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |
|          |                   |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |
|          |                   |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |
|          |                   |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |
|          |                   |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |
|          |                   |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |
|          |                   |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |

# Analytical Results Summary

Instrument Name: R-ICP-AES-06

Analyst: NMANSEN

Analysis Lot: 568339 Method/Testcode: 6010C/Pb T DOD

| Lab Code     | Target Analytes  | QC  | Parent Sample | Matrix | Raw Result | Sample Amt. | Final Result | Dil | MDL | PQL  | % Rec | % RSD | Date Analyzed     | QC? | Tier |
|--------------|------------------|-----|---------------|--------|------------|-------------|--------------|-----|-----|------|-------|-------|-------------------|-----|------|
| RQ1711141-01 | Lead, Total      | MB  |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 4   | 10   |       |       | 10/31/17 19:02:28 | N   | II   |
| RQ1711141-01 | Selenium, Total  | MB  |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 4   | 10   |       |       | 10/31/17 19:02:28 | N   | II   |
| RQ1711141-01 | Thallium, Total  | MB  |               | Water  | 0.00 ppm   | 50 mL       | 20 µg/L U    | 1   | 6   | 20   |       |       | 10/31/17 19:02:28 | N   | II   |
| RQ1711141-02 | Lead, Total      | LCS |               | Water  | 0.51 ppm   | 50 mL       | 514 µg/L     | 1   | 4   | 10   | 103   |       | 10/31/17 19:05:47 | N   | II   |
| RQ1711141-02 | Selenium, Total  | LCS |               | Water  | 1.05 ppm   | 50 mL       | 1050 µg/L    | 1   | 4   | 10   | 104   |       | 10/31/17 19:05:47 | N   | II   |
| RQ1711141-02 | Thallium, Total  | LCS |               | Water  | 1.87 ppm   | 50 mL       | 1870 µg/L    | 1   | 6   | 20   | 94    |       | 10/31/17 19:05:47 | N   | II   |
| R1710018-001 | Lead, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 4   | 10   |       |       | 10/31/17 19:09:07 | N   | IV   |
| R1710018-001 | Selenium, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 4   | 10   |       |       | 10/31/17 19:09:07 | N   | IV   |
| R1710018-001 | Thallium, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 20 µg/L U    | 1   | 6   | 20   |       |       | 10/31/17 19:09:07 | N   | IV   |
| R1710018-002 | Lead, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 4   | 10   |       |       | 10/31/17 19:12:27 | N   | IV   |
| R1710018-002 | Selenium, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 4   | 10   |       |       | 10/31/17 19:12:27 | N   | IV   |
| R1710018-002 | Thallium, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 20 µg/L U    | 1   | 6   | 20   |       |       | 10/31/17 19:12:27 | N   | IV   |
| R1710018-003 | Lead, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 1000 µg/L U  | 100 | 400 | 1000 |       |       | 10/31/17 19:15:46 | N   | IV   |
| R1710018-003 | Thallium, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 2000 µg/L U  | 100 | 600 | 2000 |       |       | 10/31/17 19:15:46 | N   | IV   |
| R1710018-004 | Lead, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 4   | 10   |       |       | 10/31/17 19:19:06 | N   | IV   |
| R1710018-004 | Selenium, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 4   | 10   |       |       | 10/31/17 19:19:06 | N   | IV   |
| R1710018-004 | Thallium, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 20 µg/L U    | 1   | 6   | 20   |       |       | 10/31/17 19:19:06 | N   | IV   |
| R1710018-005 | Lead, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 4   | 10   |       |       | 10/31/17 19:22:25 | Y   | IV   |
| R1710018-005 | Selenium, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 4   | 10   |       |       | 10/31/17 19:22:25 | Y   | IV   |
| R1710018-005 | Thallium, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 20 µg/L U    | 1   | 6   | 20   |       |       | 10/31/17 19:22:25 | Y   | IV   |
| RQ1711141-03 | Lead, Total      | MS  | R1710018-005  | Water  | 0.53 ppm   | 50 mL       | 527 µg/L     | 1   | 4   | 10   | 105   |       | 10/31/17 19:25:43 | N   | IV   |
| RQ1711141-03 | Selenium, Total  | MS  | R1710018-005  | Water  | 1.12 ppm   | 50 mL       | 1120 µg/L    | 1   | 4   | 10   | 111   |       | 10/31/17 19:25:43 | N   | IV   |
| RQ1711141-03 | Thallium, Total  | MS  | R1710018-005  | Water  | 2.04 ppm   | 50 mL       | 2040 µg/L    | 1   | 6   | 20   | 102   |       | 10/31/17 19:25:43 | N   | IV   |
| RQ1711141-04 | Lead, Total      | DMS | R1710018-005  | Water  | 0.52 ppm   | 50 mL       | 516 µg/L     | 1   | 4   | 10   | 103   | 2     | 10/31/17 19:29:03 | N   | IV   |
| RQ1711141-04 | Selenium, Total  | DMS | R1710018-005  | Water  | 1.11 ppm   | 50 mL       | 1110 µg/L    | 1   | 4   | 10   | 110   | 1     | 10/31/17 19:29:03 | N   | IV   |
| RQ1711141-04 | Thallium, Total  | DMS | R1710018-005  | Water  | 2.00 ppm   | 50 mL       | 2000 µg/L    | 1   | 6   | 20   | 100   | 2     | 10/31/17 19:29:03 | N   | IV   |
| R1710018-006 | Lead, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 4   | 10   |       |       | 10/31/17 19:45:38 | N   | IV   |
| R1710018-006 | Selenium, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 4   | 10   |       |       | 10/31/17 19:45:38 | N   | IV   |
| R1710018-006 | Thallium, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 20 µg/L U    | 1   | 6   | 20   |       |       | 10/31/17 19:45:38 | N   | IV   |
| R1710018-007 | Chromium, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 100 µg/L U   | 10  | 30  | 100  |       |       | 10/31/17 19:48:57 | N   | IV   |
| R1710018-007 | Aluminum, Total  | N/A |               | Water  | 0.91 ppm   | 50 mL       | 910 µg/L     | 1   | 100 | 400  |       |       | 10/31/17 19:52:16 | N   | IV   |
| R1710018-007 | Antimony, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 60 µg/L U    | 1   | 8   | 60   |       |       | 10/31/17 19:52:16 | N   | IV   |
| R1710018-007 | Arsenic, Total   | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 4   | 10   |       |       | 10/31/17 19:52:16 | N   | IV   |
| R1710018-007 | Barium, Total    | N/A |               | Water  | 0.03 ppm   | 50 mL       | 25 µg/L J    | 1   | 13  | 40   |       |       | 10/31/17 19:52:16 | N   | IV   |
| R1710018-007 | Beryllium, Total | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 0.7 | 5.0  |       |       | 10/31/17 19:52:16 | N   | IV   |
| R1710018-007 | Cadmium, Total   | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 0.9 | 5.0  |       |       | 10/31/17 19:52:16 | N   | IV   |

† indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

# Analytical Results Summary

Instrument Name: R-ICP-AES-06

Analyst: NMANSEN

Analysis Lot: 568339 Method/Testcode: 6010C/Ca T DOD

| Lab Code    | Target Analytes  | QC  | Parent Sample | Matrix | Raw Result | Sample Amt. | Final Result | Dil | MDL  | PQL   | % Rec | % RSD | Date Analyzed     | QC? | Tier |
|-------------|------------------|-----|---------------|--------|------------|-------------|--------------|-----|------|-------|-------|-------|-------------------|-----|------|
| 1710018-007 | Calcium, Total   | N/A |               | Water  | 51.51 ppm  | 50 mL       | 51500 µg/L   | 1   | 400  | 1000  |       |       | 10/31/17 19:52:16 | N   | IV   |
| 1710018-007 | Cobalt, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 50 µg/L U    | 1   | 3    | 50    |       |       | 10/31/17 19:52:16 | N   | IV   |
| 1710018-007 | Copper, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 20 µg/L U    | 1   | 10   | 20    |       |       | 10/31/17 19:52:16 | N   | IV   |
| 1710018-007 | Iron, Total      | N/A |               | Water  | 1.06 ppm   | 50 mL       | 1060 µg/L    | 1   | 80   | 200   |       |       | 10/31/17 19:52:16 | N   | IV   |
| 1710018-007 | Lead, Total      | N/A |               | Water  | 0.02 ppm   | 50 mL       | 22 µg/L      | 1   | 4    | 10    |       |       | 10/31/17 19:52:16 | N   | IV   |
| 1710018-007 | Magnesium, Total | N/A |               | Water  | 3.46 ppm   | 50 mL       | 3500 µg/L    | 1   | 300  | 1000  |       |       | 10/31/17 19:52:16 | N   | IV   |
| 1710018-007 | Nickel, Total    | N/A |               | Water  | 0.01 ppm   | 50 mL       | 40 µg/L U    | 1   | 9    | 40    |       |       | 10/31/17 19:52:16 | N   | IV   |
| 1710018-007 | Potassium, Total | N/A |               | Water  | 51.02 ppm  | 50 mL       | 51000 µg/L   | 1   | 300  | 2000  |       |       | 10/31/17 19:52:16 | N   | IV   |
| 1710018-007 | Selenium, Total  | N/A |               | Water  | 0.10 ppm   | 50 mL       | 100 µg/L     | 1   | 4    | 10    |       |       | 10/31/17 19:52:16 | N   | IV   |
| 1710018-007 | Silver, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 2    | 10    |       |       | 10/31/17 19:52:16 | N   | IV   |
| 1710018-007 | Thallium, Total  | N/A |               | Water  | -0.01 ppm  | 50 mL       | 20 µg/L U    | 1   | 6    | 20    |       |       | 10/31/17 19:52:16 | N   | IV   |
| 1710018-007 | Vanadium, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 50 µg/L U    | 1   | 3    | 50    |       |       | 10/31/17 19:52:16 | N   | IV   |
| 1710018-007 | Zinc, Total      | N/A |               | Water  | 0.01 ppm   | 50 mL       | 15 µg/L J    | 1   | 7    | 40    |       |       | 10/31/17 19:52:16 | N   | IV   |
| 1710018-008 | Lead, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 4    | 10    |       |       | 10/31/17 19:55:36 | N   | IV   |
| 1710018-008 | Selenium, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 4    | 10    |       |       | 10/31/17 19:55:36 | N   | IV   |
| 1710018-008 | Thallium, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 20 µg/L U    | 1   | 6    | 20    |       |       | 10/31/17 19:55:36 | N   | IV   |
| 1710018-009 | Lead, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 1000 µg/L U  | 100 | 400  | 1000  |       |       | 10/31/17 19:58:56 | N   | IV   |
| 1710018-009 | Thallium, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 2000 µg/L U  | 100 | 600  | 2000  |       |       | 10/31/17 19:58:56 | N   | IV   |
| 1710018-010 | Lead, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 4    | 10    |       |       | 10/31/17 20:02:15 | N   | IV   |
| 1710018-010 | Selenium, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 4    | 10    |       |       | 10/31/17 20:02:15 | N   | IV   |
| 1710018-010 | Thallium, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 20 µg/L U    | 1   | 6    | 20    |       |       | 10/31/17 20:02:15 | N   | IV   |
| 1710018-011 | Lead, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 4    | 10    |       |       | 10/31/17 20:05:34 | N   | IV   |
| 1710018-011 | Selenium, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 4    | 10    |       |       | 10/31/17 20:05:34 | N   | IV   |
| 1710018-011 | Thallium, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 20 µg/L U    | 1   | 6    | 20    |       |       | 10/31/17 20:05:34 | N   | IV   |
| 1710191-001 | Calcium, Total   | N/A |               | Water  | 23.83 ppm  | 50 mL       | 238000 µg/L  | 10  | 4000 | 10000 |       |       | 10/31/17 20:08:53 | N   | II   |
| 1710191-001 | Sodium, Total    | N/A |               | Water  | 25.56 ppm  | 50 mL       | 256000 µg/L  | 10  | 4000 | 10000 |       |       | 10/31/17 20:08:53 | N   | II   |

† indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

# Analytical Results Summary

Instrument Name: R-ICP-AES-06

Analyst: NMANSEN

Analysis Lot: 568344 Method/Testcode: 6010C/As T

| Lab Code     | Target Analytes      | QC  | Parent Sample | Matrix | Raw Result | Sample Amt. | Final Result | Dil | MDL | PQL  | % Rec | % RSD | Date Analyzed     | QC? | Tier |
|--------------|----------------------|-----|---------------|--------|------------|-------------|--------------|-----|-----|------|-------|-------|-------------------|-----|------|
| RQ1711245-01 | Arsenic, Total       | MB  |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 4   | 10   |       |       | 10/31/17 20:45:24 | N   | IV   |
| RQ1711245-01 | Barium, Total        | MB  |               | Water  | 0.00 ppm   | 50 mL       | 20 µg/L U    | 1   | 13  | 20   |       |       | 10/31/17 20:45:24 | N   | IV   |
| RQ1711245-01 | Cadmium, Total       | MB  |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 0.9 | 5.0  |       |       | 10/31/17 20:45:24 | N   | IV   |
| RQ1711245-01 | Calcium, Dissolved   | MB  |               | Water  | -0.01 ppm  | 50 mL       | 1000 µg/L U  | 1   | 400 | 1000 |       |       | 10/31/17 20:45:24 | N   | IV   |
| RQ1711245-01 | Calcium, Total       | MB  |               | Water  | -0.01 ppm  | 50 mL       | 1000 µg/L U  | 1   | 400 | 1000 |       |       | 10/31/17 20:45:24 | N   | IV   |
| RQ1711245-01 | Chromium, Total      | MB  |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 3   | 10   |       |       | 10/31/17 20:45:24 | N   | IV   |
| RQ1711245-01 | Copper, Total        | MB  |               | Water  | 0.00 ppm   | 50 mL       | 20 µg/L U    | 1   | 10  | 20   |       |       | 10/31/17 20:45:24 | N   | IV   |
| RQ1711245-01 | Iron, Total          | MB  |               | Water  | 0.00 ppm   | 50 mL       | 100 µg/L U   | 1   | 80  | 100  |       |       | 10/31/17 20:45:24 | N   | IV   |
| RQ1711245-01 | Lead, Dissolved      | MB  |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 4   | 10   |       |       | 10/31/17 20:45:24 | N   | IV   |
| RQ1711245-01 | Lead, Total          | MB  |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 4   | 10   |       |       | 10/31/17 20:45:24 | N   | IV   |
| RQ1711245-01 | Lead, Total          | MB  |               | Water  | 0.00 ppm   | 50 mL       | 50 µg/L U    | 1   | 4   | 50   |       |       | 10/31/17 20:45:24 | N   | IV   |
| RQ1711245-01 | Magnesium, Dissolved | MB  |               | Water  | 0.01 ppm   | 50 mL       | 1000 µg/L U  | 1   | 300 | 1000 |       |       | 10/31/17 20:45:24 | N   | IV   |
| RQ1711245-01 | Magnesium, Total     | MB  |               | Water  | 0.01 ppm   | 50 mL       | 1000 µg/L U  | 1   | 300 | 1000 |       |       | 10/31/17 20:45:24 | N   | IV   |
| RQ1711245-01 | Nickel, Total        | MB  |               | Water  | 0.00 ppm   | 50 mL       | 40 µg/L U    | 1   | 9   | 40   |       |       | 10/31/17 20:45:24 | N   | IV   |
| RQ1711245-01 | Potassium, Total     | MB  |               | Water  | 0.03 ppm   | 50 mL       | 2000 µg/L U  | 1   | 300 | 2000 |       |       | 10/31/17 20:45:24 | N   | IV   |
| RQ1711245-01 | Selenium, Total      | MB  |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 4   | 10   |       |       | 10/31/17 20:45:24 | N   | IV   |
| RQ1711245-01 | Sodium, Total        | MB  |               | Water  | -0.01 ppm  | 50 mL       | 1000 µg/L U  | 1   | 400 | 1000 |       |       | 10/31/17 20:45:24 | N   | IV   |
| RQ1711245-01 | Zinc, Total          | MB  |               | Water  | 0.00 ppm   | 50 mL       | 20 µg/L U    | 1   | 7   | 20   |       |       | 10/31/17 20:45:24 | N   | IV   |
| RQ1711245-02 | Arsenic, Total       | LCS |               | Water  | 0.04 ppm   | 50 mL       | 38.8 µg/L    | 1   | 4   | 10   | 97    |       | 10/31/17 20:48:43 | N   | IV   |
| RQ1711245-02 | Barium, Total        | LCS |               | Water  | 2.08 ppm   | 50 mL       | 2080 µg/L    | 1   | 13  | 20   | 104   |       | 10/31/17 20:48:43 | N   | IV   |
| RQ1711245-02 | Cadmium, Total       | LCS |               | Water  | 0.05 ppm   | 50 mL       | 52.6 µg/L    | 1   | 0.9 | 5.0  | 105   |       | 10/31/17 20:48:43 | N   | IV   |
| RQ1711245-02 | Calcium, Dissolved   | LCS |               | Water  | 1.88 ppm   | 50 mL       | 1880 µg/L    | 1   | 400 | 1000 | 94    |       | 10/31/17 20:48:43 | N   | IV   |
| RQ1711245-02 | Calcium, Total       | LCS |               | Water  | 1.88 ppm   | 50 mL       | 1880 µg/L    | 1   | 400 | 1000 | 94    |       | 10/31/17 20:48:43 | N   | IV   |
| RQ1711245-02 | Chromium, Total      | LCS |               | Water  | 0.20 ppm   | 50 mL       | 200 µg/L     | 1   | 3   | 10   | 100   |       | 10/31/17 20:48:43 | N   | IV   |
| RQ1711245-02 | Copper, Total        | LCS |               | Water  | 0.24 ppm   | 50 mL       | 239 µg/L     | 1   | 10  | 20   | 95    |       | 10/31/17 20:48:43 | N   | IV   |
| RQ1711245-02 | Iron, Total          | LCS |               | Water  | 0.99 ppm   | 50 mL       | 985 µg/L     | 1   | 80  | 100  | 99    |       | 10/31/17 20:48:43 | N   | IV   |
| RQ1711245-02 | Lead, Dissolved      | LCS |               | Water  | 0.52 ppm   | 50 mL       | 522 µg/L     | 1   | 4   | 10   | 104   |       | 10/31/17 20:48:43 | N   | IV   |
| RQ1711245-02 | Lead, Total          | LCS |               | Water  | 0.52 ppm   | 50 mL       | 522 µg/L     | 1   | 4   | 10   | 104   |       | 10/31/17 20:48:43 | N   | IV   |
| RQ1711245-02 | Lead, Total          | LCS |               | Water  | 0.52 ppm   | 50 mL       | 522 µg/L     | 1   | 4   | 50   | 104   |       | 10/31/17 20:48:43 | N   | IV   |
| RQ1711245-02 | Magnesium, Dissolved | LCS |               | Water  | 2.02 ppm   | 50 mL       | 2020 µg/L    | 1   | 300 | 1000 | 101   |       | 10/31/17 20:48:43 | N   | IV   |
| RQ1711245-02 | Magnesium, Total     | LCS |               | Water  | 2.02 ppm   | 50 mL       | 2020 µg/L    | 1   | 300 | 1000 | 101   |       | 10/31/17 20:48:43 | N   | IV   |
| RQ1711245-02 | Nickel, Total        | LCS |               | Water  | 0.52 ppm   | 50 mL       | 516 µg/L     | 1   | 9   | 40   | 103   |       | 10/31/17 20:48:43 | N   | IV   |
| RQ1711245-02 | Potassium, Total     | LCS |               | Water  | 18.67 ppm  | 50 mL       | 18700 µg/L   | 1   | 300 | 2000 | 93    |       | 10/31/17 20:48:43 | N   | IV   |
| RQ1711245-02 | Selenium, Total      | LCS |               | Water  | 1.06 ppm   | 50 mL       | 1060 µg/L    | 1   | 4   | 10   | 105   |       | 10/31/17 20:48:43 | N   | IV   |
| RQ1711245-02 | Sodium, Total        | LCS |               | Water  | 18.97 ppm  | 50 mL       | 19000 µg/L   | 1   | 400 | 1000 | 95    |       | 10/31/17 20:48:43 | N   | IV   |
| RQ1711245-02 | Zinc, Total          | LCS |               | Water  | 0.51 ppm   | 50 mL       | 512 µg/L     | 1   | 7   | 20   | 102   |       | 10/31/17 20:48:43 | N   | IV   |

† indicates Final Result is not yet adjusted for Solids because it has not yet been determined.



# Analytical Results Summary

Instrument Name: R-ICP-AES-06

Analyst: NMANSEN

Analysis Lot: 568344 Method/Testcode: 6010C/As T

| Lab Code     | Target Analytes      | QC  | Parent Sample | Matrix | Raw Result | Sample Amt. | Final Result | Dil | MDL | PQL  | % Rec | % RSD | Date Analyzed     | QC? | Tier |
|--------------|----------------------|-----|---------------|--------|------------|-------------|--------------|-----|-----|------|-------|-------|-------------------|-----|------|
| R1710031-019 | Arsenic, Total       | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 4   | 10   |       |       | 10/31/17 20:52:03 | N   | II   |
| R1710031-019 | Barium, Total        | N/A |               | Water  | 0.00 ppm   | 50 mL       | 20 µg/L U    | 1   | 13  | 20   |       |       | 10/31/17 20:52:03 | N   | II   |
| R1710031-019 | Cadmium, Total       | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 0.9 | 5.0  |       |       | 10/31/17 20:52:03 | N   | II   |
| R1710031-019 | Calcium, Total       | N/A |               | Water  | 0.23 ppm   | 50 mL       | 1000 µg/L U  | 1   | 400 | 1000 |       |       | 10/31/17 20:52:03 | N   | II   |
| R1710031-019 | Chromium, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 3   | 10   |       |       | 10/31/17 20:52:03 | N   | II   |
| R1710031-019 | Copper, Total        | N/A |               | Water  | 0.00 ppm   | 50 mL       | 20 µg/L U    | 1   | 10  | 20   |       |       | 10/31/17 20:52:03 | N   | II   |
| R1710031-019 | Iron, Total          | N/A |               | Water  | 0.01 ppm   | 50 mL       | 100 µg/L U   | 1   | 80  | 100  |       |       | 10/31/17 20:52:03 | N   | II   |
| R1710031-019 | Lead, Total          | N/A |               | Water  | 0.00 ppm   | 50 mL       | 50 µg/L U    | 1   | 4   | 50   |       |       | 10/31/17 20:52:03 | N   | II   |
| R1710031-019 | Magnesium, Total     | N/A |               | Water  | 0.03 ppm   | 50 mL       | 1000 µg/L U  | 1   | 300 | 1000 |       |       | 10/31/17 20:52:03 | N   | II   |
| R1710031-019 | Nickel, Total        | N/A |               | Water  | 0.00 ppm   | 50 mL       | 40 µg/L U    | 1   | 9   | 40   |       |       | 10/31/17 20:52:03 | N   | II   |
| R1710031-019 | Potassium, Total     | N/A |               | Water  | 0.09 ppm   | 50 mL       | 2000 µg/L U  | 1   | 300 | 2000 |       |       | 10/31/17 20:52:03 | N   | II   |
| R1710031-019 | Selenium, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 4   | 10   |       |       | 10/31/17 20:52:03 | N   | II   |
| R1710031-019 | Sodium, Total        | N/A |               | Water  | 0.58 ppm   | 50 mL       | 1000 µg/L U  | 1   | 400 | 1000 |       |       | 10/31/17 20:52:03 | N   | II   |
| R1710031-019 | Zinc, Total          | N/A |               | Water  | 0.00 ppm   | 50 mL       | 20 µg/L U    | 1   | 7   | 20   |       |       | 10/31/17 20:52:03 | N   | II   |
| R1710033-001 | Arsenic, Total       | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 4   | 10   |       |       | 10/31/17 20:55:21 | N   | II   |
| R1710033-002 | Arsenic, Total       | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 4   | 10   |       |       | 10/31/17 20:58:40 | N   | II   |
| R1710033-003 | Arsenic, Total       | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 4   | 10   |       |       | 10/31/17 21:02:00 | N   | II   |
| R1710033-004 | Arsenic, Total       | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 4   | 10   |       |       | 10/31/17 21:05:19 | N   | II   |
| R1710033-005 | Arsenic, Total       | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 4   | 10   |       |       | 10/31/17 21:08:38 | N   | II   |
| RQ1711245-07 | Arsenic, Total       | MS  | R1710033-005  | Water  | 0.05 ppm   | 50 mL       | 45 µg/L      | 1   | 4   | 10   | 113   |       | 10/31/17 21:11:58 | N   | II   |
| RQ1711245-08 | Arsenic, Total       | DMS | R1710033-005  | Water  | 0.04 ppm   | 50 mL       | 43 µg/L      | 1   | 4   | 10   | 108   | 5     | 10/31/17 21:15:17 | N   | II   |
| C1710862-001 | Calcium, Dissolved   | N/A |               | Water  | 2.08 ppm   | 50 mL       | 2100 µg/L    | 1   | 400 | 1000 |       |       | 10/31/17 21:31:53 | N   | IV   |
| C1710862-001 | Lead, Dissolved      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 4   | 10   |       |       | 10/31/17 21:31:53 | N   | IV   |
| C1710862-001 | Magnesium, Dissolved | N/A |               | Water  | 1.11 ppm   | 50 mL       | 1100 µg/L    | 1   | 300 | 1000 |       |       | 10/31/17 21:31:53 | N   | IV   |
| C1710862-002 | Calcium, Dissolved   | N/A |               | Water  | 2.13 ppm   | 50 mL       | 2100 µg/L    | 1   | 400 | 1000 |       |       | 10/31/17 21:35:12 | N   | IV   |
| C1710862-002 | Lead, Dissolved      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 4   | 10   |       |       | 10/31/17 21:35:12 | N   | IV   |
| C1710862-002 | Magnesium, Dissolved | N/A |               | Water  | 1.11 ppm   | 50 mL       | 1100 µg/L    | 1   | 300 | 1000 |       |       | 10/31/17 21:35:12 | N   | IV   |
| C1710862-003 | Calcium, Dissolved   | N/A |               | Water  | 2.14 ppm   | 50 mL       | 2100 µg/L    | 1   | 400 | 1000 |       |       | 10/31/17 21:38:30 | N   | IV   |
| C1710862-003 | Lead, Dissolved      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 4   | 10   |       |       | 10/31/17 21:38:30 | N   | IV   |
| C1710862-003 | Magnesium, Dissolved | N/A |               | Water  | 1.12 ppm   | 50 mL       | 1100 µg/L    | 1   | 300 | 1000 |       |       | 10/31/17 21:38:30 | N   | IV   |
| C1710862-004 | Calcium, Dissolved   | N/A |               | Water  | 2.17 ppm   | 50 mL       | 2200 µg/L    | 1   | 400 | 1000 |       |       | 10/31/17 21:41:49 | N   | IV   |
| C1710862-004 | Lead, Dissolved      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 4   | 10   |       |       | 10/31/17 21:41:49 | N   | IV   |
| C1710862-004 | Magnesium, Dissolved | N/A |               | Water  | 1.13 ppm   | 50 mL       | 1100 µg/L    | 1   | 300 | 1000 |       |       | 10/31/17 21:41:49 | N   | IV   |
| C1710862-005 | Calcium, Dissolved   | N/A |               | Water  | 2.21 ppm   | 50 mL       | 2200 µg/L    | 1   | 400 | 1000 |       |       | 10/31/17 21:45:08 | N   | IV   |
| C1710862-005 | Lead, Dissolved      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 4   | 10   |       |       | 10/31/17 21:45:08 | N   | IV   |
| C1710862-005 | Magnesium, Dissolved | N/A |               | Water  | 1.16 ppm   | 50 mL       | 1200 µg/L    | 1   | 300 | 1000 |       |       | 10/31/17 21:45:08 | N   | IV   |

# indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

# Analytical Results Summary

Instrument Name: R-ICP-AES-06

Analyst: NMANSEN

Analysis Lot: 568344 Method/Testcode: 6010C/Ca D DOD

| Lab Code     | Target Analytes      | QC  | Parent Sample | Matrix | Raw Result | Sample Amt. | Final Result | Dil | MDL | PQL  | % Rec | % RSD | Date Analyzed     | QC? | Tier |
|--------------|----------------------|-----|---------------|--------|------------|-------------|--------------|-----|-----|------|-------|-------|-------------------|-----|------|
| <1710862-006 | Calcium, Dissolved   | N/A |               | Water  | 4.09 ppm   | 50 mL       | 4100 µg/L    | 1   | 400 | 1000 |       |       | 10/31/17 21:48:27 | N   | IV   |
| <1710862-006 | Lead, Dissolved      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 4   | 10   |       |       | 10/31/17 21:48:27 | N   | IV   |
| <1710862-006 | Magnesium, Dissolved | N/A |               | Water  | 1.98 ppm   | 50 mL       | 2000 µg/L    | 1   | 300 | 1000 |       |       | 10/31/17 21:48:27 | N   | IV   |
| RQ1711245-05 | Calcium, Dissolved   | MS  | K1710862-006  | Water  | 5.94 ppm   | 50 mL       | 5900 µg/L    | 1   | 400 | 1000 | 93    |       | 10/31/17 21:51:46 | N   | IV   |
| RQ1711245-05 | Lead, Dissolved      | MS  | K1710862-006  | Water  | 0.51 ppm   | 50 mL       | 512 µg/L     | 1   | 4   | 10   | 102   |       | 10/31/17 21:51:46 | N   | IV   |
| RQ1711245-05 | Magnesium, Dissolved | MS  | K1710862-006  | Water  | 3.93 ppm   | 50 mL       | 3900 µg/L    | 1   | 300 | 1000 | 97    |       | 10/31/17 21:51:46 | N   | IV   |
| RQ1711245-06 | Calcium, Dissolved   | DMS | K1710862-006  | Water  | 6.00 ppm   | 50 mL       | 6000 µg/L    | 1   | 400 | 1000 | 96    | 1     | 10/31/17 21:55:05 | N   | IV   |
| RQ1711245-06 | Lead, Dissolved      | DMS | K1710862-006  | Water  | 0.51 ppm   | 50 mL       | 515 µg/L     | 1   | 4   | 10   | 103   | <1    | 10/31/17 21:55:05 | N   | IV   |
| RQ1711245-06 | Magnesium, Dissolved | DMS | K1710862-006  | Water  | 3.95 ppm   | 50 mL       | 4000 µg/L    | 1   | 300 | 1000 | 98    | <1    | 10/31/17 21:55:05 | N   | IV   |
| <1710862-007 | Calcium, Dissolved   | N/A |               | Water  | 0.01 ppm   | 50 mL       | 1000 µg/L U  | 1   | 400 | 1000 |       |       | 10/31/17 22:11:40 | N   | IV   |
| <1710862-007 | Lead, Dissolved      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 4   | 10   |       |       | 10/31/17 22:11:40 | N   | IV   |
| <1710862-007 | Magnesium, Dissolved | N/A |               | Water  | 0.00 ppm   | 50 mL       | 1000 µg/L U  | 1   | 300 | 1000 |       |       | 10/31/17 22:11:40 | N   | IV   |
| <1710862-008 | Calcium, Dissolved   | N/A |               | Water  | 4.35 ppm   | 50 mL       | 4400 µg/L    | 1   | 400 | 1000 |       |       | 10/31/17 22:14:59 | N   | IV   |
| <1710862-008 | Lead, Dissolved      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 4   | 10   |       |       | 10/31/17 22:14:59 | N   | IV   |
| <1710862-008 | Magnesium, Dissolved | N/A |               | Water  | 2.17 ppm   | 50 mL       | 2200 µg/L    | 1   | 300 | 1000 |       |       | 10/31/17 22:14:59 | N   | IV   |
| <1710862-009 | Calcium, Dissolved   | N/A |               | Water  | 4.37 ppm   | 50 mL       | 4400 µg/L    | 1   | 400 | 1000 |       |       | 10/31/17 22:18:18 | N   | IV   |
| <1710862-009 | Lead, Dissolved      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 4   | 10   |       |       | 10/31/17 22:18:18 | N   | IV   |
| <1710862-009 | Magnesium, Dissolved | N/A |               | Water  | 2.18 ppm   | 50 mL       | 2200 µg/L    | 1   | 300 | 1000 |       |       | 10/31/17 22:18:18 | N   | IV   |
| <1710862-010 | Calcium, Dissolved   | N/A |               | Water  | 4.34 ppm   | 50 mL       | 4300 µg/L    | 1   | 400 | 1000 |       |       | 10/31/17 22:21:38 | N   | IV   |
| <1710862-010 | Lead, Dissolved      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 4   | 10   |       |       | 10/31/17 22:21:38 | N   | IV   |
| <1710862-010 | Magnesium, Dissolved | N/A |               | Water  | 2.15 ppm   | 50 mL       | 2200 µg/L    | 1   | 300 | 1000 |       |       | 10/31/17 22:21:38 | N   | IV   |
| <1710862-001 | Lead, Total          | N/A |               | Water  | 0.01 ppm   | 50 mL       | 7 µg/L J     | 1   | 4   | 10   |       |       | 10/31/17 22:24:56 | N   | IV   |
| <1710862-002 | Lead, Total          | N/A |               | Water  | 0.01 ppm   | 50 mL       | 7 µg/L J     | 1   | 4   | 10   |       |       | 10/31/17 22:28:16 | N   | IV   |
| <1710862-006 | Lead, Total          | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 4   | 10   |       |       | 10/31/17 22:31:35 | N   | IV   |
| RQ1711245-03 | Lead, Total          | MS  | K1710862-006  | Water  | 0.51 ppm   | 50 mL       | 509 µg/L     | 1   | 4   | 10   | 102   |       | 10/31/17 22:34:53 | N   | IV   |
| RQ1711245-04 | Lead, Total          | DMS | K1710862-006  | Water  | 0.51 ppm   | 50 mL       | 510 µg/L     | 1   | 4   | 10   | 102   | <1    | 10/31/17 22:44:50 | N   | IV   |
| <1710862-014 | Lead, Total          | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 4   | 10   |       |       | 10/31/17 22:54:48 | N   | IV   |

† indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

# Analytical Results Summary

Instrument Name: R-ICP-AES-06

Analyst: NMANSEN

Analysis Lot: 568345 Method/Testcode: 6010C/Al D

| Lab Code     | Target Analytes      | QC | Parent Sample | Matrix | Raw Result | Sample Amt. | Final Result | Dil | MDL | PQL  | % Rec | % RSD | Date Analyzed     | QC? | Tier |
|--------------|----------------------|----|---------------|--------|------------|-------------|--------------|-----|-----|------|-------|-------|-------------------|-----|------|
| RQ1711248-01 | Aluminum, Dissolved  | MB |               | Water  | 0.01 ppm   | 50 mL       | 100 µg/L U   | 1   | 100 | 100  |       |       | 10/31/17 23:21:22 | N   | II   |
| RQ1711248-01 | Aluminum, Total      | MB |               | Water  | 0.01 ppm   | 50 mL       | 100 µg/L U   | 1   | 100 | 100  |       |       | 10/31/17 23:21:22 | N   | II   |
| RQ1711248-01 | Antimony, Dissolved  | MB |               | Water  | 0.00 ppm   | 50 mL       | 60 µg/L U    | 1   | 8   | 60   |       |       | 10/31/17 23:21:22 | N   | II   |
| RQ1711248-01 | Antimony, Total      | MB |               | Water  | 0.00 ppm   | 50 mL       | 60 µg/L U    | 1   | 8   | 60   |       |       | 10/31/17 23:21:22 | N   | II   |
| RQ1711248-01 | Arsenic, Dissolved   | MB |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 4   | 10   |       |       | 10/31/17 23:21:22 | N   | II   |
| RQ1711248-01 | Arsenic, Total       | MB |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 4   | 10   |       |       | 10/31/17 23:21:22 | N   | II   |
| RQ1711248-01 | Barium, Dissolved    | MB |               | Water  | 0.00 ppm   | 50 mL       | 20 µg/L U    | 1   | 13  | 20   |       |       | 10/31/17 23:21:22 | N   | II   |
| RQ1711248-01 | Barium, Total        | MB |               | Water  | 0.00 ppm   | 50 mL       | 20 µg/L U    | 1   | 13  | 20   |       |       | 10/31/17 23:21:22 | N   | II   |
| RQ1711248-01 | Beryllium, Dissolved | MB |               | Water  | 0.00 ppm   | 50 mL       | 3.0 µg/L U   | 1   | 0.7 | 3.0  |       |       | 10/31/17 23:21:22 | N   | II   |
| RQ1711248-01 | Beryllium, Total     | MB |               | Water  | 0.00 ppm   | 50 mL       | 3.0 µg/L U   | 1   | 0.7 | 3.0  |       |       | 10/31/17 23:21:22 | N   | II   |
| RQ1711248-01 | Boron, Total         | MB |               | Water  | 0.00 ppm   | 50 mL       | 200 µg/L U   | 1   | 80  | 200  |       |       | 10/31/17 23:21:22 | N   | II   |
| RQ1711248-01 | Cadmium, Dissolved   | MB |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 0.9 | 5.0  |       |       | 10/31/17 23:21:22 | N   | II   |
| RQ1711248-01 | Cadmium, Total       | MB |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 0.9 | 5.0  |       |       | 10/31/17 23:21:22 | N   | II   |
| RQ1711248-01 | Calcium, Dissolved   | MB |               | Water  | 0.04 ppm   | 50 mL       | 1000 µg/L U  | 1   | 400 | 1000 |       |       | 10/31/17 23:21:22 | N   | II   |
| RQ1711248-01 | Calcium, Total       | MB |               | Water  | 0.04 ppm   | 50 mL       | 1000 µg/L U  | 1   | 400 | 1000 |       |       | 10/31/17 23:21:22 | N   | II   |
| RQ1711248-01 | Chromium, Dissolved  | MB |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 3   | 10   |       |       | 10/31/17 23:21:22 | N   | II   |
| RQ1711248-01 | Chromium, Total      | MB |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 3   | 10   |       |       | 10/31/17 23:21:22 | N   | II   |
| RQ1711248-01 | Cobalt, Dissolved    | MB |               | Water  | 0.00 ppm   | 50 mL       | 50 µg/L U    | 1   | 3   | 50   |       |       | 10/31/17 23:21:22 | N   | II   |
| RQ1711248-01 | Cobalt, Total        | MB |               | Water  | 0.00 ppm   | 50 mL       | 50 µg/L U    | 1   | 3   | 50   |       |       | 10/31/17 23:21:22 | N   | II   |
| RQ1711248-01 | Copper, Dissolved    | MB |               | Water  | 0.00 ppm   | 50 mL       | 20 µg/L U    | 1   | 10  | 20   |       |       | 10/31/17 23:21:22 | N   | II   |
| RQ1711248-01 | Copper, Total        | MB |               | Water  | 0.00 ppm   | 50 mL       | 20 µg/L U    | 1   | 10  | 20   |       |       | 10/31/17 23:21:22 | N   | II   |
| RQ1711248-01 | Iron, Dissolved      | MB |               | Water  | 0.00 ppm   | 50 mL       | 100 µg/L U   | 1   | 80  | 100  |       |       | 10/31/17 23:21:22 | N   | II   |
| RQ1711248-01 | Iron, Total          | MB |               | Water  | 0.00 ppm   | 50 mL       | 100 µg/L U   | 1   | 80  | 100  |       |       | 10/31/17 23:21:22 | N   | II   |
| RQ1711248-01 | Lead, Dissolved      | MB |               | Water  | 0.00 ppm   | 50 mL       | 50 µg/L U    | 1   | 4   | 50   |       |       | 10/31/17 23:21:22 | N   | II   |
| RQ1711248-01 | Lead, Total          | MB |               | Water  | 0.00 ppm   | 50 mL       | 50 µg/L U    | 1   | 4   | 50   |       |       | 10/31/17 23:21:22 | N   | II   |
| RQ1711248-01 | Magnesium, Dissolved | MB |               | Water  | 0.00 ppm   | 50 mL       | 1000 µg/L U  | 1   | 300 | 1000 |       |       | 10/31/17 23:21:22 | N   | II   |
| RQ1711248-01 | Magnesium, Total     | MB |               | Water  | 0.00 ppm   | 50 mL       | 1000 µg/L U  | 1   | 300 | 1000 |       |       | 10/31/17 23:21:22 | N   | II   |
| RQ1711248-01 | Nickel, Dissolved    | MB |               | Water  | 0.00 ppm   | 50 mL       | 40 µg/L U    | 1   | 9   | 40   |       |       | 10/31/17 23:21:22 | N   | II   |
| RQ1711248-01 | Nickel, Total        | MB |               | Water  | 0.00 ppm   | 50 mL       | 40 µg/L U    | 1   | 9   | 40   |       |       | 10/31/17 23:21:22 | N   | II   |
| RQ1711248-01 | Potassium, Dissolved | MB |               | Water  | 0.12 ppm   | 50 mL       | 2000 µg/L U  | 1   | 300 | 2000 |       |       | 10/31/17 23:21:22 | N   | II   |
| RQ1711248-01 | Potassium, Total     | MB |               | Water  | 0.12 ppm   | 50 mL       | 2000 µg/L U  | 1   | 300 | 2000 |       |       | 10/31/17 23:21:22 | N   | II   |
| RQ1711248-01 | Selenium, Dissolved  | MB |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 4   | 10   |       |       | 10/31/17 23:21:22 | N   | II   |
| RQ1711248-01 | Selenium, Total      | MB |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 4   | 10   |       |       | 10/31/17 23:21:22 | N   | II   |
| RQ1711248-01 | Silver, Dissolved    | MB |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 2   | 10   |       |       | 10/31/17 23:21:22 | N   | II   |
| RQ1711248-01 | Silver, Total        | MB |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 2   | 10   |       |       | 10/31/17 23:21:22 | N   | II   |
| RQ1711248-01 | Sodium, Dissolved    | MB |               | Water  | 0.02 ppm   | 50 mL       | 1000 µg/L U  | 1   | 400 | 1000 |       |       | 10/31/17 23:21:22 | N   | II   |

† indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

# Analytical Results Summary

Instrument Name: R-ICP-AES-06

Analyst: NMANSEN

Analysis Lot: 568345 Method/Testcode: 6010C/Na T

| Lab Code     | Target Analytes      | QC  | Parent Sample | Matrix | Raw Result | Sample Amt. | Final Result | Dil | MDL | PQL  | % Rec | % RSD | Date Analyzed     | QC? | Tier |
|--------------|----------------------|-----|---------------|--------|------------|-------------|--------------|-----|-----|------|-------|-------|-------------------|-----|------|
| RQ1711248-01 | Sodium, Total        | MB  |               | Water  | 0.02 ppm   | 50 mL       | 1000 µg/L U  | 1   | 400 | 1000 |       |       | 10/31/17 23:21:22 | N   | II   |
| RQ1711248-01 | Thallium, Dissolved  | MB  |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 6   | 10   |       |       | 10/31/17 23:21:22 | N   | II   |
| RQ1711248-01 | Thallium, Total      | MB  |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 6   | 10   |       |       | 10/31/17 23:21:22 | N   | II   |
| RQ1711248-01 | Vanadium, Dissolved  | MB  |               | Water  | 0.00 ppm   | 50 mL       | 50 µg/L U    | 1   | 3   | 50   |       |       | 10/31/17 23:21:22 | N   | II   |
| RQ1711248-01 | Vanadium, Total      | MB  |               | Water  | 0.00 ppm   | 50 mL       | 50 µg/L U    | 1   | 3   | 50   |       |       | 10/31/17 23:21:22 | N   | II   |
| RQ1711248-01 | Zinc, Dissolved      | MB  |               | Water  | 0.01 ppm   | 50 mL       | 20 µg/L U    | 1   | 7   | 20   |       |       | 10/31/17 23:21:22 | N   | II   |
| RQ1711248-01 | Zinc, Total          | MB  |               | Water  | 0.01 ppm   | 50 mL       | 20 µg/L U    | 1   | 7   | 20   |       |       | 10/31/17 23:21:22 | N   | II   |
| RQ1711248-02 | Aluminum, Dissolved  | LCS |               | Water  | 1.81 ppm   | 50 mL       | 1810 µg/L    | 1   | 100 | 100  | 90    |       | 10/31/17 23:24:41 | N   | II   |
| RQ1711248-02 | Aluminum, Total      | LCS |               | Water  | 1.81 ppm   | 50 mL       | 1810 µg/L    | 1   | 100 | 100  | 90    |       | 10/31/17 23:24:41 | N   | II   |
| RQ1711248-02 | Antimony, Dissolved  | LCS |               | Water  | 0.49 ppm   | 50 mL       | 485 µg/L     | 1   | 8   | 60   | 97    |       | 10/31/17 23:24:41 | N   | II   |
| RQ1711248-02 | Antimony, Total      | LCS |               | Water  | 0.49 ppm   | 50 mL       | 485 µg/L     | 1   | 8   | 60   | 97    |       | 10/31/17 23:24:41 | N   | II   |
| RQ1711248-02 | Arsenic, Dissolved   | LCS |               | Water  | 0.04 ppm   | 50 mL       | 37.7 µg/L    | 1   | 4   | 10   | 94    |       | 10/31/17 23:24:41 | N   | II   |
| RQ1711248-02 | Arsenic, Total       | LCS |               | Water  | 0.04 ppm   | 50 mL       | 37.7 µg/L    | 1   | 4   | 10   | 94    |       | 10/31/17 23:24:41 | N   | II   |
| RQ1711248-02 | Barium, Dissolved    | LCS |               | Water  | 2.04 ppm   | 50 mL       | 2040 µg/L    | 1   | 13  | 20   | 102   |       | 10/31/17 23:24:41 | N   | II   |
| RQ1711248-02 | Barium, Total        | LCS |               | Water  | 2.04 ppm   | 50 mL       | 2040 µg/L    | 1   | 13  | 20   | 102   |       | 10/31/17 23:24:41 | N   | II   |
| RQ1711248-02 | Beryllium, Dissolved | LCS |               | Water  | 0.05 ppm   | 50 mL       | 49.4 µg/L    | 1   | 0.7 | 3.0  | 99    |       | 10/31/17 23:24:41 | N   | II   |
| RQ1711248-02 | Beryllium, Total     | LCS |               | Water  | 0.05 ppm   | 50 mL       | 49.4 µg/L    | 1   | 0.7 | 3.0  | 99    |       | 10/31/17 23:24:41 | N   | II   |
| RQ1711248-02 | Boron, Total         | LCS |               | Water  | 0.95 ppm   | 50 mL       | 950 µg/L     | 1   | 80  | 200  | 95    |       | 10/31/17 23:24:41 | N   | II   |
| RQ1711248-02 | Cadmium, Dissolved   | LCS |               | Water  | 0.05 ppm   | 50 mL       | 50.8 µg/L    | 1   | 0.9 | 5.0  | 102   |       | 10/31/17 23:24:41 | N   | II   |
| RQ1711248-02 | Cadmium, Total       | LCS |               | Water  | 0.05 ppm   | 50 mL       | 50.8 µg/L    | 1   | 0.9 | 5.0  | 102   |       | 10/31/17 23:24:41 | N   | II   |
| RQ1711248-02 | Calcium, Dissolved   | LCS |               | Water  | 1.90 ppm   | 50 mL       | 1900 µg/L    | 1   | 400 | 1000 | 95    |       | 10/31/17 23:24:41 | N   | II   |
| RQ1711248-02 | Calcium, Total       | LCS |               | Water  | 1.90 ppm   | 50 mL       | 1900 µg/L    | 1   | 400 | 1000 | 95    |       | 10/31/17 23:24:41 | N   | II   |
| RQ1711248-02 | Chromium, Dissolved  | LCS |               | Water  | 0.20 ppm   | 50 mL       | 197 µg/L     | 1   | 3   | 10   | 98    |       | 10/31/17 23:24:41 | N   | II   |
| RQ1711248-02 | Chromium, Total      | LCS |               | Water  | 0.20 ppm   | 50 mL       | 197 µg/L     | 1   | 3   | 10   | 98    |       | 10/31/17 23:24:41 | N   | II   |
| RQ1711248-02 | Cobalt, Dissolved    | LCS |               | Water  | 0.51 ppm   | 50 mL       | 507 µg/L     | 1   | 3   | 50   | 101   |       | 10/31/17 23:24:41 | N   | II   |
| RQ1711248-02 | Cobalt, Total        | LCS |               | Water  | 0.51 ppm   | 50 mL       | 507 µg/L     | 1   | 3   | 50   | 101   |       | 10/31/17 23:24:41 | N   | II   |
| RQ1711248-02 | Copper, Dissolved    | LCS |               | Water  | 0.24 ppm   | 50 mL       | 236 µg/L     | 1   | 10  | 20   | 94    |       | 10/31/17 23:24:41 | N   | II   |
| RQ1711248-02 | Copper, Total        | LCS |               | Water  | 0.24 ppm   | 50 mL       | 236 µg/L     | 1   | 10  | 20   | 94    |       | 10/31/17 23:24:41 | N   | II   |
| RQ1711248-02 | Iron, Dissolved      | LCS |               | Water  | 0.97 ppm   | 50 mL       | 967 µg/L     | 1   | 80  | 100  | 97    |       | 10/31/17 23:24:41 | N   | II   |
| RQ1711248-02 | Iron, Total          | LCS |               | Water  | 0.97 ppm   | 50 mL       | 967 µg/L     | 1   | 80  | 100  | 97    |       | 10/31/17 23:24:41 | N   | II   |
| RQ1711248-02 | Lead, Dissolved      | LCS |               | Water  | 0.51 ppm   | 50 mL       | 510 µg/L     | 1   | 4   | 50   | 102   |       | 10/31/17 23:24:41 | N   | II   |
| RQ1711248-02 | Lead, Total          | LCS |               | Water  | 0.51 ppm   | 50 mL       | 510 µg/L     | 1   | 4   | 50   | 102   |       | 10/31/17 23:24:41 | N   | II   |
| RQ1711248-02 | Magnesium, Dissolved | LCS |               | Water  | 1.98 ppm   | 50 mL       | 1980 µg/L    | 1   | 300 | 1000 | 99    |       | 10/31/17 23:24:41 | N   | II   |
| RQ1711248-02 | Magnesium, Total     | LCS |               | Water  | 1.98 ppm   | 50 mL       | 1980 µg/L    | 1   | 300 | 1000 | 99    |       | 10/31/17 23:24:41 | N   | II   |
| RQ1711248-02 | Nickel, Dissolved    | LCS |               | Water  | 0.50 ppm   | 50 mL       | 504 µg/L     | 1   | 9   | 40   | 101   |       | 10/31/17 23:24:41 | N   | II   |
| RQ1711248-02 | Nickel, Total        | LCS |               | Water  | 0.50 ppm   | 50 mL       | 504 µg/L     | 1   | 9   | 40   | 101   |       | 10/31/17 23:24:41 | N   | II   |

† indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

# Analytical Results Summary

Instrument Name: R-ICP-AES-06

Analyst: NMANSEN

Analysis Lot: 568345 Method/Testcode: 6010C/K D

| Lab Code     | Target Analytes      | QC  | Parent Sample | Matrix | Raw Result | Sample Amt. | Final Result | Dil | MDL | PQL  | % Rec | % RSD | Date Analyzed     | QC? | Tier |
|--------------|----------------------|-----|---------------|--------|------------|-------------|--------------|-----|-----|------|-------|-------|-------------------|-----|------|
| RQ1711248-02 | Potassium, Dissolved | LCS |               | Water  | 18.73 ppm  | 50 mL       | 18700 µg/L   | 1   | 300 | 2000 | 94    |       | 10/31/17 23:24:41 | N   | II   |
| RQ1711248-02 | Potassium, Total     | LCS |               | Water  | 18.73 ppm  | 50 mL       | 18700 µg/L   | 1   | 300 | 2000 | 94    |       | 10/31/17 23:24:41 | N   | II   |
| RQ1711248-02 | Selenium, Dissolved  | LCS |               | Water  | 1.05 ppm   | 50 mL       | 1050 µg/L    | 1   | 4   | 10   | 104   |       | 10/31/17 23:24:41 | N   | II   |
| RQ1711248-02 | Selenium, Total      | LCS |               | Water  | 1.05 ppm   | 50 mL       | 1050 µg/L    | 1   | 4   | 10   | 104   |       | 10/31/17 23:24:41 | N   | II   |
| RQ1711248-02 | Silver, Dissolved    | LCS |               | Water  | 0.05 ppm   | 50 mL       | 48.6 µg/L    | 1   | 2   | 10   | 97    |       | 10/31/17 23:24:41 | N   | II   |
| RQ1711248-02 | Silver, Total        | LCS |               | Water  | 0.05 ppm   | 50 mL       | 48.6 µg/L    | 1   | 2   | 10   | 97    |       | 10/31/17 23:24:41 | N   | II   |
| RQ1711248-02 | Sodium, Dissolved    | LCS |               | Water  | 18.95 ppm  | 50 mL       | 19000 µg/L   | 1   | 400 | 1000 | 95    |       | 10/31/17 23:24:41 | N   | II   |
| RQ1711248-02 | Sodium, Total        | LCS |               | Water  | 18.95 ppm  | 50 mL       | 19000 µg/L   | 1   | 400 | 1000 | 95    |       | 10/31/17 23:24:41 | N   | II   |
| RQ1711248-02 | Thallium, Dissolved  | LCS |               | Water  | 1.82 ppm   | 50 mL       | 1820 µg/L    | 1   | 6   | 10   | 91    |       | 10/31/17 23:24:41 | N   | II   |
| RQ1711248-02 | Thallium, Total      | LCS |               | Water  | 1.82 ppm   | 50 mL       | 1820 µg/L    | 1   | 6   | 10   | 91    |       | 10/31/17 23:24:41 | N   | II   |
| RQ1711248-02 | Vanadium, Dissolved  | LCS |               | Water  | 0.49 ppm   | 50 mL       | 490 µg/L     | 1   | 3   | 50   | 98    |       | 10/31/17 23:24:41 | N   | II   |
| RQ1711248-02 | Vanadium, Total      | LCS |               | Water  | 0.49 ppm   | 50 mL       | 490 µg/L     | 1   | 3   | 50   | 98    |       | 10/31/17 23:24:41 | N   | II   |
| RQ1711248-02 | Zinc, Dissolved      | LCS |               | Water  | 0.51 ppm   | 50 mL       | 508 µg/L     | 1   | 7   | 20   | 102   |       | 10/31/17 23:24:41 | N   | II   |
| RQ1711248-02 | Zinc, Total          | LCS |               | Water  | 0.51 ppm   | 50 mL       | 508 µg/L     | 1   | 7   | 20   | 102   |       | 10/31/17 23:24:41 | N   | II   |
| R1710054-001 | Aluminum, Total      | N/A |               | Water  | 0.03 ppm   | 50 mL       | 100 µg/L U   | 1   | 100 | 100  |       |       | 10/31/17 23:28:00 | N   | II   |
| R1710054-001 | Antimony, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 8   | 10   |       |       | 10/31/17 23:28:00 | N   | II   |
| R1710054-001 | Arsenic, Total       | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 4   | 10   |       |       | 10/31/17 23:28:00 | N   | II   |
| R1710054-001 | Barium, Total        | N/A |               | Water  | 0.07 ppm   | 50 mL       | 72 µg/L      | 1   | 13  | 20   |       |       | 10/31/17 23:28:00 | N   | II   |
| R1710054-001 | Beryllium, Total     | N/A |               | Water  | 0.00 ppm   | 50 mL       | 3.0 µg/L U   | 1   | 0.7 | 3.0  |       |       | 10/31/17 23:28:00 | N   | II   |
| R1710054-001 | Boron, Total         | N/A |               | Water  | 0.04 ppm   | 50 mL       | 200 µg/L U   | 1   | 80  | 200  |       |       | 10/31/17 23:28:00 | N   | II   |
| R1710054-001 | Cadmium, Total       | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 0.9 | 5.0  |       |       | 10/31/17 23:28:00 | N   | II   |
| R1710054-001 | Calcium, Total       | N/A |               | Water  | 34.70 ppm  | 50 mL       | 34700 µg/L   | 1   | 400 | 1000 |       |       | 10/31/17 23:28:00 | N   | II   |
| R1710054-001 | Chromium, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 3   | 10   |       |       | 10/31/17 23:28:00 | N   | II   |
| R1710054-001 | Cobalt, Total        | N/A |               | Water  | 0.00 ppm   | 50 mL       | 50 µg/L U    | 1   | 3   | 50   |       |       | 10/31/17 23:28:00 | N   | II   |
| R1710054-001 | Copper, Total        | N/A |               | Water  | 0.00 ppm   | 50 mL       | 20 µg/L U    | 1   | 10  | 20   |       |       | 10/31/17 23:28:00 | N   | II   |
| R1710054-001 | Iron, Total          | N/A |               | Water  | 0.07 ppm   | 50 mL       | 100 µg/L U   | 1   | 80  | 100  |       |       | 10/31/17 23:28:00 | N   | II   |
| R1710054-001 | Lead, Total          | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 3.6 | 5.0  |       |       | 10/31/17 23:28:00 | N   | II   |
| R1710054-001 | Magnesium, Total     | N/A |               | Water  | 19.46 ppm  | 50 mL       | 19500 µg/L   | 1   | 300 | 1000 |       |       | 10/31/17 23:28:00 | N   | II   |
| R1710054-001 | Nickel, Total        | N/A |               | Water  | 0.00 ppm   | 50 mL       | 40 µg/L U    | 1   | 9   | 40   |       |       | 10/31/17 23:28:00 | N   | II   |
| R1710054-001 | Potassium, Total     | N/A |               | Water  | 3.88 ppm   | 50 mL       | 3900 µg/L    | 1   | 300 | 2000 |       |       | 10/31/17 23:28:00 | N   | II   |
| R1710054-001 | Selenium, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 4   | 10   |       |       | 10/31/17 23:28:00 | N   | II   |
| R1710054-001 | Silver, Total        | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 2   | 10   |       |       | 10/31/17 23:28:00 | N   | II   |
| R1710054-001 | Sodium, Total        | N/A |               | Water  | 45.46 ppm  | 50 mL       | 45500 µg/L   | 1   | 400 | 1000 |       |       | 10/31/17 23:28:00 | N   | II   |
| R1710054-001 | Thallium, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 6   | 10   |       |       | 10/31/17 23:28:00 | N   | II   |
| R1710054-001 | Vanadium, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 50 µg/L U    | 1   | 3   | 50   |       |       | 10/31/17 23:28:00 | N   | II   |
| R1710054-001 | Zinc, Total          | N/A |               | Water  | 0.01 ppm   | 50 mL       | 10 µg/L U    | 1   | 7   | 10   |       |       | 10/31/17 23:28:00 | N   | II   |

U indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

# Analytical Results Summary

Instrument Name: R-ICP-AES-06

Analyst: NMANSEN

Analysis Lot: 568345

Method/Testcode: 6010C/AIT

| Lab Code     | Target Analytes  | QC  | Parent Sample | Matrix | Raw Result | Sample Amt. | Final Result | Dil | MDL | PQL  | % Rec | % RSD | Date Analyzed     | QC? | Tier |
|--------------|------------------|-----|---------------|--------|------------|-------------|--------------|-----|-----|------|-------|-------|-------------------|-----|------|
| RQ1711248-03 | Aluminum, Total  | MS  | R1710054-001  | Water  | 1.94 ppm   | 50 mL       | 1940 µg/L    | 1   | 100 | 100  | 97    |       | 10/31/17 23:31:19 | N   | II   |
| RQ1711248-03 | Antimony, Total  | MS  | R1710054-001  | Water  | 0.51 ppm   | 50 mL       | 506 µg/L     | 1   | 8   | 60   | 101   |       | 10/31/17 23:31:19 | N   | II   |
| RQ1711248-03 | Arsenic, Total   | MS  | R1710054-001  | Water  | 0.04 ppm   | 50 mL       | 42 µg/L      | 1   | 4   | 10   | 104   |       | 10/31/17 23:31:19 | N   | II   |
| RQ1711248-03 | Barium, Total    | MS  | R1710054-001  | Water  | 2.09 ppm   | 50 mL       | 2090 µg/L    | 1   | 13  | 20   | 101   |       | 10/31/17 23:31:19 | N   | II   |
| RQ1711248-03 | Beryllium, Total | MS  | R1710054-001  | Water  | 0.05 ppm   | 50 mL       | 50.4 µg/L    | 1   | 0.7 | 3.0  | 101   |       | 10/31/17 23:31:19 | N   | II   |
| RQ1711248-03 | Boron, Total     | MS  | R1710054-001  | Water  | 1.01 ppm   | 50 mL       | 1010 µg/L    | 1   | 80  | 200  | 101   |       | 10/31/17 23:31:19 | N   | II   |
| RQ1711248-03 | Cadmium, Total   | MS  | R1710054-001  | Water  | 0.05 ppm   | 50 mL       | 50.6 µg/L    | 1   | 0.9 | 5.0  | 101   |       | 10/31/17 23:31:19 | N   | II   |
| RQ1711248-03 | Calcium, Total   | MS  | R1710054-001  | Water  | 37.62 ppm  | 50 mL       | 37600 µg/L   | 1   | 400 | 1000 | 146*  |       | 10/31/17 23:31:19 | N   | II   |
| RQ1711248-03 | Chromium, Total  | MS  | R1710054-001  | Water  | 0.20 ppm   | 50 mL       | 198 µg/L     | 1   | 3   | 10   | 99    |       | 10/31/17 23:31:19 | N   | II   |
| RQ1711248-03 | Cobalt, Total    | MS  | R1710054-001  | Water  | 0.50 ppm   | 50 mL       | 504 µg/L     | 1   | 3   | 50   | 101   |       | 10/31/17 23:31:19 | N   | II   |
| RQ1711248-03 | Copper, Total    | MS  | R1710054-001  | Water  | 0.24 ppm   | 50 mL       | 242 µg/L     | 1   | 10  | 20   | 97    |       | 10/31/17 23:31:19 | N   | II   |
| RQ1711248-03 | Iron, Total      | MS  | R1710054-001  | Water  | 1.04 ppm   | 50 mL       | 1040 µg/L    | 1   | 80  | 100  | 104   |       | 10/31/17 23:31:19 | N   | II   |
| RQ1711248-03 | Lead, Total      | MS  | R1710054-001  | Water  | 0.50 ppm   | 50 mL       | 502 µg/L     | 1   | 4   | 50   | 100   |       | 10/31/17 23:31:19 | N   | II   |
| RQ1711248-03 | Magnesium, Total | MS  | R1710054-001  | Water  | 21.69 ppm  | 50 mL       | 21700 µg/L   | 1   | 300 | 1000 | 111   |       | 10/31/17 23:31:19 | N   | II   |
| RQ1711248-03 | Nickel, Total    | MS  | R1710054-001  | Water  | 0.50 ppm   | 50 mL       | 496 µg/L     | 1   | 9   | 40   | 99    |       | 10/31/17 23:31:19 | N   | II   |
| RQ1711248-03 | Potassium, Total | MS  | R1710054-001  | Water  | 23.80 ppm  | 50 mL       | 23800 µg/L   | 1   | 300 | 2000 | 100   |       | 10/31/17 23:31:19 | N   | II   |
| RQ1711248-03 | Selenium, Total  | MS  | R1710054-001  | Water  | 1.08 ppm   | 50 mL       | 1080 µg/L    | 1   | 4   | 10   | 107   |       | 10/31/17 23:31:19 | N   | II   |
| RQ1711248-03 | Silver, Total    | MS  | R1710054-001  | Water  | 0.05 ppm   | 50 mL       | 50 µg/L      | 1   | 2   | 10   | 99    |       | 10/31/17 23:31:19 | N   | II   |
| RQ1711248-03 | Sodium, Total    | MS  | R1710054-001  | Water  | 65.06 ppm  | 50 mL       | 65100 µg/L   | 1   | 400 | 1000 | 98    |       | 10/31/17 23:31:19 | N   | II   |
| RQ1711248-03 | Thallium, Total  | MS  | R1710054-001  | Water  | 1.91 ppm   | 50 mL       | 1910 µg/L    | 1   | 6   | 10   | 95    |       | 10/31/17 23:31:19 | N   | II   |
| RQ1711248-03 | Vanadium, Total  | MS  | R1710054-001  | Water  | 0.50 ppm   | 50 mL       | 499 µg/L     | 1   | 3   | 50   | 100   |       | 10/31/17 23:31:19 | N   | II   |
| RQ1711248-03 | Zinc, Total      | MS  | R1710054-001  | Water  | 0.51 ppm   | 50 mL       | 508 µg/L     | 1   | 7   | 20   | 102   |       | 10/31/17 23:31:19 | N   | II   |
| RQ1711248-04 | Aluminum, Total  | DMS | R1710054-001  | Water  | 1.92 ppm   | 50 mL       | 1920 µg/L    | 1   | 100 | 100  | 96    | <1    | 10/31/17 23:34:38 | N   | II   |
| RQ1711248-04 | Antimony, Total  | DMS | R1710054-001  | Water  | 0.50 ppm   | 50 mL       | 501 µg/L     | 1   | 8   | 60   | 100   | 1     | 10/31/17 23:34:38 | N   | II   |
| RQ1711248-04 | Arsenic, Total   | DMS | R1710054-001  | Water  | 0.04 ppm   | 50 mL       | 40 µg/L      | 1   | 4   | 10   | 100   | 3     | 10/31/17 23:34:38 | N   | II   |
| RQ1711248-04 | Barium, Total    | DMS | R1710054-001  | Water  | 2.08 ppm   | 50 mL       | 2080 µg/L    | 1   | 13  | 20   | 101   | <1    | 10/31/17 23:34:38 | N   | II   |
| RQ1711248-04 | Beryllium, Total | DMS | R1710054-001  | Water  | 0.05 ppm   | 50 mL       | 50.1 µg/L    | 1   | 0.7 | 3.0  | 100   | <1    | 10/31/17 23:34:38 | N   | II   |
| RQ1711248-04 | Boron, Total     | DMS | R1710054-001  | Water  | 1.01 ppm   | 50 mL       | 1010 µg/L    | 1   | 80  | 200  | 101   | <1    | 10/31/17 23:34:38 | N   | II   |
| RQ1711248-04 | Cadmium, Total   | DMS | R1710054-001  | Water  | 0.05 ppm   | 50 mL       | 50.4 µg/L    | 1   | 0.9 | 5.0  | 101   | <1    | 10/31/17 23:34:38 | N   | II   |
| RQ1711248-04 | Calcium, Total   | DMS | R1710054-001  | Water  | 36.73 ppm  | 50 mL       | 36700 µg/L   | 1   | 400 | 1000 | 102   | 2     | 10/31/17 23:34:38 | N   | II   |
| RQ1711248-04 | Chromium, Total  | DMS | R1710054-001  | Water  | 0.20 ppm   | 50 mL       | 197 µg/L     | 1   | 3   | 10   | 98    | <1    | 10/31/17 23:34:38 | N   | II   |
| RQ1711248-04 | Cobalt, Total    | DMS | R1710054-001  | Water  | 0.50 ppm   | 50 mL       | 502 µg/L     | 1   | 3   | 50   | 100   | <1    | 10/31/17 23:34:38 | N   | II   |
| RQ1711248-04 | Copper, Total    | DMS | R1710054-001  | Water  | 0.24 ppm   | 50 mL       | 240 µg/L     | 1   | 10  | 20   | 96    | <1    | 10/31/17 23:34:38 | N   | II   |
| RQ1711248-04 | Iron, Total      | DMS | R1710054-001  | Water  | 1.03 ppm   | 50 mL       | 1030 µg/L    | 1   | 80  | 100  | 103   | <1    | 10/31/17 23:34:38 | N   | II   |
| RQ1711248-04 | Lead, Total      | DMS | R1710054-001  | Water  | 0.50 ppm   | 50 mL       | 501 µg/L     | 1   | 4   | 50   | 100   | <1    | 10/31/17 23:34:38 | N   | II   |
| RQ1711248-04 | Magnesium, Total | DMS | R1710054-001  | Water  | 21.21 ppm  | 50 mL       | 21200 µg/L   | 1   | 300 | 1000 | 88    | 2     | 10/31/17 23:34:38 | N   | II   |

*Handwritten note:* 10/31/17

\* indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

# Analytical Results Summary

Instrument Name: R-ICP-AES-06

Analyst: NMANSEN

Analysis Lot: 568345 Method/Testcode: 6010C/Ni T

| Lab Code     | Target Analytes  | QC  | Parent Sample | Matrix | Raw Result | Sample Amt. | Final Result | Dil | MDL | PQL  | % Rec | % RSD | Date Analyzed     | QC? | Tier |
|--------------|------------------|-----|---------------|--------|------------|-------------|--------------|-----|-----|------|-------|-------|-------------------|-----|------|
| RQ1711248-04 | Nickel, Total    | DMS | R1710054-001  | Water  | 0.49 ppm   | 50 mL       | 494 µg/L     | 1   | 9   | 40   | 99    | <1    | 10/31/17 23:34:38 | N   | II   |
| RQ1711248-04 | Potassium, Total | DMS | R1710054-001  | Water  | 23.55 ppm  | 50 mL       | 23600 µg/L   | 1   | 300 | 2000 | 98    | 1     | 10/31/17 23:34:38 | N   | II   |
| RQ1711248-04 | Selenium, Total  | DMS | R1710054-001  | Water  | 1.08 ppm   | 50 mL       | 1080 µg/L    | 1   | 4   | 10   | 107   | <1    | 10/31/17 23:34:38 | N   | II   |
| RQ1711248-04 | Silver, Total    | DMS | R1710054-001  | Water  | 0.05 ppm   | 50 mL       | 49 µg/L      | 1   | 2   | 10   | 99    | <1    | 10/31/17 23:34:38 | N   | II   |
| RQ1711248-04 | Sodium, Total    | DMS | R1710054-001  | Water  | 63.68 ppm  | 50 mL       | 63700 µg/L   | 1   | 400 | 1000 | 91    | 2     | 10/31/17 23:34:38 | N   | II   |
| RQ1711248-04 | Thallium, Total  | DMS | R1710054-001  | Water  | 1.90 ppm   | 50 mL       | 1900 µg/L    | 1   | 6   | 10   | 95    | <1    | 10/31/17 23:34:38 | N   | II   |
| RQ1711248-04 | Vanadium, Total  | DMS | R1710054-001  | Water  | 0.50 ppm   | 50 mL       | 497 µg/L     | 1   | 3   | 50   | 99    | <1    | 10/31/17 23:34:38 | N   | II   |
| RQ1711248-04 | Zinc, Total      | DMS | R1710054-001  | Water  | 0.50 ppm   | 50 mL       | 502 µg/L     | 1   | 7   | 20   | 100   | 1     | 10/31/17 23:34:38 | N   | II   |
| R1710054-002 | Aluminum, Total  | N/A |               | Water  | 0.04 ppm   | 50 mL       | 100 µg/L     | U 1 | 100 | 100  |       |       | 10/31/17 23:44:35 | N   | II   |
| R1710054-002 | Antimony, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L      | U 1 | 8   | 10   |       |       | 10/31/17 23:44:35 | N   | II   |
| R1710054-002 | Arsenic, Total   | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L      | U 1 | 4   | 10   |       |       | 10/31/17 23:44:35 | N   | II   |
| R1710054-002 | Barium, Total    | N/A |               | Water  | 0.04 ppm   | 50 mL       | 36 µg/L      | 1   | 13  | 20   |       |       | 10/31/17 23:44:35 | N   | II   |
| R1710054-002 | Beryllium, Total | N/A |               | Water  | 0.00 ppm   | 50 mL       | 3.0 µg/L     | U 1 | 0.7 | 3.0  |       |       | 10/31/17 23:44:35 | N   | II   |
| R1710054-002 | Boron, Total     | N/A |               | Water  | 0.06 ppm   | 50 mL       | 200 µg/L     | U 1 | 80  | 200  |       |       | 10/31/17 23:44:35 | N   | II   |
| R1710054-002 | Cadmium, Total   | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L     | U 1 | 0.9 | 5.0  |       |       | 10/31/17 23:44:35 | N   | II   |
| R1710054-002 | Calcium, Total   | N/A |               | Water  | 249.32 ppm | 50 mL       | 249000 µg/L  | 1   | 400 | 1000 |       |       | 10/31/17 23:44:35 | N   | II   |
| R1710054-002 | Chromium, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L      | U 1 | 3   | 10   |       |       | 10/31/17 23:44:35 | N   | II   |
| R1710054-002 | Cobalt, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 50 µg/L      | U 1 | 3   | 50   |       |       | 10/31/17 23:44:35 | N   | II   |
| R1710054-002 | Copper, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 20 µg/L      | U 1 | 10  | 20   |       |       | 10/31/17 23:44:35 | N   | II   |
| R1710054-002 | Iron, Total      | N/A |               | Water  | 0.01 ppm   | 50 mL       | 100 µg/L     | U 1 | 80  | 100  |       |       | 10/31/17 23:44:35 | N   | II   |
| R1710054-002 | Lead, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L     | U 1 | 3.6 | 5.0  |       |       | 10/31/17 23:44:35 | N   | II   |
| R1710054-002 | Magnesium, Total | N/A |               | Water  | 36.17 ppm  | 50 mL       | 36200 µg/L   | 1   | 300 | 1000 |       |       | 10/31/17 23:44:35 | N   | II   |
| R1710054-002 | Nickel, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 40 µg/L      | U 1 | 9   | 40   |       |       | 10/31/17 23:44:35 | N   | II   |
| R1710054-002 | Potassium, Total | N/A |               | Water  | 2.48 ppm   | 50 mL       | 2500 µg/L    | 1   | 300 | 2000 |       |       | 10/31/17 23:44:35 | N   | II   |
| R1710054-002 | Selenium, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L      | U 1 | 4   | 10   |       |       | 10/31/17 23:44:35 | N   | II   |
| R1710054-002 | Silver, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L      | U 1 | 2   | 10   |       |       | 10/31/17 23:44:35 | N   | II   |
| R1710054-002 | Sodium, Total    | N/A |               | Water  | 59.96 ppm  | 50 mL       | 60000 µg/L   | 1   | 400 | 1000 |       |       | 10/31/17 23:44:35 | N   | II   |
| R1710054-002 | Thallium, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L      | U 1 | 6   | 10   |       |       | 10/31/17 23:44:35 | N   | II   |
| R1710054-002 | Vanadium, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 50 µg/L      | U 1 | 3   | 50   |       |       | 10/31/17 23:44:35 | N   | II   |
| R1710054-002 | Zinc, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L      | U 1 | 7   | 10   |       |       | 10/31/17 23:44:35 | N   | II   |
| R1710054-004 | Aluminum, Total  | N/A |               | Water  | 0.20 ppm   | 50 mL       | 200 µg/L     | 1   | 100 | 100  |       |       | 10/31/17 23:47:53 | N   | II   |
| R1710054-004 | Antimony, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L      | U 1 | 8   | 10   |       |       | 10/31/17 23:47:53 | N   | II   |
| R1710054-004 | Arsenic, Total   | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L      | U 1 | 4   | 10   |       |       | 10/31/17 23:47:53 | N   | II   |
| R1710054-004 | Barium, Total    | N/A |               | Water  | 0.21 ppm   | 50 mL       | 208 µg/L     | 1   | 13  | 20   |       |       | 10/31/17 23:47:53 | N   | II   |
| R1710054-004 | Beryllium, Total | N/A |               | Water  | 0.00 ppm   | 50 mL       | 3.0 µg/L     | U 1 | 0.7 | 3.0  |       |       | 10/31/17 23:47:53 | N   | II   |
| R1710054-004 | Boron, Total     | N/A |               | Water  | 0.05 ppm   | 50 mL       | 200 µg/L     | U 1 | 80  | 200  |       |       | 10/31/17 23:47:53 | N   | II   |

† indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

# Analytical Results Summary

Instrument Name: R-ICP-AES-06

Analyst: NMANSEN

Analysis Lot: 568345 Method/Testcode: 6010C/Cd T

| Lab Code    | Target Analytes  | QC  | Parent Sample | Matrix | Raw Result | Sample Amt. | Final Result | Dil | MDL | PQL  | % Rec | % RSD | Date Analyzed     | QC? | Tier |
|-------------|------------------|-----|---------------|--------|------------|-------------|--------------|-----|-----|------|-------|-------|-------------------|-----|------|
| 1710054-004 | Cadmium, Total   | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 0.9 | 5.0  |       |       | 10/31/17 23:47:53 | N   | II   |
| 1710054-004 | Calcium, Total   | N/A |               | Water  | 175.05 ppm | 50 mL       | 175000 µg/L  | 1   | 400 | 1000 |       |       | 10/31/17 23:47:53 | N   | II   |
| 1710054-004 | Chromium, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 3   | 10   |       |       | 10/31/17 23:47:53 | N   | II   |
| 1710054-004 | Cobalt, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 4 µg/L J     | 1   | 3   | 50   |       |       | 10/31/17 23:47:53 | N   | II   |
| 1710054-004 | Copper, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 20 µg/L U    | 1   | 10  | 20   |       |       | 10/31/17 23:47:53 | N   | II   |
| 1710054-004 | Iron, Total      | N/A |               | Water  | 0.21 ppm   | 50 mL       | 210 µg/L     | 1   | 80  | 100  |       |       | 10/31/17 23:47:53 | N   | II   |
| 1710054-004 | Lead, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 3.6 | 5.0  |       |       | 10/31/17 23:47:53 | N   | II   |
| 1710054-004 | Magnesium, Total | N/A |               | Water  | 28.66 ppm  | 50 mL       | 28700 µg/L   | 1   | 300 | 1000 |       |       | 10/31/17 23:47:53 | N   | II   |
| 1710054-004 | Nickel, Total    | N/A |               | Water  | 0.01 ppm   | 50 mL       | 40 µg/L U    | 1   | 9   | 40   |       |       | 10/31/17 23:47:53 | N   | II   |
| 1710054-004 | Potassium, Total | N/A |               | Water  | 4.85 ppm   | 50 mL       | 4800 µg/L    | 1   | 300 | 2000 |       |       | 10/31/17 23:47:53 | N   | II   |
| 1710054-004 | Selenium, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 4   | 10   |       |       | 10/31/17 23:47:53 | N   | II   |
| 1710054-004 | Silver, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 2   | 10   |       |       | 10/31/17 23:47:53 | N   | II   |
| 1710054-004 | Sodium, Total    | N/A |               | Water  | 42.31 ppm  | 50 mL       | 42300 µg/L   | 1   | 400 | 1000 |       |       | 10/31/17 23:47:53 | N   | II   |
| 1710054-004 | Thallium, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 6   | 10   |       |       | 10/31/17 23:47:53 | N   | II   |
| 1710054-004 | Vanadium, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 50 µg/L U    | 1   | 3   | 50   |       |       | 10/31/17 23:47:53 | N   | II   |
| 1710054-004 | Zinc, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 7   | 10   |       |       | 10/31/17 23:47:53 | N   | II   |
| 1710054-006 | Aluminum, Total  | N/A |               | Water  | 0.17 ppm   | 50 mL       | 170 µg/L     | 1   | 100 | 100  |       |       | 10/31/17 23:51:13 | N   | II   |
| 1710054-006 | Antimony, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 8   | 10   |       |       | 10/31/17 23:51:13 | N   | II   |
| 1710054-006 | Arsenic, Total   | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 4   | 10   |       |       | 10/31/17 23:51:13 | N   | II   |
| 1710054-006 | Barium, Total    | N/A |               | Water  | 0.33 ppm   | 50 mL       | 334 µg/L     | 1   | 13  | 20   |       |       | 10/31/17 23:51:13 | N   | II   |
| 1710054-006 | Beryllium, Total | N/A |               | Water  | 0.00 ppm   | 50 mL       | 3.0 µg/L U   | 1   | 0.7 | 3.0  |       |       | 10/31/17 23:51:13 | N   | II   |
| 1710054-006 | Boron, Total     | N/A |               | Water  | 0.16 ppm   | 50 mL       | 160 µg/L J   | 1   | 80  | 200  |       |       | 10/31/17 23:51:13 | N   | II   |
| 1710054-006 | Cadmium, Total   | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 0.9 | 5.0  |       |       | 10/31/17 23:51:13 | N   | II   |
| 1710054-006 | Calcium, Total   | N/A |               | Water  | 246.92 ppm | 50 mL       | 247000 µg/L  | 1   | 400 | 1000 |       |       | 10/31/17 23:51:13 | N   | II   |
| 1710054-006 | Chromium, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 3   | 10   |       |       | 10/31/17 23:51:13 | N   | II   |
| 1710054-006 | Cobalt, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 50 µg/L U    | 1   | 3   | 50   |       |       | 10/31/17 23:51:13 | N   | II   |
| 1710054-006 | Copper, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 20 µg/L U    | 1   | 10  | 20   |       |       | 10/31/17 23:51:13 | N   | II   |
| 1710054-006 | Iron, Total      | N/A |               | Water  | 3.70 ppm   | 50 mL       | 3700 µg/L    | 1   | 80  | 100  |       |       | 10/31/17 23:51:13 | N   | II   |
| 1710054-006 | Lead, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 3.6 | 5.0  |       |       | 10/31/17 23:51:13 | N   | II   |
| 1710054-006 | Magnesium, Total | N/A |               | Water  | 50.94 ppm  | 50 mL       | 50900 µg/L   | 1   | 300 | 1000 |       |       | 10/31/17 23:51:13 | N   | II   |
| 1710054-006 | Nickel, Total    | N/A |               | Water  | 0.01 ppm   | 50 mL       | 12 µg/L J    | 1   | 9   | 40   |       |       | 10/31/17 23:51:13 | N   | II   |
| 1710054-006 | Potassium, Total | N/A |               | Water  | 7.97 ppm   | 50 mL       | 8000 µg/L    | 1   | 300 | 2000 |       |       | 10/31/17 23:51:13 | N   | II   |
| 1710054-006 | Selenium, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 4   | 10   |       |       | 10/31/17 23:51:13 | N   | II   |
| 1710054-006 | Silver, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 2   | 10   |       |       | 10/31/17 23:51:13 | N   | II   |
| 1710054-006 | Sodium, Total    | N/A |               | Water  | 122.05 ppm | 50 mL       | 122000 µg/L  | 1   | 400 | 1000 |       |       | 10/31/17 23:51:13 | N   | II   |
| 1710054-006 | Thallium, Total  | N/A |               | Water  | 0.01 ppm   | 50 mL       | 8 µg/L J     | 1   | 6   | 10   |       |       | 10/31/17 23:51:13 | N   | II   |

† indicates Final Result is not yet adjusted for Solids because it has not yet been determined.



# Analytical Results Summary

Instrument Name: R-ICP-AES-06

Analyst: NMANSEN

Analysis Lot: 568345

Method/Testcode: 6010C/V T

| Lab Code    | Target Analytes  | QC  | Parent Sample | Matrix | Raw Result | Sample Amt. | Final Result | Dil | MDL | PQL  | % Rec | % RSD | Date Analyzed     | QC? | Tier |
|-------------|------------------|-----|---------------|--------|------------|-------------|--------------|-----|-----|------|-------|-------|-------------------|-----|------|
| 1710054-006 | Vanadium, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 50 µg/L U    | 1   | 3   | 50   |       |       | 10/31/17 23:51:13 | N   | II   |
| 1710054-006 | Zinc, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 7   | 10   |       |       | 10/31/17 23:51:13 | N   | II   |
| 1710054-008 | Aluminum, Total  | N/A |               | Water  | 0.49 ppm   | 50 mL       | 490 µg/L     | 1   | 100 | 100  |       |       | 11/1/17 00:01:09  | N   | II   |
| 1710054-008 | Antimony, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 8   | 10   |       |       | 11/1/17 00:01:09  | N   | II   |
| 1710054-008 | Arsenic, Total   | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 4   | 10   |       |       | 11/1/17 00:01:09  | N   | II   |
| 1710054-008 | Barium, Total    | N/A |               | Water  | 0.10 ppm   | 50 mL       | 103 µg/L     | 1   | 13  | 20   |       |       | 11/1/17 00:01:09  | N   | II   |
| 1710054-008 | Beryllium, Total | N/A |               | Water  | 0.00 ppm   | 50 mL       | 3.0 µg/L U   | 1   | 0.7 | 3.0  |       |       | 11/1/17 00:01:09  | N   | II   |
| 1710054-008 | Boron, Total     | N/A |               | Water  | 0.14 ppm   | 50 mL       | 140 µg/L J   | 1   | 80  | 200  |       |       | 11/1/17 00:01:09  | N   | II   |
| 1710054-008 | Cadmium, Total   | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 0.9 | 5.0  |       |       | 11/1/17 00:01:09  | N   | II   |
| 1710054-008 | Chromium, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 3   | 10   |       |       | 11/1/17 00:01:09  | N   | II   |
| 1710054-008 | Cobalt, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 50 µg/L U    | 1   | 3   | 50   |       |       | 11/1/17 00:01:09  | N   | II   |
| 1710054-008 | Copper, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 20 µg/L U    | 1   | 10  | 20   |       |       | 11/1/17 00:01:09  | N   | II   |
| 1710054-008 | Iron, Total      | N/A |               | Water  | 0.38 ppm   | 50 mL       | 380 µg/L     | 1   | 80  | 100  |       |       | 11/1/17 00:01:09  | N   | II   |
| 1710054-008 | Lead, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 3.6 | 5.0  |       |       | 11/1/17 00:01:09  | N   | II   |
| 1710054-008 | Magnesium, Total | N/A |               | Water  | 84.14 ppm  | 50 mL       | 84100 µg/L   | 1   | 300 | 1000 |       |       | 11/1/17 00:01:09  | N   | II   |
| 1710054-008 | Nickel, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 40 µg/L U    | 1   | 9   | 40   |       |       | 11/1/17 00:01:09  | N   | II   |
| 1710054-008 | Potassium, Total | N/A |               | Water  | 21.33 ppm  | 50 mL       | 21300 µg/L   | 1   | 300 | 2000 |       |       | 11/1/17 00:01:09  | N   | II   |
| 1710054-008 | Selenium, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 4   | 10   |       |       | 11/1/17 00:01:09  | N   | II   |
| 1710054-008 | Silver, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 2   | 10   |       |       | 11/1/17 00:01:09  | N   | II   |
| 1710054-008 | Sodium, Total    | N/A |               | Water  | 86.71 ppm  | 50 mL       | 86700 µg/L   | 1   | 400 | 1000 |       |       | 11/1/17 00:01:09  | N   | II   |
| 1710054-008 | Thallium, Total  | N/A |               | Water  | 0.01 ppm   | 50 mL       | 8 µg/L J     | 1   | 6   | 10   |       |       | 11/1/17 00:01:09  | N   | II   |
| 1710054-008 | Vanadium, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 50 µg/L U    | 1   | 3   | 50   |       |       | 11/1/17 00:01:09  | N   | II   |
| 1710054-008 | Zinc, Total      | N/A |               | Water  | 0.01 ppm   | 50 mL       | 10 µg/L U    | 1   | 7   | 10   |       |       | 11/1/17 00:01:09  | N   | II   |
| 1710054-010 | Aluminum, Total  | N/A |               | Water  | 0.19 ppm   | 50 mL       | 190 µg/L     | 1   | 100 | 100  |       |       | 11/1/17 00:04:28  | N   | II   |
| 1710054-010 | Antimony, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 8   | 10   |       |       | 11/1/17 00:04:28  | N   | II   |
| 1710054-010 | Arsenic, Total   | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 4   | 10   |       |       | 11/1/17 00:04:28  | N   | II   |
| 1710054-010 | Barium, Total    | N/A |               | Water  | 0.30 ppm   | 50 mL       | 301 µg/L     | 1   | 13  | 20   |       |       | 11/1/17 00:04:28  | N   | II   |
| 1710054-010 | Beryllium, Total | N/A |               | Water  | 0.00 ppm   | 50 mL       | 3.0 µg/L U   | 1   | 0.7 | 3.0  |       |       | 11/1/17 00:04:28  | N   | II   |
| 1710054-010 | Boron, Total     | N/A |               | Water  | 0.09 ppm   | 50 mL       | 90 µg/L J    | 1   | 80  | 200  |       |       | 11/1/17 00:04:28  | N   | II   |
| 1710054-010 | Cadmium, Total   | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 0.9 | 5.0  |       |       | 11/1/17 00:04:28  | N   | II   |
| 1710054-010 | Calcium, Total   | N/A |               | Water  | 174.93 ppm | 50 mL       | 175000 µg/L  | 1   | 400 | 1000 |       |       | 11/1/17 00:04:28  | N   | II   |
| 1710054-010 | Chromium, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 3   | 10   |       |       | 11/1/17 00:04:28  | N   | II   |
| 1710054-010 | Cobalt, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 4 µg/L J     | 1   | 3   | 50   |       |       | 11/1/17 00:04:28  | N   | II   |
| 1710054-010 | Copper, Total    | N/A |               | Water  | 0.01 ppm   | 50 mL       | 20 µg/L U    | 1   | 10  | 20   |       |       | 11/1/17 00:04:28  | N   | II   |
| 1710054-010 | Iron, Total      | N/A |               | Water  | 0.30 ppm   | 50 mL       | 300 µg/L     | 1   | 80  | 100  |       |       | 11/1/17 00:04:28  | N   | II   |
| 1710054-010 | Lead, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 3.6 | 5.0  |       |       | 11/1/17 00:04:28  | N   | II   |

† indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

# Analytical Results Summary

Instrument Name: R-ICP-AES-06

Analyst: NMANSEN

Analysis Lot: 568345 Method/Testcode: 6010C/Mg T

| Lab Code    | Target Analytes  | QC  | Parent Sample | Matrix | Raw Result | Sample Amt. | Final Result | Dil | MDL | PQL  | % Rec | % RSD | Date Analyzed    | QC? | Tier |
|-------------|------------------|-----|---------------|--------|------------|-------------|--------------|-----|-----|------|-------|-------|------------------|-----|------|
| 1710054-010 | Magnesium, Total | N/A |               | Water  | 32.09 ppm  | 50 mL       | 32100 µg/L   | 1   | 300 | 1000 |       |       | 11/1/17 00:04:28 | N   | II   |
| 1710054-010 | Nickel, Total    | N/A |               | Water  | 0.01 ppm   | 50 mL       | 40 µg/L U    | 1   | 9   | 40   |       |       | 11/1/17 00:04:28 | N   | II   |
| 1710054-010 | Potassium, Total | N/A |               | Water  | 6.68 ppm   | 50 mL       | 6700 µg/L    | 1   | 300 | 2000 |       |       | 11/1/17 00:04:28 | N   | II   |
| 1710054-010 | Selenium, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 4   | 10   |       |       | 11/1/17 00:04:28 | N   | II   |
| 1710054-010 | Silver, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 2   | 10   |       |       | 11/1/17 00:04:28 | N   | II   |
| 1710054-010 | Sodium, Total    | N/A |               | Water  | 68.82 ppm  | 50 mL       | 68800 µg/L   | 1   | 400 | 1000 |       |       | 11/1/17 00:04:28 | N   | II   |
| 1710054-010 | Thallium, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 6   | 10   |       |       | 11/1/17 00:04:28 | N   | II   |
| 1710054-010 | Vanadium, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 50 µg/L U    | 1   | 3   | 50   |       |       | 11/1/17 00:04:28 | N   | II   |
| 1710054-010 | Zinc, Total      | N/A |               | Water  | 0.01 ppm   | 50 mL       | 8 µg/L J     | 1   | 7   | 10   |       |       | 11/1/17 00:04:28 | N   | II   |
| 1710054-012 | Aluminum, Total  | N/A |               | Water  | 2.86 ppm   | 50 mL       | 2860 µg/L    | 1   | 100 | 100  |       |       | 11/1/17 00:07:46 | N   | II   |
| 1710054-012 | Antimony, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 8   | 10   |       |       | 11/1/17 00:07:46 | N   | II   |
| 1710054-012 | Arsenic, Total   | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 4   | 10   |       |       | 11/1/17 00:07:46 | N   | II   |
| 1710054-012 | Barium, Total    | N/A |               | Water  | 0.08 ppm   | 50 mL       | 80 µg/L      | 1   | 13  | 20   |       |       | 11/1/17 00:07:46 | N   | II   |
| 1710054-012 | Beryllium, Total | N/A |               | Water  | 0.00 ppm   | 50 mL       | 3.0 µg/L U   | 1   | 0.7 | 3.0  |       |       | 11/1/17 00:07:46 | N   | II   |
| 1710054-012 | Boron, Total     | N/A |               | Water  | 0.14 ppm   | 50 mL       | 140 µg/L J   | 1   | 80  | 200  |       |       | 11/1/17 00:07:46 | N   | II   |
| 1710054-012 | Cadmium, Total   | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 0.9 | 5.0  |       |       | 11/1/17 00:07:46 | N   | II   |
| 1710054-012 | Chromium, Total  | N/A |               | Water  | 0.01 ppm   | 50 mL       | 6 µg/L J     | 1   | 3   | 10   |       |       | 11/1/17 00:07:46 | N   | II   |
| 1710054-012 | Cobalt, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 50 µg/L U    | 1   | 3   | 50   |       |       | 11/1/17 00:07:46 | N   | II   |
| 1710054-012 | Copper, Total    | N/A |               | Water  | 0.01 ppm   | 50 mL       | 14 µg/L J    | 1   | 10  | 20   |       |       | 11/1/17 00:07:46 | N   | II   |
| 1710054-012 | Iron, Total      | N/A |               | Water  | 1.82 ppm   | 50 mL       | 1820 µg/L    | 1   | 80  | 100  |       |       | 11/1/17 00:07:46 | N   | II   |
| 1710054-012 | Lead, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 3.6 | 5.0  |       |       | 11/1/17 00:07:46 | N   | II   |
| 1710054-012 | Magnesium, Total | N/A |               | Water  | 87.75 ppm  | 50 mL       | 87700 µg/L   | 1   | 300 | 1000 |       |       | 11/1/17 00:07:46 | N   | II   |
| 1710054-012 | Nickel, Total    | N/A |               | Water  | -0.01 ppm  | 50 mL       | 40 µg/L U    | 1   | 9   | 40   |       |       | 11/1/17 00:07:46 | N   | II   |
| 1710054-012 | Potassium, Total | N/A |               | Water  | 52.45 ppm  | 50 mL       | 52500 µg/L   | 1   | 300 | 2000 |       |       | 11/1/17 00:07:46 | N   | II   |
| 1710054-012 | Selenium, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 4   | 10   |       |       | 11/1/17 00:07:46 | N   | II   |
| 1710054-012 | Silver, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 2   | 10   |       |       | 11/1/17 00:07:46 | N   | II   |
| 1710054-012 | Sodium, Total    | N/A |               | Water  | 24.78 ppm  | 50 mL       | 24800 µg/L   | 1   | 400 | 1000 |       |       | 11/1/17 00:07:46 | N   | II   |
| 1710054-012 | Thallium, Total  | N/A |               | Water  | 0.01 ppm   | 50 mL       | 9 µg/L J     | 1   | 6   | 10   |       |       | 11/1/17 00:07:46 | N   | II   |
| 1710054-012 | Vanadium, Total  | N/A |               | Water  | 0.01 ppm   | 50 mL       | 5 µg/L J     | 1   | 3   | 50   |       |       | 11/1/17 00:07:46 | N   | II   |
| 1710054-012 | Zinc, Total      | N/A |               | Water  | 0.01 ppm   | 50 mL       | 10 µg/L J    | 1   | 7   | 10   |       |       | 11/1/17 00:07:46 | N   | II   |
| 1710054-013 | Aluminum, Total  | N/A |               | Water  | 0.23 ppm   | 50 mL       | 230 µg/L     | 1   | 100 | 100  |       |       | 11/1/17 00:11:05 | N   | II   |
| 1710054-013 | Antimony, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 8   | 10   |       |       | 11/1/17 00:11:05 | N   | II   |
| 1710054-013 | Arsenic, Total   | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 4   | 10   |       |       | 11/1/17 00:11:05 | N   | II   |
| 1710054-013 | Barium, Total    | N/A |               | Water  | 0.21 ppm   | 50 mL       | 210 µg/L     | 1   | 13  | 20   |       |       | 11/1/17 00:11:05 | N   | II   |
| 1710054-013 | Beryllium, Total | N/A |               | Water  | 0.00 ppm   | 50 mL       | 3.0 µg/L U   | 1   | 0.7 | 3.0  |       |       | 11/1/17 00:11:05 | N   | II   |
| 1710054-013 | Boron, Total     | N/A |               | Water  | 0.05 ppm   | 50 mL       | 200 µg/L U   | 1   | 80  | 200  |       |       | 11/1/17 00:11:05 | N   | II   |

† indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

# Analytical Results Summary

Instrument Name: R-ICP-AES-06

Analyst: NMANSEN

Analysis Lot: 568345

Method/Testcode: 6010C/Cd T

| Lab Code    | Target Analytes     | QC  | Parent Sample | Matrix | Raw Result | Sample Amt. | Final Result | Dil | MDL | PQL  | % Rec | % RSD | Date Analyzed    | QC? | Tier |
|-------------|---------------------|-----|---------------|--------|------------|-------------|--------------|-----|-----|------|-------|-------|------------------|-----|------|
| 1710054-013 | Cadmium, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 0.9 | 5.0  |       |       | 11/1/17 00:11:05 | N   | II   |
| 1710054-013 | Calcium, Total      | N/A |               | Water  | 180.25 ppm | 50 mL       | 180000 µg/L  | 1   | 400 | 1000 |       |       | 11/1/17 00:11:05 | N   | II   |
| 1710054-013 | Chromium, Total     | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 3   | 10   |       |       | 11/1/17 00:11:05 | N   | II   |
| 1710054-013 | Cobalt, Total       | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5 µg/L J     | 1   | 3   | 50   |       |       | 11/1/17 00:11:05 | N   | II   |
| 1710054-013 | Copper, Total       | N/A |               | Water  | 0.00 ppm   | 50 mL       | 20 µg/L U    | 1   | 10  | 20   |       |       | 11/1/17 00:11:05 | N   | II   |
| 1710054-013 | Iron, Total         | N/A |               | Water  | 0.27 ppm   | 50 mL       | 270 µg/L     | 1   | 80  | 100  |       |       | 11/1/17 00:11:05 | N   | II   |
| 1710054-013 | Lead, Total         | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 3.6 | 5.0  |       |       | 11/1/17 00:11:05 | N   | II   |
| 1710054-013 | Magnesium, Total    | N/A |               | Water  | 29.38 ppm  | 50 mL       | 29400 µg/L   | 1   | 300 | 1000 |       |       | 11/1/17 00:11:05 | N   | II   |
| 1710054-013 | Nickel, Total       | N/A |               | Water  | 0.01 ppm   | 50 mL       | 40 µg/L U    | 1   | 9   | 40   |       |       | 11/1/17 00:11:05 | N   | II   |
| 1710054-013 | Potassium, Total    | N/A |               | Water  | 4.98 ppm   | 50 mL       | 5000 µg/L    | 1   | 300 | 2000 |       |       | 11/1/17 00:11:05 | N   | II   |
| 1710054-013 | Selenium, Total     | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 4   | 10   |       |       | 11/1/17 00:11:05 | N   | II   |
| 1710054-013 | Silver, Total       | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 2   | 10   |       |       | 11/1/17 00:11:05 | N   | II   |
| 1710054-013 | Sodium, Total       | N/A |               | Water  | 43.21 ppm  | 50 mL       | 43200 µg/L   | 1   | 400 | 1000 |       |       | 11/1/17 00:11:05 | N   | II   |
| 1710054-013 | Thallium, Total     | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 6   | 10   |       |       | 11/1/17 00:11:05 | N   | II   |
| 1710054-013 | Vanadium, Total     | N/A |               | Water  | 0.00 ppm   | 50 mL       | 50 µg/L U    | 1   | 3   | 50   |       |       | 11/1/17 00:11:05 | N   | II   |
| 1710054-013 | Zinc, Total         | N/A |               | Water  | 0.01 ppm   | 50 mL       | 10 µg/L U    | 1   | 7   | 10   |       |       | 11/1/17 00:11:05 | N   | II   |
| 1710113-001 | Aluminum, Total     | N/A |               | Water  | 1.12 ppm   | 50 mL       | 1120 µg/L    | 1   | 100 | 100  |       |       | 11/1/17 00:14:23 | N   | IV   |
| 1710113-001 | Antimony, Total     | N/A |               | Water  | 0.00 ppm   | 50 mL       | 60 µg/L U    | 1   | 8   | 60   |       |       | 11/1/17 00:14:23 | N   | IV   |
| 1710113-001 | Arsenic, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 4   | 10   |       |       | 11/1/17 00:14:23 | N   | IV   |
| 1710113-001 | Barium, Total       | N/A |               | Water  | 0.02 ppm   | 50 mL       | 24 µg/L      | 1   | 13  | 20   |       |       | 11/1/17 00:14:23 | N   | IV   |
| 1710113-001 | Beryllium, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 3.0 µg/L U   | 1   | 0.7 | 3.0  |       |       | 11/1/17 00:14:23 | N   | IV   |
| 1710113-001 | Cadmium, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 0.9 | 5.0  |       |       | 11/1/17 00:14:23 | N   | IV   |
| 1710113-001 | Chromium, Total     | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 3   | 10   |       |       | 11/1/17 00:14:23 | N   | IV   |
| 1710113-001 | Cobalt, Total       | N/A |               | Water  | 0.01 ppm   | 50 mL       | 50 µg/L U    | 1   | 3   | 50   |       |       | 11/1/17 00:14:23 | N   | IV   |
| 1710113-001 | Copper, Total       | N/A |               | Water  | 0.01 ppm   | 50 mL       | 20 µg/L U    | 1   | 10  | 20   |       |       | 11/1/17 00:14:23 | N   | IV   |
| 1710113-001 | Iron, Total         | N/A |               | Water  | 4.11 ppm   | 50 mL       | 4110 µg/L    | 1   | 80  | 100  |       |       | 11/1/17 00:14:23 | N   | IV   |
| 1710113-001 | Lead, Total         | N/A |               | Water  | 0.00 ppm   | 50 mL       | 50 µg/L U    | 1   | 4   | 50   |       |       | 11/1/17 00:14:23 | N   | IV   |
| 1710113-001 | Magnesium, Total    | N/A |               | Water  | 77.68 ppm  | 50 mL       | 77700 µg/L   | 1   | 300 | 1000 |       |       | 11/1/17 00:14:23 | N   | IV   |
| 1710113-001 | Nickel, Total       | N/A |               | Water  | -0.01 ppm  | 50 mL       | 40 µg/L U    | 1   | 9   | 40   |       |       | 11/1/17 00:14:23 | N   | IV   |
| 1710113-001 | Potassium, Total    | N/A |               | Water  | 18.67 ppm  | 50 mL       | 18700 µg/L   | 1   | 300 | 2000 |       |       | 11/1/17 00:14:23 | N   | IV   |
| 1710113-001 | Selenium, Total     | N/A |               | Water  | 0.01 ppm   | 50 mL       | 10 µg/L U    | 1   | 4   | 10   |       |       | 11/1/17 00:14:23 | N   | IV   |
| 1710113-001 | Silver, Total       | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 2   | 10   |       |       | 11/1/17 00:14:23 | N   | IV   |
| 1710113-001 | Sodium, Total       | N/A |               | Water  | 35.12 ppm  | 50 mL       | 35100 µg/L   | 1   | 400 | 1000 |       |       | 11/1/17 00:14:23 | N   | IV   |
| 1710113-001 | Vanadium, Total     | N/A |               | Water  | 0.00 ppm   | 50 mL       | 50 µg/L U    | 1   | 3   | 50   |       |       | 11/1/17 00:14:23 | N   | IV   |
| 1710113-001 | Zinc, Total         | N/A |               | Water  | 0.02 ppm   | 50 mL       | 20 µg/L U    | 1   | 7   | 20   |       |       | 11/1/17 00:14:23 | N   | IV   |
| 1710113-003 | Aluminum, Dissolved | N/A |               | Water  | 224.58 ppm | 50 mL       | 225000 µg/L  | 1   | 100 | 100  |       |       | 11/1/17 00:17:42 | N   | IV   |

† indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

# Analytical Results Summary

Instrument Name: R-ICP-AES-06

Analyst: NMANSEN

Analysis Lot:

568345

Method/Testcode: 6010C/Sb D

| Lab Code                | Target Analytes               | QC             | Parent Sample | Matrix           | Raw Result            | Sample Amt.      | Final Result           | Dil          | MDL            | PQL             | % Rec | % RSD | Date Analyzed    | QC? | Tier |
|-------------------------|-------------------------------|----------------|---------------|------------------|-----------------------|------------------|------------------------|--------------|----------------|-----------------|-------|-------|------------------|-----|------|
| R1710113-003            | Antimony, Dissolved           | N/A            |               | Water            | -0.03 ppm             | 50 mL            | 60 µg/L U              | 1 ✓          | 8              | 60              |       |       | 11/1/17 00:17:42 | N   | IV   |
| R1710113-003            | Arsenic, Dissolved            | N/A            |               | Water            | 0.00 ppm              | 50 mL            | 10 µg/L U              | 1 ✓          | 4              | 10              |       |       | 11/1/17 00:17:42 | N   | IV   |
| R1710113-003            | Barium, Dissolved             | N/A            |               | Water            | 0.02 ppm              | 50 mL            | 25 µg/L                | 1 ✓          | 13             | 20              |       |       | 11/1/17 00:17:42 | N   | IV   |
| R1710113-003            | Beryllium, Dissolved          | N/A            |               | Water            | 0.01 ppm              | 50 mL            | 14.3 µg/L              | 1 ✓          | 0.7            | 3.0             |       |       | 11/1/17 00:17:42 | N   | IV   |
| R1710113-003            | Cadmium, Dissolved            | N/A            |               | Water            | 0.01 ppm              | 50 mL            | 14.5 µg/L              | 1 ✓          | 0.9            | 5.0             |       |       | 11/1/17 00:17:42 | N   | IV   |
| <del>R1710113-003</del> | <del>Calcium, Dissolved</del> | <del>N/A</del> |               | <del>Water</del> | <del>412.70 ppm</del> | <del>50 mL</del> | <del>413000 µg/L</del> | <del>1</del> | <del>400</del> | <del>1000</del> |       |       | 11/1/17 00:17:42 | N   | IV   |
| R1710113-003            | Chromium, Dissolved           | N/A            |               | Water            | 0.01 ppm              | 50 mL            | 14 µg/L                | 1 ✓          | 3              | 10              |       |       | 11/1/17 00:17:42 | N   | IV   |
| R1710113-003            | Cobalt, Dissolved             | N/A            |               | Water            | 0.02 ppm              | 50 mL            | 50 µg/L U              | 1 ✓          | 3              | 50              |       |       | 11/1/17 00:17:42 | N   | IV   |
| R1710113-003            | Copper, Dissolved             | N/A            |               | Water            | 0.00 ppm              | 50 mL            | 20 µg/L U              | 1 ✓          | 10             | 20              |       |       | 11/1/17 00:17:42 | N   | IV   |
| R1710113-003            | Nickel, Dissolved             | N/A            |               | Water            | 0.04 ppm              | 50 mL            | 40 µg/L U              | 1 ✓          | 9              | 40              |       |       | 11/1/17 00:17:42 | N   | IV   |
| R1710113-003            | Selenium, Dissolved           | N/A            |               | Water            | 0.03 ppm              | 50 mL            | 31 µg/L                | 1 ✓          | 4              | 10              |       |       | 11/1/17 00:17:42 | N   | IV   |
| R1710113-003            | Silver, Dissolved             | N/A            |               | Water            | 0.00 ppm              | 50 mL            | 10 µg/L U              | 1 ✓          | 2              | 10              |       |       | 11/1/17 00:17:42 | N   | IV   |
| R1710113-003            | Sodium, Dissolved             | N/A            |               | Water            | 101.37 ppm            | 50 mL            | 101000 µg/L            | 1 ✓          | 400            | 1000            |       |       | 11/1/17 00:17:42 | N   | IV   |
| R1710113-003            | Vanadium, Dissolved           | N/A            |               | Water            | 0.07 ppm              | 50 mL            | 69 µg/L                | 1 ✓          | 3              | 50              |       |       | 11/1/17 00:17:42 | N   | IV   |
| R1710113-003            | Zinc, Dissolved               | N/A            |               | Water            | 0.21 ppm              | 50 mL            | 211 µg/L               | 1 ✓          | 7              | 20              |       |       | 11/1/17 00:17:42 | N   | IV   |
| R1710113-002            | Aluminum, Total               | N/A            |               | Water            | 214.34 ppm            | 50 mL            | 214000 µg/L            | 1 ✓          | 100            | 100             |       |       | 11/1/17 00:21:00 | N   | IV   |
| R1710113-002            | Antimony, Total               | N/A            |               | Water            | -0.03 ppm             | 50 mL            | 60 µg/L U              | 1 ✓          | 8              | 60              |       |       | 11/1/17 00:21:00 | N   | IV   |
| R1710113-002            | Arsenic, Total                | N/A            |               | Water            | 0.00 ppm              | 50 mL            | 10 µg/L U              | 1 ✓          | 4              | 10              |       |       | 11/1/17 00:21:00 | N   | IV   |
| R1710113-002            | Barium, Total                 | N/A            |               | Water            | 0.07 ppm              | 50 mL            | 71 µg/L                | 1 ✓          | 13             | 20              |       |       | 11/1/17 00:21:00 | N   | IV   |
| R1710113-002            | Beryllium, Total              | N/A            |               | Water            | 0.01 ppm              | 50 mL            | 12.8 µg/L              | 1 ✓          | 0.7            | 3.0             |       |       | 11/1/17 00:21:00 | N   | IV   |
| R1710113-002            | Cadmium, Total                | N/A            |               | Water            | 0.01 ppm              | 50 mL            | 12.4 µg/L              | 1 ✓          | 0.9            | 5.0             |       |       | 11/1/17 00:21:00 | N   | IV   |
| <del>R1710113-002</del> | <del>Calcium, Total</del>     | <del>N/A</del> |               | <del>Water</del> | <del>398.20 ppm</del> | <del>50 mL</del> | <del>398000 µg/L</del> | <del>1</del> | <del>400</del> | <del>1000</del> |       |       | 11/1/17 00:21:00 | N   | IV   |
| R1710113-002            | Chromium, Total               | N/A            |               | Water            | 0.02 ppm              | 50 mL            | 23 µg/L                | 1 ✓          | 3              | 10              |       |       | 11/1/17 00:21:00 | N   | IV   |
| R1710113-002            | Cobalt, Total                 | N/A            |               | Water            | 0.03 ppm              | 50 mL            | 50 µg/L U              | 1 ✓          | 3              | 50              |       |       | 11/1/17 00:21:00 | N   | IV   |
| R1710113-002            | Copper, Total                 | N/A            |               | Water            | 0.01 ppm              | 50 mL            | 20 µg/L U              | 1 ✓          | 10             | 20              |       |       | 11/1/17 00:21:00 | N   | IV   |
| R1710113-002            | Lead, Total                   | N/A            |               | Water            | 0.02 ppm              | 50 mL            | 50 µg/L U              | 1 ✓          | 4              | 50              |       |       | 11/1/17 00:21:00 | N   | IV   |
| R1710113-002            | Magnesium, Total              | N/A            |               | Water            | 478.46 ppm            | 50 mL            | 478000 µg/L            | 1 ✓          | 300            | 1000            |       |       | 11/1/17 00:21:00 | N   | IV   |
| R1710113-002            | Nickel, Total                 | N/A            |               | Water            | 0.04 ppm              | 50 mL            | 40 µg/L U              | 1 ✓          | 9              | 40              |       |       | 11/1/17 00:21:00 | N   | IV   |
| R1710113-002            | Silver, Total                 | N/A            |               | Water            | 0.00 ppm              | 50 mL            | 10 µg/L U              | 1 ✓          | 2              | 10              |       |       | 11/1/17 00:21:00 | N   | IV   |
| R1710113-002            | Sodium, Total                 | N/A            |               | Water            | 93.07 ppm             | 50 mL            | 93100 µg/L             | 1 ✓          | 400            | 1000            |       |       | 11/1/17 00:21:00 | N   | IV   |
| R1710113-002            | Vanadium, Total               | N/A            |               | Water            | 0.08 ppm              | 50 mL            | 81 µg/L                | 1 ✓          | 3              | 50              |       |       | 11/1/17 00:21:00 | N   | IV   |
| R1710113-002            | Zinc, Total                   | N/A            |               | Water            | 0.29 ppm              | 50 mL            | 294 µg/L               | 1 ✓          | 7              | 20              |       |       | 11/1/17 00:21:00 | N   | IV   |
| R1710113-004            | Aluminum, Total               | N/A            |               | Water            | 217.05 ppm            | 50 mL            | 217000 µg/L            | 1            | 100            | 100             |       |       | 11/1/17 00:24:19 | N   | IV   |
| R1710113-004            | Antimony, Total               | N/A            |               | Water            | -0.03 ppm             | 50 mL            | 60 µg/L U              | 1            | 8              | 60              |       |       | 11/1/17 00:24:19 | N   | IV   |
| R1710113-004            | Arsenic, Total                | N/A            |               | Water            | 0.01 ppm              | 50 mL            | 10 µg/L U              | 1            | 4              | 10              |       |       | 11/1/17 00:24:19 | N   | IV   |
| R1710113-004            | Barium, Total                 | N/A            |               | Water            | 0.08 ppm              | 50 mL            | 76 µg/L                | 1            | 13             | 20              |       |       | 11/1/17 00:24:19 | N   | IV   |

OK 11/14/17

OK 11/14/17

† indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

# Analytical Results Summary

Instrument Name: R-ICP-AES-06

Analyst: NMANSEN

Analysis Lot: 568345

Method/Testcode: 6010C/Be T

| Lab Code    | Target Analytes      | QC  | Parent Sample | Matrix | Raw Result | Sample Amt. | Final Result | Dil | MDL | PQL  | % Rec | % RSD | Date Analyzed    | QC? | Tier |
|-------------|----------------------|-----|---------------|--------|------------|-------------|--------------|-----|-----|------|-------|-------|------------------|-----|------|
| 1710113-004 | Beryllium, Total     | N/A |               | Water  | 0.01 ppm   | 50 mL       | 12.9 µg/L    | 1   | 0.7 | 3.0  |       |       | 11/1/17 00:24:19 | N   | IV   |
| 1710113-004 | Cadmium, Total       | N/A |               | Water  | 0.01 ppm   | 50 mL       | 12.5 µg/L    | 1   | 0.9 | 5.0  |       |       | 11/1/17 00:24:19 | N   | IV   |
| 1710113-004 | Chromium, Total      | N/A |               | Water  | 0.02 ppm   | 50 mL       | 24 µg/L      | 1   | 3   | 10   |       |       | 11/1/17 00:24:19 | N   | IV   |
| 1710113-004 | Cobalt, Total        | N/A |               | Water  | 0.03 ppm   | 50 mL       | 50 µg/L      | U 1 | 3   | 50   |       |       | 11/1/17 00:24:19 | N   | IV   |
| 1710113-004 | Copper, Total        | N/A |               | Water  | 0.01 ppm   | 50 mL       | 20 µg/L      | U 1 | 10  | 20   |       |       | 11/1/17 00:24:19 | N   | IV   |
| 1710113-004 | Lead, Total          | N/A |               | Water  | 0.03 ppm   | 50 mL       | 50 µg/L      | U 1 | 4   | 50   |       |       | 11/1/17 00:24:19 | N   | IV   |
| 1710113-004 | Magnesium, Total     | N/A |               | Water  | 481.07 ppm | 50 mL       | 481000 µg/L  | 1   | 300 | 1000 |       |       | 11/1/17 00:24:19 | N   | IV   |
| 1710113-004 | Nickel, Total        | N/A |               | Water  | 0.03 ppm   | 50 mL       | 40 µg/L      | U 1 | 9   | 40   |       |       | 11/1/17 00:24:19 | N   | IV   |
| 1710113-004 | Selenium, Total      | N/A |               | Water  | 0.03 ppm   | 50 mL       | 29 µg/L      | 1   | 4   | 10   |       |       | 11/1/17 00:24:19 | N   | IV   |
| 1710113-004 | Silver, Total        | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L      | U 1 | 2   | 10   |       |       | 11/1/17 00:24:19 | N   | IV   |
| 1710113-004 | Sodium, Total        | N/A |               | Water  | 92.51 ppm  | 50 mL       | 92500 µg/L   | 1   | 400 | 1000 |       |       | 11/1/17 00:24:19 | N   | IV   |
| 1710113-004 | Vanadium, Total      | N/A |               | Water  | 0.08 ppm   | 50 mL       | 82 µg/L      | 1   | 3   | 50   |       |       | 11/1/17 00:24:19 | N   | IV   |
| 1710113-004 | Zinc, Total          | N/A |               | Water  | 0.31 ppm   | 50 mL       | 306 µg/L     | 1   | 7   | 20   |       |       | 11/1/17 00:24:19 | N   | IV   |
| 1710113-005 | Aluminum, Dissolved  | N/A |               | Water  | 176.03 ppm | 50 mL       | 176000 µg/L  | 1   | 100 | 100  |       |       | 11/1/17 00:27:38 | N   | IV   |
| 1710113-005 | Antimony, Dissolved  | N/A |               | Water  | -0.03 ppm  | 50 mL       | 60 µg/L      | U 1 | 8   | 60   |       |       | 11/1/17 00:27:38 | N   | IV   |
| 1710113-005 | Arsenic, Dissolved   | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L      | U 1 | 4   | 10   |       |       | 11/1/17 00:27:38 | N   | IV   |
| 1710113-005 | Barium, Dissolved    | N/A |               | Water  | 0.03 ppm   | 50 mL       | 29 µg/L      | 1   | 13  | 20   |       |       | 11/1/17 00:27:38 | N   | IV   |
| 1710113-005 | Beryllium, Dissolved | N/A |               | Water  | 0.01 ppm   | 50 mL       | 11.2 µg/L    | 1   | 0.7 | 3.0  |       |       | 11/1/17 00:27:38 | N   | IV   |
| 1710113-005 | Cadmium, Dissolved   | N/A |               | Water  | 0.01 ppm   | 50 mL       | 11.0 µg/L    | 1   | 0.9 | 5.0  |       |       | 11/1/17 00:27:38 | N   | IV   |
| 1710113-005 | Chromium, Dissolved  | N/A |               | Water  | 0.01 ppm   | 50 mL       | 11 µg/L      | 1   | 3   | 10   |       |       | 11/1/17 00:27:38 | N   | IV   |
| 1710113-005 | Cobalt, Dissolved    | N/A |               | Water  | 0.02 ppm   | 50 mL       | 50 µg/L      | U 1 | 3   | 50   |       |       | 11/1/17 00:27:38 | N   | IV   |
| 1710113-005 | Copper, Dissolved    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 20 µg/L      | U 1 | 10  | 20   |       |       | 11/1/17 00:27:38 | N   | IV   |
| 1710113-005 | Lead, Dissolved      | N/A |               | Water  | 0.01 ppm   | 50 mL       | 50 µg/L      | U 1 | 4   | 50   |       |       | 11/1/17 00:27:38 | N   | IV   |
| 1710113-005 | Magnesium, Dissolved | N/A |               | Water  | 470.15 ppm | 50 mL       | 470000 µg/L  | 1   | 300 | 1000 |       |       | 11/1/17 00:27:38 | N   | IV   |
| 1710113-005 | Nickel, Dissolved    | N/A |               | Water  | 0.04 ppm   | 50 mL       | 40 µg/L      | U 1 | 9   | 40   |       |       | 11/1/17 00:27:38 | N   | IV   |
| 1710113-005 | Silver, Dissolved    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L      | U 1 | 2   | 10   |       |       | 11/1/17 00:27:38 | N   | IV   |
| 1710113-005 | Sodium, Dissolved    | N/A |               | Water  | 93.19 ppm  | 50 mL       | 93200 µg/L   | 1   | 400 | 1000 |       |       | 11/1/17 00:27:38 | N   | IV   |
| 1710113-005 | Vanadium, Dissolved  | N/A |               | Water  | 0.06 ppm   | 50 mL       | 59 µg/L      | 1   | 3   | 50   |       |       | 11/1/17 00:27:38 | N   | IV   |
| 1710113-005 | Zinc, Dissolved      | N/A |               | Water  | 0.20 ppm   | 50 mL       | 195 µg/L     | 1   | 7   | 20   |       |       | 11/1/17 00:27:38 | N   | IV   |
| 1710113-006 | Aluminum, Total      | N/A |               | Water  | 199.87 ppm | 50 mL       | 200000 µg/L  | 1   | 100 | 100  |       |       | 11/1/17 00:30:57 | N   | IV   |
| 1710113-006 | Antimony, Total      | N/A |               | Water  | 0.07 ppm   | 50 mL       | 69 µg/L      | 1   | 8   | 60   |       |       | 11/1/17 00:30:57 | N   | IV   |
| 1710113-006 | Arsenic, Total       | N/A |               | Water  | 0.58 ppm   | 50 mL       | 581 µg/L     | 1   | 4   | 10   |       |       | 11/1/17 00:30:57 | N   | IV   |
| 1710113-006 | Barium, Total        | N/A |               | Water  | 4.22 ppm   | 50 mL       | 4220 µg/L    | 1   | 13  | 20   |       |       | 11/1/17 00:30:57 | N   | IV   |
| 1710113-006 | Beryllium, Total     | N/A |               | Water  | 0.01 ppm   | 50 mL       | 6.9 µg/L     | 1   | 0.7 | 3.0  |       |       | 11/1/17 00:30:57 | N   | IV   |
| 1710113-006 | Cadmium, Total       | N/A |               | Water  | 0.01 ppm   | 50 mL       | 7.9 µg/L     | 1   | 0.9 | 5.0  |       |       | 11/1/17 00:30:57 | N   | IV   |
| 1710113-006 | Chromium, Total      | N/A |               | Water  | 0.37 ppm   | 50 mL       | 375 µg/L     | 1   | 3   | 10   |       |       | 11/1/17 00:30:57 | N   | IV   |

† indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

# Analytical Results Summary

Instrument Name: R-ICP-AES-06

Analyst: NMANSEN

Analysis Lot: 568345

Method/Testcode: 6010C/Co T

| Lab Code     | Target Analytes      | QC  | Parent Sample | Matrix | Raw Result | Sample Amt. | Final Result | Dil | MDL | PQL  | % Rec | % RSD | Date Analyzed    | QC? | Tier |
|--------------|----------------------|-----|---------------|--------|------------|-------------|--------------|-----|-----|------|-------|-------|------------------|-----|------|
| 21710113-006 | Cobalt, Total        | N/A |               | Water  | 0.05 ppm   | 50 mL       | 50 µg/L U    | 1   | 3   | 50   |       |       | 11/1/17 00:30:57 | N   | IV   |
| 21710113-006 | Copper, Total        | N/A |               | Water  | 1.08 ppm   | 50 mL       | 1080 µg/L    | 1   | 10  | 20   |       |       | 11/1/17 00:30:57 | N   | IV   |
| 21710113-006 | Magnesium, Total     | N/A |               | Water  | 227.12 ppm | 50 mL       | 227000 µg/L  | 1   | 300 | 1000 |       |       | 11/1/17 00:30:57 | N   | IV   |
| 21710113-006 | Nickel, Total        | N/A |               | Water  | 0.18 ppm   | 50 mL       | 177 µg/L     | 1   | 9   | 40   |       |       | 11/1/17 00:30:57 | N   | IV   |
| 21710113-006 | Selenium, Total      | N/A |               | Water  | 0.03 ppm   | 50 mL       | 27 µg/L      | 1   | 4   | 10   |       |       | 11/1/17 00:30:57 | N   | IV   |
| 21710113-006 | Silver, Total        | N/A |               | Water  | 0.01 ppm   | 50 mL       | 14 µg/L      | 1   | 2   | 10   |       |       | 11/1/17 00:30:57 | N   | IV   |
| 21710113-006 | Sodium, Total        | N/A |               | Water  | 39.06 ppm  | 50 mL       | 39100 µg/L   | 1   | 400 | 1000 |       |       | 11/1/17 00:30:57 | N   | IV   |
| 21710113-006 | Thallium, Total      | N/A |               | Water  | 0.04 ppm   | 50 mL       | 39 µg/L      | 1   | 6   | 10   |       |       | 11/1/17 00:30:57 | N   | IV   |
| 21710113-006 | Vanadium, Total      | N/A |               | Water  | 0.40 ppm   | 50 mL       | 405 µg/L     | 1   | 3   | 50   |       |       | 11/1/17 00:30:57 | N   | IV   |
| 21710113-006 | Zinc, Total          | N/A |               | Water  | 3.15 ppm   | 50 mL       | 3150 µg/L    | 1   | 7   | 20   |       |       | 11/1/17 00:30:57 | N   | IV   |
| 21710113-007 | Aluminum, Dissolved  | N/A |               | Water  | 88.99 ppm  | 50 mL       | 89000 µg/L   | 1   | 100 | 100  |       |       | 11/1/17 00:40:54 | N   | IV   |
| 21710113-007 | Antimony, Dissolved  | N/A |               | Water  | 0.05 ppm   | 50 mL       | 60 µg/L U    | 1   | 8   | 60   |       |       | 11/1/17 00:40:54 | N   | IV   |
| 21710113-007 | Arsenic, Dissolved   | N/A |               | Water  | 0.35 ppm   | 50 mL       | 347 µg/L     | 1   | 4   | 10   |       |       | 11/1/17 00:40:54 | N   | IV   |
| 21710113-007 | Barium, Dissolved    | N/A |               | Water  | 1.97 ppm   | 50 mL       | 1970 µg/L    | 1   | 13  | 20   |       |       | 11/1/17 00:40:54 | N   | IV   |
| 21710113-007 | Beryllium, Dissolved | N/A |               | Water  | 0.00 ppm   | 50 mL       | 3.0 µg/L     | 1   | 0.7 | 3.0  |       |       | 11/1/17 00:40:54 | N   | IV   |
| 21710113-007 | Cadmium, Dissolved   | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 0.9 | 5.0  |       |       | 11/1/17 00:40:54 | N   | IV   |
| 21710113-007 | Chromium, Dissolved  | N/A |               | Water  | 0.16 ppm   | 50 mL       | 163 µg/L     | 1   | 3   | 10   |       |       | 11/1/17 00:40:54 | N   | IV   |
| 21710113-007 | Cobalt, Dissolved    | N/A |               | Water  | 0.02 ppm   | 50 mL       | 50 µg/L U    | 1   | 3   | 50   |       |       | 11/1/17 00:40:54 | N   | IV   |
| 21710113-007 | Copper, Dissolved    | N/A |               | Water  | 0.49 ppm   | 50 mL       | 487 µg/L     | 1   | 10  | 20   |       |       | 11/1/17 00:40:54 | N   | IV   |
| 21710113-007 | Magnesium, Dissolved | N/A |               | Water  | 210.31 ppm | 50 mL       | 210000 µg/L  | 1   | 300 | 1000 |       |       | 11/1/17 00:40:54 | N   | IV   |
| 21710113-007 | Nickel, Dissolved    | N/A |               | Water  | 0.08 ppm   | 50 mL       | 78 µg/L      | 1   | 9   | 40   |       |       | 11/1/17 00:40:54 | N   | IV   |
| 21710113-007 | Potassium, Dissolved | N/A |               | Water  | 89.25 ppm  | 50 mL       | 89300 µg/L   | 1   | 300 | 2000 |       |       | 11/1/17 00:40:54 | N   | IV   |
| 21710113-007 | Silver, Dissolved    | N/A |               | Water  | 0.01 ppm   | 50 mL       | 10 µg/L U    | 1   | 2   | 10   |       |       | 11/1/17 00:40:54 | N   | IV   |
| 21710113-007 | Sodium, Dissolved    | N/A |               | Water  | 39.18 ppm  | 50 mL       | 39200 µg/L   | 1   | 400 | 1000 |       |       | 11/1/17 00:40:54 | N   | IV   |
| 21710113-007 | Thallium, Dissolved  | N/A |               | Water  | 0.03 ppm   | 50 mL       | 26 µg/L      | 1   | 6   | 10   |       |       | 11/1/17 00:40:54 | N   | IV   |
| 21710113-007 | Vanadium, Dissolved  | N/A |               | Water  | 0.18 ppm   | 50 mL       | 181 µg/L     | 1   | 3   | 50   |       |       | 11/1/17 00:40:54 | N   | IV   |
| 21710113-007 | Zinc, Dissolved      | N/A |               | Water  | 1.44 ppm   | 50 mL       | 1440 µg/L    | 1   | 7   | 20   |       |       | 11/1/17 00:40:54 | N   | IV   |
| 21710200-001 | Aluminum, Total      | N/A |               | Water  | 0.05 ppm   | 50 mL       | 100 µg/L U   | 1   | 100 | 100  |       |       | 11/1/17 00:47:33 | N   | II   |
| 21710200-001 | Antimony, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 60 µg/L U    | 1   | 8   | 60   |       |       | 11/1/17 00:47:33 | N   | II   |
| 21710200-001 | Arsenic, Total       | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 4   | 10   |       |       | 11/1/17 00:47:33 | N   | II   |
| 21710200-001 | Barium, Total        | N/A |               | Water  | 0.23 ppm   | 50 mL       | 234 µg/L     | 1   | 13  | 20   |       |       | 11/1/17 00:47:33 | N   | II   |
| 21710200-001 | Beryllium, Total     | N/A |               | Water  | 0.00 ppm   | 50 mL       | 3.0 µg/L U   | 1   | 0.7 | 3.0  |       |       | 11/1/17 00:47:33 | N   | II   |
| 21710200-001 | Boron, Total         | N/A |               | Water  | 1.17 ppm   | 50 mL       | 1170 µg/L    | 1   | 80  | 200  |       |       | 11/1/17 00:47:33 | N   | II   |
| 21710200-001 | Cadmium, Total       | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 0.9 | 5.0  |       |       | 11/1/17 00:47:33 | N   | II   |
| 21710200-001 | Calcium, Total       | N/A |               | Water  | 109.26 ppm | 50 mL       | 109000 µg/L  | 1   | 400 | 1000 |       |       | 11/1/17 00:47:33 | N   | II   |
| 21710200-001 | Chromium, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 3   | 10   |       |       | 11/1/17 00:47:33 | N   | II   |

U indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

# Analytical Results Summary

Instrument Name: R-ICP-AES-06

Analyst: NMANSEN

Analysis Lot:

568345

Method/Testcode: 6010C/Co T

| Lab Code    | Target Analytes  | QC  | Parent Sample | Matrix | Raw Result | Sample Amt. | Final Result | Dil | MDL | PQL  | % Rec | % RSD | Date Analyzed    | QC? | Tier |
|-------------|------------------|-----|---------------|--------|------------|-------------|--------------|-----|-----|------|-------|-------|------------------|-----|------|
| 1710200-001 | Cobalt, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 50 µg/L U    | 1   | 3   | 50   |       |       | 11/1/17 00:47:33 | N   | II   |
| 1710200-001 | Copper, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 20 µg/L U    | 1   | 10  | 20   |       |       | 11/1/17 00:47:33 | N   | II   |
| 1710200-001 | Iron, Total      | N/A |               | Water  | 3.17 ppm   | 50 mL       | 3170 µg/L    | 1   | 80  | 100  |       |       | 11/1/17 00:47:33 | N   | II   |
| 1710200-001 | Lead, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 3.6 | 5.0  |       |       | 11/1/17 00:47:33 | N   | II   |
| 1710200-001 | Magnesium, Total | N/A |               | Water  | 39.45 ppm  | 50 mL       | 39500 µg/L   | 1   | 300 | 1000 |       |       | 11/1/17 00:47:33 | N   | II   |
| 1710200-001 | Nickel, Total    | N/A |               | Water  | 0.01 ppm   | 50 mL       | 40 µg/L U    | 1   | 9   | 40   |       |       | 11/1/17 00:47:33 | N   | II   |
| 1710200-001 | Selenium, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 4   | 10   |       |       | 11/1/17 00:47:33 | N   | II   |
| 1710200-001 | Silver, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 2   | 10   |       |       | 11/1/17 00:47:33 | N   | II   |
| 1710200-001 | Thallium, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 6   | 10   |       |       | 11/1/17 00:47:33 | N   | II   |
| 1710200-001 | Vanadium, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 50 µg/L U    | 1   | 3   | 50   |       |       | 11/1/17 00:47:33 | N   | II   |
| 1710200-001 | Zinc, Total      | N/A |               | Water  | 0.01 ppm   | 50 mL       | 20 µg/L U    | 1   | 7   | 20   |       |       | 11/1/17 00:47:33 | N   | II   |
| 1710200-003 | Aluminum, Total  | N/A |               | Water  | 0.08 ppm   | 50 mL       | 100 µg/L U   | 1   | 100 | 100  |       |       | 11/1/17 00:50:52 | N   | II   |
| 1710200-003 | Antimony, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 60 µg/L U    | 1   | 8   | 60   |       |       | 11/1/17 00:50:52 | N   | II   |
| 1710200-003 | Arsenic, Total   | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 4   | 10   |       |       | 11/1/17 00:50:52 | N   | II   |
| 1710200-003 | Barium, Total    | N/A |               | Water  | 0.04 ppm   | 50 mL       | 36 µg/L      | 1   | 13  | 20   |       |       | 11/1/17 00:50:52 | N   | II   |
| 1710200-003 | Beryllium, Total | N/A |               | Water  | 0.00 ppm   | 50 mL       | 3.0 µg/L U   | 1   | 0.7 | 3.0  |       |       | 11/1/17 00:50:52 | N   | II   |
| 1710200-003 | Boron, Total     | N/A |               | Water  | 0.03 ppm   | 50 mL       | 200 µg/L U   | 1   | 80  | 200  |       |       | 11/1/17 00:50:52 | N   | II   |
| 1710200-003 | Cadmium, Total   | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 0.9 | 5.0  |       |       | 11/1/17 00:50:52 | N   | II   |
| 1710200-003 | Calcium, Total   | N/A |               | Water  | 113.81 ppm | 50 mL       | 114000 µg/L  | 1   | 400 | 1000 |       |       | 11/1/17 00:50:52 | N   | II   |
| 1710200-003 | Chromium, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 3   | 10   |       |       | 11/1/17 00:50:52 | N   | II   |
| 1710200-003 | Cobalt, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 50 µg/L U    | 1   | 3   | 50   |       |       | 11/1/17 00:50:52 | N   | II   |
| 1710200-003 | Copper, Total    | N/A |               | Water  | 0.01 ppm   | 50 mL       | 20 µg/L U    | 1   | 10  | 20   |       |       | 11/1/17 00:50:52 | N   | II   |
| 1710200-003 | Iron, Total      | N/A |               | Water  | 0.07 ppm   | 50 mL       | 100 µg/L U   | 1   | 80  | 100  |       |       | 11/1/17 00:50:52 | N   | II   |
| 1710200-003 | Lead, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 3.6 | 5.0  |       |       | 11/1/17 00:50:52 | N   | II   |
| 1710200-003 | Magnesium, Total | N/A |               | Water  | 17.23 ppm  | 50 mL       | 17200 µg/L   | 1   | 300 | 1000 |       |       | 11/1/17 00:50:52 | N   | II   |
| 1710200-003 | Nickel, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 40 µg/L U    | 1   | 9   | 40   |       |       | 11/1/17 00:50:52 | N   | II   |
| 1710200-003 | Potassium, Total | N/A |               | Water  | 4.36 ppm   | 50 mL       | 4400 µg/L    | 1   | 300 | 2000 |       |       | 11/1/17 00:50:52 | N   | II   |
| 1710200-003 | Selenium, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 4   | 10   |       |       | 11/1/17 00:50:52 | N   | II   |
| 1710200-003 | Silver, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 2   | 10   |       |       | 11/1/17 00:50:52 | N   | II   |
| 1710200-003 | Sodium, Total    | N/A |               | Water  | 3.85 ppm   | 50 mL       | 3800 µg/L    | 1   | 400 | 1000 |       |       | 11/1/17 00:50:52 | N   | II   |
| 1710200-003 | Thallium, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 6   | 10   |       |       | 11/1/17 00:50:52 | N   | II   |
| 1710200-003 | Vanadium, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 50 µg/L U    | 1   | 3   | 50   |       |       | 11/1/17 00:50:52 | N   | II   |
| 1710200-003 | Zinc, Total      | N/A |               | Water  | 0.01 ppm   | 50 mL       | 20 µg/L U    | 1   | 7   | 20   |       |       | 11/1/17 00:50:52 | N   | II   |

† indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

# Analytical Results Summary

Instrument Name: R-ICP-AES-06

Analyst: NMANSEN

Analysis Lot: 568348

Method/Testcode: 6010C/Sb T

| Lab Code     | Target Analytes    | QC  | Parent Sample | Matrix | Raw Result | Sample Amt. | Final Result | Dil | MDL | PQL  | % Rec | % RSD | Date Analyzed    | QC? | Tier |
|--------------|--------------------|-----|---------------|--------|------------|-------------|--------------|-----|-----|------|-------|-------|------------------|-----|------|
| RQ1711235-01 | Antimony, Total    | MB  |               | Water  | 0.00 ppm   | 50 mL       | 60 µg/L U    | 1   | 8   | 60   |       |       | 11/1/17 01:17:22 | N   | IV   |
| RQ1711235-01 | Barium, Total      | MB  |               | Water  | 0.00 ppm   | 50 mL       | 20 µg/L U    | 1   | 13  | 20   |       |       | 11/1/17 01:17:22 | N   | IV   |
| RQ1711235-01 | Beryllium, Total   | MB  |               | Water  | 0.00 ppm   | 50 mL       | 3.0 µg/L U   | 1   | 0.7 | 3.0  |       |       | 11/1/17 01:17:22 | N   | IV   |
| RQ1711235-01 | Cadmium, Dissolved | MB  |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 0.9 | 5.0  |       |       | 11/1/17 01:17:22 | N   | IV   |
| RQ1711235-01 | Cadmium, Total     | MB  |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 0.9 | 5.0  |       |       | 11/1/17 01:17:22 | N   | IV   |
| RQ1711235-01 | Chromium, Total    | MB  |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 3   | 10   |       |       | 11/1/17 01:17:22 | N   | IV   |
| RQ1711235-01 | Copper, Total      | MB  |               | Water  | 0.00 ppm   | 50 mL       | 20 µg/L U    | 1   | 10  | 20   |       |       | 11/1/17 01:17:22 | N   | IV   |
| RQ1711235-01 | Iron, Total        | MB  |               | Water  | 0.00 ppm   | 50 mL       | 100 µg/L U   | 1   | 80  | 100  |       |       | 11/1/17 01:17:22 | N   | IV   |
| RQ1711235-01 | Magnesium, Total   | MB  |               | Water  | 0.00 ppm   | 50 mL       | 1000 µg/L U  | 1   | 300 | 1000 |       |       | 11/1/17 01:17:22 | N   | IV   |
| RQ1711235-01 | Manganese, Total   | MB  |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 5   | 10   |       |       | 11/1/17 01:17:22 | N   | IV   |
| RQ1711235-01 | Nickel, Total      | MB  |               | Water  | 0.00 ppm   | 50 mL       | 40 µg/L U    | 1   | 9   | 40   |       |       | 11/1/17 01:17:22 | N   | IV   |
| RQ1711235-01 | Silver, Total      | MB  |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 2   | 10   |       |       | 11/1/17 01:17:22 | N   | IV   |
| RQ1711235-01 | Zinc, Total        | MB  |               | Water  | 0.00 ppm   | 50 mL       | 20 µg/L U    | 1   | 7   | 20   |       |       | 11/1/17 01:17:22 | N   | IV   |
| RQ1711235-02 | Antimony, Total    | LCS |               | Water  | 0.51 ppm   | 50 mL       | 510 µg/L     | 1   | 8   | 60   | 102   |       | 11/1/17 01:20:41 | N   | IV   |
| RQ1711235-02 | Barium, Total      | LCS |               | Water  | 2.15 ppm   | 50 mL       | 2150 µg/L    | 1   | 13  | 20   | 108   |       | 11/1/17 01:20:41 | N   | IV   |
| RQ1711235-02 | Beryllium, Total   | LCS |               | Water  | 0.05 ppm   | 50 mL       | 51.8 µg/L    | 1   | 0.7 | 3.0  | 104   |       | 11/1/17 01:20:41 | N   | IV   |
| RQ1711235-02 | Cadmium, Dissolved | LCS |               | Water  | 0.05 ppm   | 50 mL       | 54.0 µg/L    | 1   | 0.9 | 5.0  | 108   |       | 11/1/17 01:20:41 | N   | IV   |
| RQ1711235-02 | Cadmium, Total     | LCS |               | Water  | 0.05 ppm   | 50 mL       | 54.0 µg/L    | 1   | 0.9 | 5.0  | 108   |       | 11/1/17 01:20:41 | N   | IV   |
| RQ1711235-02 | Chromium, Total    | LCS |               | Water  | 0.21 ppm   | 50 mL       | 208 µg/L     | 1   | 3   | 10   | 104   |       | 11/1/17 01:20:41 | N   | IV   |
| RQ1711235-02 | Copper, Total      | LCS |               | Water  | 0.24 ppm   | 50 mL       | 241 µg/L     | 1   | 10  | 20   | 96    |       | 11/1/17 01:20:41 | N   | IV   |
| RQ1711235-02 | Iron, Total        | LCS |               | Water  | 1.02 ppm   | 50 mL       | 1020 µg/L    | 1   | 80  | 100  | 102   |       | 11/1/17 01:20:41 | N   | IV   |
| RQ1711235-02 | Magnesium, Total   | LCS |               | Water  | 2.08 ppm   | 50 mL       | 2080 µg/L    | 1   | 300 | 1000 | 104   |       | 11/1/17 01:20:41 | N   | IV   |
| RQ1711235-02 | Manganese, Total   | LCS |               | Water  | 0.51 ppm   | 50 mL       | 513 µg/L     | 1   | 5   | 10   | 103   |       | 11/1/17 01:20:41 | N   | IV   |
| RQ1711235-02 | Nickel, Total      | LCS |               | Water  | 0.53 ppm   | 50 mL       | 532 µg/L     | 1   | 9   | 40   | 106   |       | 11/1/17 01:20:41 | N   | IV   |
| RQ1711235-02 | Silver, Total      | LCS |               | Water  | 0.05 ppm   | 50 mL       | 50.5 µg/L    | 1   | 2   | 10   | 101   |       | 11/1/17 01:20:41 | N   | IV   |
| RQ1711235-02 | Zinc, Total        | LCS |               | Water  | 0.53 ppm   | 50 mL       | 533 µg/L     | 1   | 7   | 20   | 107   |       | 11/1/17 01:20:41 | N   | IV   |
| R1710073-001 | Antimony, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 60 µg/L U    | 1   | 8   | 60   |       |       | 11/1/17 01:23:59 | N   | IV   |
| R1710073-001 | Barium, Total      | N/A |               | Water  | 0.05 ppm   | 50 mL       | 52 µg/L      | 1   | 13  | 20   |       |       | 11/1/17 01:23:59 | N   | IV   |
| R1710073-001 | Beryllium, Total   | N/A |               | Water  | 0.00 ppm   | 50 mL       | 3.0 µg/L U   | 1   | 0.7 | 3.0  |       |       | 11/1/17 01:23:59 | N   | IV   |
| R1710073-001 | Cadmium, Total     | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 0.9 | 5.0  |       |       | 11/1/17 01:23:59 | N   | IV   |
| R1710073-001 | Chromium, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 4 µg/L J     | 1   | 3   | 10   |       |       | 11/1/17 01:23:59 | N   | IV   |
| R1710073-001 | Copper, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 20 µg/L U    | 1   | 10  | 20   |       |       | 11/1/17 01:23:59 | N   | IV   |
| R1710073-001 | Iron, Total        | N/A |               | Water  | 0.36 ppm   | 50 mL       | 360 µg/L     | 1   | 80  | 100  |       |       | 11/1/17 01:23:59 | N   | IV   |
| R1710073-001 | Magnesium, Total   | N/A |               | Water  | 3.54 ppm   | 50 mL       | 3500 µg/L    | 1   | 300 | 1000 |       |       | 11/1/17 01:23:59 | N   | IV   |
| R1710073-001 | Manganese, Total   | N/A |               | Water  | 0.40 ppm   | 50 mL       | 401 µg/L     | 1   | 5   | 10   |       |       | 11/1/17 01:23:59 | N   | IV   |
| R1710073-001 | Nickel, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 40 µg/L U    | 1   | 9   | 40   |       |       | 11/1/17 01:23:59 | N   | IV   |

† indicates Final Result is not yet adjusted for Solids because it has not yet been determined.



# Analytical Results Summary

Instrument Name: R-ICP-AES-06

Analyst: NMANSEN

Analysis Lot: 568348 Method/Testcode: 6010C/Ag T

| Lab Code    | Target Analytes    | QC  | Parent Sample | Matrix | Raw Result | Sample Amt. | Final Result | Dil | MDL | PQL  | % Rec | % RSD | Date Analyzed    | QC? | Tier |
|-------------|--------------------|-----|---------------|--------|------------|-------------|--------------|-----|-----|------|-------|-------|------------------|-----|------|
| 1710073-001 | Silver, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 2   | 10   |       |       | 11/1/17 01:23:59 | N   | IV   |
| 1710073-001 | Zinc, Total        | N/A |               | Water  | 0.01 ppm   | 50 mL       | 14 µg/L J    | 1   | 7   | 20   |       |       | 11/1/17 01:23:59 | N   | IV   |
| 1710073-002 | Cadmium, Dissolved | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 0.9 | 5.0  |       |       | 11/1/17 01:27:18 | N   | IV   |
| 1710073-003 | Antimony, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 60 µg/L U    | 1   | 8   | 60   |       |       | 11/1/17 01:30:37 | N   | IV   |
| 1710073-003 | Barium, Total      | N/A |               | Water  | 0.06 ppm   | 50 mL       | 64 µg/L      | 1   | 13  | 20   |       |       | 11/1/17 01:30:37 | N   | IV   |
| 1710073-003 | Beryllium, Total   | N/A |               | Water  | 0.00 ppm   | 50 mL       | 3.0 µg/L U   | 1   | 0.7 | 3.0  |       |       | 11/1/17 01:30:37 | N   | IV   |
| 1710073-003 | Cadmium, Total     | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 0.9 | 5.0  |       |       | 11/1/17 01:30:37 | N   | IV   |
| 1710073-003 | Chromium, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 3   | 10   |       |       | 11/1/17 01:30:37 | N   | IV   |
| 1710073-003 | Copper, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 20 µg/L U    | 1   | 10  | 20   |       |       | 11/1/17 01:30:37 | N   | IV   |
| 1710073-003 | Iron, Total        | N/A |               | Water  | 19.26 ppm  | 50 mL       | 19300 µg/L   | 1   | 80  | 100  |       |       | 11/1/17 01:30:37 | N   | IV   |
| 1710073-003 | Magnesium, Total   | N/A |               | Water  | 10.51 ppm  | 50 mL       | 10500 µg/L   | 1   | 300 | 1000 |       |       | 11/1/17 01:30:37 | N   | IV   |
| 1710073-003 | Manganese, Total   | N/A |               | Water  | 0.65 ppm   | 50 mL       | 652 µg/L     | 1   | 5   | 10   |       |       | 11/1/17 01:30:37 | N   | IV   |
| 1710073-003 | Nickel, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 40 µg/L U    | 1   | 9   | 40   |       |       | 11/1/17 01:30:37 | N   | IV   |
| 1710073-003 | Silver, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 2   | 10   |       |       | 11/1/17 01:30:37 | N   | IV   |
| 1710073-003 | Zinc, Total        | N/A |               | Water  | 0.01 ppm   | 50 mL       | 8 µg/L J     | 1   | 7   | 20   |       |       | 11/1/17 01:30:37 | N   | IV   |
| 1710073-004 | Cadmium, Dissolved | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 0.9 | 5.0  |       |       | 11/1/17 01:33:56 | N   | IV   |
| 1710073-005 | Antimony, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 60 µg/L U    | 1   | 8   | 60   |       |       | 11/1/17 01:37:15 | N   | IV   |
| 1710073-005 | Barium, Total      | N/A |               | Water  | 0.08 ppm   | 50 mL       | 77 µg/L      | 1   | 13  | 20   |       |       | 11/1/17 01:37:15 | N   | IV   |
| 1710073-005 | Beryllium, Total   | N/A |               | Water  | 0.00 ppm   | 50 mL       | 3.0 µg/L U   | 1   | 0.7 | 3.0  |       |       | 11/1/17 01:37:15 | N   | IV   |
| 1710073-005 | Cadmium, Total     | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 0.9 | 5.0  |       |       | 11/1/17 01:37:15 | N   | IV   |
| 1710073-005 | Chromium, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 3   | 10   |       |       | 11/1/17 01:37:15 | N   | IV   |
| 1710073-005 | Copper, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 20 µg/L U    | 1   | 10  | 20   |       |       | 11/1/17 01:37:15 | N   | IV   |
| 1710073-005 | Iron, Total        | N/A |               | Water  | 5.74 ppm   | 50 mL       | 5740 µg/L    | 1   | 80  | 100  |       |       | 11/1/17 01:37:15 | N   | IV   |
| 1710073-005 | Magnesium, Total   | N/A |               | Water  | 7.83 ppm   | 50 mL       | 7800 µg/L    | 1   | 300 | 1000 |       |       | 11/1/17 01:37:15 | N   | IV   |
| 1710073-005 | Manganese, Total   | N/A |               | Water  | 0.70 ppm   | 50 mL       | 702 µg/L     | 1   | 5   | 10   |       |       | 11/1/17 01:37:15 | N   | IV   |
| 1710073-005 | Nickel, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 40 µg/L U    | 1   | 9   | 40   |       |       | 11/1/17 01:37:15 | N   | IV   |
| 1710073-005 | Silver, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 2   | 10   |       |       | 11/1/17 01:37:15 | N   | IV   |
| 1710073-005 | Zinc, Total        | N/A |               | Water  | 0.01 ppm   | 50 mL       | 20 µg/L U    | 1   | 7   | 20   |       |       | 11/1/17 01:37:15 | N   | IV   |
| 1710073-006 | Cadmium, Dissolved | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 0.9 | 5.0  |       |       | 11/1/17 01:40:34 | N   | IV   |
| 1710073-007 | Antimony, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 60 µg/L U    | 1   | 8   | 60   |       |       | 11/1/17 01:43:53 | N   | IV   |
| 1710073-007 | Barium, Total      | N/A |               | Water  | 0.03 ppm   | 50 mL       | 34 µg/L      | 1   | 13  | 20   |       |       | 11/1/17 01:43:53 | N   | IV   |
| 1710073-007 | Beryllium, Total   | N/A |               | Water  | 0.00 ppm   | 50 mL       | 3.0 µg/L U   | 1   | 0.7 | 3.0  |       |       | 11/1/17 01:43:53 | N   | IV   |
| 1710073-007 | Cadmium, Total     | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 0.9 | 5.0  |       |       | 11/1/17 01:43:53 | N   | IV   |
| 1710073-007 | Chromium, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 3   | 10   |       |       | 11/1/17 01:43:53 | N   | IV   |
| 1710073-007 | Copper, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 20 µg/L U    | 1   | 10  | 20   |       |       | 11/1/17 01:43:53 | N   | IV   |
| 1710073-007 | Iron, Total        | N/A |               | Water  | 0.31 ppm   | 50 mL       | 310 µg/L     | 1   | 80  | 100  |       |       | 11/1/17 01:43:53 | N   | IV   |

† indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

# Analytical Results Summary

Instrument Name: R-ICP-AES-06

Analyst: NMANSEN

Analysis Lot: 568348 Method/Testcode: 6010C/Mg T

| Lab Code     | Target Analytes    | QC  | Parent Sample | Matrix | Raw Result | Sample Amt. | Final Result | Dil | MDL | PQL  | % Rec | % RSD | Date Analyzed    | QC? | Tier |
|--------------|--------------------|-----|---------------|--------|------------|-------------|--------------|-----|-----|------|-------|-------|------------------|-----|------|
| R1710073-007 | Magnesium, Total   | N/A |               | Water  | 5.25 ppm   | 50 mL       | 5300 µg/L    | 1   | 300 | 1000 |       |       | 11/1/17 01:43:53 | N   | IV   |
| R1710073-007 | Manganese, Total   | N/A |               | Water  | 0.96 ppm   | 50 mL       | 960 µg/L     | 1   | 5   | 10   |       |       | 11/1/17 01:43:53 | N   | IV   |
| R1710073-007 | Nickel, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 40 µg/L U    | 1   | 9   | 40   |       |       | 11/1/17 01:43:53 | N   | IV   |
| R1710073-007 | Silver, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 2   | 10   |       |       | 11/1/17 01:43:53 | N   | IV   |
| R1710073-007 | Zinc, Total        | N/A |               | Water  | 0.01 ppm   | 50 mL       | 8 µg/L J     | 1   | 7   | 20   |       |       | 11/1/17 01:43:53 | N   | IV   |
| R1710073-008 | Cadmium, Dissolved | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 0.9 | 5.0  |       |       | 11/1/17 01:47:12 | N   | IV   |
| R1710073-009 | Antimony, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 60 µg/L U    | 1   | 8   | 60   |       |       | 11/1/17 01:57:08 | N   | IV   |
| R1710073-009 | Barium, Total      | N/A |               | Water  | 4.07 ppm   | 50 mL       | 4070 µg/L    | 1   | 13  | 20   |       |       | 11/1/17 01:57:08 | N   | IV   |
| R1710073-009 | Beryllium, Total   | N/A |               | Water  | 0.00 ppm   | 50 mL       | 3.0 µg/L U   | 1   | 0.7 | 3.0  |       |       | 11/1/17 01:57:08 | N   | IV   |
| R1710073-009 | Cadmium, Total     | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 0.9 | 5.0  |       |       | 11/1/17 01:57:08 | N   | IV   |
| R1710073-009 | Chromium, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 3   | 10   |       |       | 11/1/17 01:57:08 | N   | IV   |
| R1710073-009 | Copper, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 20 µg/L U    | 1   | 10  | 20   |       |       | 11/1/17 01:57:08 | N   | IV   |
| R1710073-009 | Magnesium, Total   | N/A |               | Water  | 15.09 ppm  | 50 mL       | 15100 µg/L   | 1   | 300 | 1000 |       |       | 11/1/17 01:57:08 | N   | IV   |
| R1710073-009 | Manganese, Total   | N/A |               | Water  | 0.29 ppm   | 50 mL       | 290 µg/L     | 1   | 5   | 10   |       |       | 11/1/17 01:57:08 | N   | IV   |
| R1710073-009 | Nickel, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 40 µg/L U    | 1   | 9   | 40   |       |       | 11/1/17 01:57:08 | N   | IV   |
| R1710073-009 | Silver, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 2   | 10   |       |       | 11/1/17 01:57:08 | N   | IV   |
| R1710073-009 | Zinc, Total        | N/A |               | Water  | 0.01 ppm   | 50 mL       | 14 µg/L J    | 1   | 7   | 20   |       |       | 11/1/17 01:57:08 | N   | IV   |
| R1710073-010 | Cadmium, Dissolved | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 0.9 | 5.0  |       |       | 11/1/17 02:00:28 | N   | IV   |
| R1710073-013 | Antimony, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 60 µg/L U    | 1   | 8   | 60   |       |       | 11/1/17 02:03:46 | Y   | IV   |
| R1710073-013 | Barium, Total      | N/A |               | Water  | 0.17 ppm   | 50 mL       | 169 µg/L     | 1   | 13  | 20   |       |       | 11/1/17 02:03:46 | Y   | IV   |
| R1710073-013 | Beryllium, Total   | N/A |               | Water  | 0.00 ppm   | 50 mL       | 3.0 µg/L U   | 1   | 0.7 | 3.0  |       |       | 11/1/17 02:03:46 | Y   | IV   |
| R1710073-013 | Cadmium, Total     | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 0.9 | 5.0  |       |       | 11/1/17 02:03:46 | Y   | IV   |
| R1710073-013 | Chromium, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 3   | 10   |       |       | 11/1/17 02:03:46 | Y   | IV   |
| R1710073-013 | Copper, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 20 µg/L U    | 1   | 10  | 20   |       |       | 11/1/17 02:03:46 | Y   | IV   |
| R1710073-013 | Iron, Total        | N/A |               | Water  | 0.07 ppm   | 50 mL       | 100 µg/L U   | 1   | 80  | 100  |       |       | 11/1/17 02:03:46 | Y   | IV   |
| R1710073-013 | Magnesium, Total   | N/A |               | Water  | 9.51 ppm   | 50 mL       | 9500 µg/L    | 1   | 300 | 1000 |       |       | 11/1/17 02:03:46 | Y   | IV   |
| R1710073-013 | Manganese, Total   | N/A |               | Water  | 0.05 ppm   | 50 mL       | 51 µg/L      | 1   | 5   | 10   |       |       | 11/1/17 02:03:46 | Y   | IV   |
| R1710073-013 | Nickel, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 40 µg/L U    | 1   | 9   | 40   |       |       | 11/1/17 02:03:46 | Y   | IV   |
| R1710073-013 | Silver, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 2   | 10   |       |       | 11/1/17 02:03:46 | Y   | IV   |
| R1710073-013 | Zinc, Total        | N/A |               | Water  | 0.00 ppm   | 50 mL       | 20 µg/L U    | 1   | 7   | 20   |       |       | 11/1/17 02:03:46 | Y   | IV   |
| RQ1711235-03 | Antimony, Total    | MS  | R1710073-013  | Water  | 0.53 ppm   | 50 mL       | 530 µg/L     | 1   | 8   | 60   | 106   |       | 11/1/17 02:07:04 | N   | IV   |
| RQ1711235-03 | Barium, Total      | MS  | R1710073-013  | Water  | 2.31 ppm   | 50 mL       | 2310 µg/L    | 1   | 13  | 20   | 107   |       | 11/1/17 02:07:04 | N   | IV   |
| RQ1711235-03 | Beryllium, Total   | MS  | R1710073-013  | Water  | 0.05 ppm   | 50 mL       | 52.8 µg/L    | 1   | 0.7 | 3.0  | 106   |       | 11/1/17 02:07:04 | N   | IV   |
| RQ1711235-03 | Cadmium, Total     | MS  | R1710073-013  | Water  | 0.05 ppm   | 50 mL       | 53.9 µg/L    | 1   | 0.9 | 5.0  | 108   |       | 11/1/17 02:07:04 | N   | IV   |
| RQ1711235-03 | Chromium, Total    | MS  | R1710073-013  | Water  | 0.21 ppm   | 50 mL       | 208 µg/L     | 1   | 3   | 10   | 104   |       | 11/1/17 02:07:04 | N   | IV   |
| RQ1711235-03 | Copper, Total      | MS  | R1710073-013  | Water  | 0.25 ppm   | 50 mL       | 254 µg/L     | 1   | 10  | 20   | 102   |       | 11/1/17 02:07:04 | N   | IV   |

U indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

# Analytical Results Summary

Instrument Name: R-ICP-AES-06

Analyst: NMANSEN

Analysis Lot: 568348 Method/Testcode: 6010C/Fe T

| Lab Code     | Target Analytes    | QC  | Parent Sample | Matrix | Raw Result | Sample Amt. | Final Result | Dil | MDL | PQL  | % Rec | % RSD | Date Analyzed    | QC? | Tier |
|--------------|--------------------|-----|---------------|--------|------------|-------------|--------------|-----|-----|------|-------|-------|------------------|-----|------|
| RQ1711235-03 | Iron, Total        | MS  | R1710073-013  | Water  | 1.04 ppm   | 50 mL       | 1040 µg/L    | 1   | 80  | 100  | 104   |       | 11/1/17 02:07:04 | N   | IV   |
| RQ1711235-03 | Magnesium, Total   | MS  | R1710073-013  | Water  | 11.83 ppm  | 50 mL       | 11800 µg/L   | 1   | 300 | 1000 | 116   |       | 11/1/17 02:07:04 | N   | IV   |
| RQ1711235-03 | Manganese, Total   | MS  | R1710073-013  | Water  | 0.56 ppm   | 50 mL       | 564 µg/L     | 1   | 5   | 10   | 103   |       | 11/1/17 02:07:04 | N   | IV   |
| RQ1711235-03 | Nickel, Total      | MS  | R1710073-013  | Water  | 0.53 ppm   | 50 mL       | 532 µg/L     | 1   | 9   | 40   | 106   |       | 11/1/17 02:07:04 | N   | IV   |
| RQ1711235-03 | Silver, Total      | MS  | R1710073-013  | Water  | 0.05 ppm   | 50 mL       | 52 µg/L      | 1   | 2   | 10   | 105   |       | 11/1/17 02:07:04 | N   | IV   |
| RQ1711235-03 | Zinc, Total        | MS  | R1710073-013  | Water  | 0.55 ppm   | 50 mL       | 550 µg/L     | 1   | 7   | 20   | 110   |       | 11/1/17 02:07:04 | N   | IV   |
| RQ1711235-04 | Antimony, Total    | DMS | R1710073-013  | Water  | 0.52 ppm   | 50 mL       | 519 µg/L     | 1   | 8   | 60   | 104   | 2     | 11/1/17 02:10:22 | N   | IV   |
| RQ1711235-04 | Barium, Total      | DMS | R1710073-013  | Water  | 2.26 ppm   | 50 mL       | 2260 µg/L    | 1   | 13  | 20   | 104   | 2     | 11/1/17 02:10:22 | N   | IV   |
| RQ1711235-04 | Beryllium, Total   | DMS | R1710073-013  | Water  | 0.05 ppm   | 50 mL       | 52.0 µg/L    | 1   | 0.7 | 3.0  | 104   | 2     | 11/1/17 02:10:22 | N   | IV   |
| RQ1711235-04 | Cadmium, Total     | DMS | R1710073-013  | Water  | 0.05 ppm   | 50 mL       | 52.9 µg/L    | 1   | 0.9 | 5.0  | 106   | 2     | 11/1/17 02:10:22 | N   | IV   |
| RQ1711235-04 | Chromium, Total    | DMS | R1710073-013  | Water  | 0.20 ppm   | 50 mL       | 204 µg/L     | 1   | 3   | 10   | 102   | 2     | 11/1/17 02:10:22 | N   | IV   |
| RQ1711235-04 | Copper, Total      | DMS | R1710073-013  | Water  | 0.25 ppm   | 50 mL       | 250 µg/L     | 1   | 10  | 20   | 100   | 2     | 11/1/17 02:10:22 | N   | IV   |
| RQ1711235-04 | Iron, Total        | DMS | R1710073-013  | Water  | 1.01 ppm   | 50 mL       | 1010 µg/L    | 1   | 80  | 100  | 101   | 2     | 11/1/17 02:10:22 | N   | IV   |
| RQ1711235-04 | Magnesium, Total   | DMS | R1710073-013  | Water  | 11.54 ppm  | 50 mL       | 11500 µg/L   | 1   | 300 | 1000 | 101   | 3     | 11/1/17 02:10:22 | N   | IV   |
| RQ1711235-04 | Manganese, Total   | DMS | R1710073-013  | Water  | 0.55 ppm   | 50 mL       | 553 µg/L     | 1   | 5   | 10   | 100   | 2     | 11/1/17 02:10:22 | N   | IV   |
| RQ1711235-04 | Nickel, Total      | DMS | R1710073-013  | Water  | 0.52 ppm   | 50 mL       | 520 µg/L     | 1   | 9   | 40   | 104   | 2     | 11/1/17 02:10:22 | N   | IV   |
| RQ1711235-04 | Silver, Total      | DMS | R1710073-013  | Water  | 0.05 ppm   | 50 mL       | 51 µg/L      | 1   | 2   | 10   | 102   | 2     | 11/1/17 02:10:22 | N   | IV   |
| RQ1711235-04 | Zinc, Total        | DMS | R1710073-013  | Water  | 0.54 ppm   | 50 mL       | 536 µg/L     | 1   | 7   | 20   | 107   | 2     | 11/1/17 02:10:22 | N   | IV   |
| R1710073-014 | Cadmium, Dissolved | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 0.9 | 5.0  |       |       | 11/1/17 02:20:18 | Y   | IV   |
| RQ1711235-05 | Cadmium, Dissolved | MS  | R1710073-014  | Water  | 0.05 ppm   | 50 mL       | 52.6 µg/L    | 1   | 0.9 | 5.0  | 105   |       | 11/1/17 02:23:37 | N   | IV   |
| RQ1711235-06 | Cadmium, Dissolved | DMS | R1710073-014  | Water  | 0.05 ppm   | 50 mL       | 52.8 µg/L    | 1   | 0.9 | 5.0  | 106   | <1    | 11/1/17 02:26:56 | N   | IV   |
| R1710073-015 | Antimony, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 60 µg/L U    | 1   | 8   | 60   |       |       | 11/1/17 02:43:31 | N   | IV   |
| R1710073-015 | Barium, Total      | N/A |               | Water  | 0.15 ppm   | 50 mL       | 148 µg/L     | 1   | 13  | 20   |       |       | 11/1/17 02:43:31 | N   | IV   |
| R1710073-015 | Beryllium, Total   | N/A |               | Water  | 0.00 ppm   | 50 mL       | 3.0 µg/L U   | 1   | 0.7 | 3.0  |       |       | 11/1/17 02:43:31 | N   | IV   |
| R1710073-015 | Cadmium, Total     | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 0.9 | 5.0  |       |       | 11/1/17 02:43:31 | N   | IV   |
| R1710073-015 | Chromium, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 3   | 10   |       |       | 11/1/17 02:43:31 | N   | IV   |
| R1710073-015 | Copper, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 20 µg/L U    | 1   | 10  | 20   |       |       | 11/1/17 02:43:31 | N   | IV   |
| R1710073-015 | Iron, Total        | N/A |               | Water  | 0.01 ppm   | 50 mL       | 100 µg/L U   | 1   | 80  | 100  |       |       | 11/1/17 02:43:31 | N   | IV   |
| R1710073-015 | Magnesium, Total   | N/A |               | Water  | 5.42 ppm   | 50 mL       | 5400 µg/L    | 1   | 300 | 1000 |       |       | 11/1/17 02:43:31 | N   | IV   |
| R1710073-015 | Manganese, Total   | N/A |               | Water  | 0.71 ppm   | 50 mL       | 712 µg/L     | 1   | 5   | 10   |       |       | 11/1/17 02:43:31 | N   | IV   |
| R1710073-015 | Nickel, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 40 µg/L U    | 1   | 9   | 40   |       |       | 11/1/17 02:43:31 | N   | IV   |
| R1710073-015 | Silver, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 2   | 10   |       |       | 11/1/17 02:43:31 | N   | IV   |
| R1710073-015 | Zinc, Total        | N/A |               | Water  | 0.00 ppm   | 50 mL       | 20 µg/L U    | 1   | 7   | 20   |       |       | 11/1/17 02:43:31 | N   | IV   |
| R1710073-016 | Cadmium, Dissolved | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 0.9 | 5.0  |       |       | 11/1/17 02:46:49 | N   | IV   |
| R1710073-017 | Antimony, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 60 µg/L U    | 1   | 8   | 60   |       |       | 11/1/17 02:50:08 | N   | IV   |
| R1710073-017 | Barium, Total      | N/A |               | Water  | 0.06 ppm   | 50 mL       | 60 µg/L      | 1   | 13  | 20   |       |       | 11/1/17 02:50:08 | N   | IV   |

U indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

# Analytical Results Summary

Instrument Name: R-ICP-AES-06

Analyst: NMANSEN

Analysis Lot: 568348 Method/Testcode: 6010C/Be T

| Lab Code     | Target Analytes    | QC  | Parent Sample | Matrix | Raw Result | Sample Amt. | Final Result | Dil | MDL | PQL  | % Rec | % RSD | Date Analyzed    | QC? | Tier |
|--------------|--------------------|-----|---------------|--------|------------|-------------|--------------|-----|-----|------|-------|-------|------------------|-----|------|
| R1710073-017 | Beryllium, Total   | N/A |               | Water  | 0.00 ppm   | 50 mL       | 3.0 µg/L U   | 1   | 0.7 | 3.0  |       |       | 11/1/17 02:50:08 | N   | IV   |
| R1710073-017 | Cadmium, Total     | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 0.9 | 5.0  |       |       | 11/1/17 02:50:08 | N   | IV   |
| R1710073-017 | Chromium, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 3   | 10   |       |       | 11/1/17 02:50:08 | N   | IV   |
| R1710073-017 | Copper, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 20 µg/L U    | 1   | 10  | 20   |       |       | 11/1/17 02:50:08 | N   | IV   |
| R1710073-017 | Iron, Total        | N/A |               | Water  | 11.63 ppm  | 50 mL       | 11600 µg/L   | 1   | 80  | 100  |       |       | 11/1/17 02:50:08 | N   | IV   |
| R1710073-017 | Magnesium, Total   | N/A |               | Water  | 10.13 ppm  | 50 mL       | 10100 µg/L   | 1   | 300 | 1000 |       |       | 11/1/17 02:50:08 | N   | IV   |
| R1710073-017 | Manganese, Total   | N/A |               | Water  | 0.45 ppm   | 50 mL       | 449 µg/L     | 1   | 5   | 10   |       |       | 11/1/17 02:50:08 | N   | IV   |
| R1710073-017 | Nickel, Total      | N/A |               | Water  | -0.01 ppm  | 50 mL       | 40 µg/L U    | 1   | 9   | 40   |       |       | 11/1/17 02:50:08 | N   | IV   |
| R1710073-017 | Silver, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 2   | 10   |       |       | 11/1/17 02:50:08 | N   | IV   |
| R1710073-017 | Zinc, Total        | N/A |               | Water  | 0.01 ppm   | 50 mL       | 20 µg/L U    | 1   | 7   | 20   |       |       | 11/1/17 02:50:08 | N   | IV   |
| R1710073-018 | Cadmium, Dissolved | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 0.9 | 5.0  |       |       | 11/1/17 02:53:26 | N   | IV   |
| R1710073-019 | Antimony, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 60 µg/L U    | 1   | 8   | 60   |       |       | 11/1/17 02:56:45 | N   | IV   |
| R1710073-019 | Barium, Total      | N/A |               | Water  | 0.02 ppm   | 50 mL       | 22 µg/L      | 1   | 13  | 20   |       |       | 11/1/17 02:56:45 | N   | IV   |
| R1710073-019 | Beryllium, Total   | N/A |               | Water  | 0.00 ppm   | 50 mL       | 3.0 µg/L U   | 1   | 0.7 | 3.0  |       |       | 11/1/17 02:56:45 | N   | IV   |
| R1710073-019 | Cadmium, Total     | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 0.9 | 5.0  |       |       | 11/1/17 02:56:45 | N   | IV   |
| R1710073-019 | Chromium, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 3   | 10   |       |       | 11/1/17 02:56:45 | N   | IV   |
| R1710073-019 | Copper, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 20 µg/L U    | 1   | 10  | 20   |       |       | 11/1/17 02:56:45 | N   | IV   |
| R1710073-019 | Iron, Total        | N/A |               | Water  | 12.26 ppm  | 50 mL       | 12300 µg/L   | 1   | 80  | 100  |       |       | 11/1/17 02:56:45 | N   | IV   |
| R1710073-019 | Magnesium, Total   | N/A |               | Water  | 9.41 ppm   | 50 mL       | 9400 µg/L    | 1   | 300 | 1000 |       |       | 11/1/17 02:56:45 | N   | IV   |
| R1710073-019 | Manganese, Total   | N/A |               | Water  | 0.15 ppm   | 50 mL       | 149 µg/L     | 1   | 5   | 10   |       |       | 11/1/17 02:56:45 | N   | IV   |
| R1710073-019 | Nickel, Total      | N/A |               | Water  | -0.01 ppm  | 50 mL       | 40 µg/L U    | 1   | 9   | 40   |       |       | 11/1/17 02:56:45 | N   | IV   |
| R1710073-019 | Silver, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 2   | 10   |       |       | 11/1/17 02:56:45 | N   | IV   |
| R1710073-019 | Zinc, Total        | N/A |               | Water  | 0.00 ppm   | 50 mL       | 20 µg/L U    | 1   | 7   | 20   |       |       | 11/1/17 02:56:45 | N   | IV   |
| R1710073-020 | Cadmium, Dissolved | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 0.9 | 5.0  |       |       | 11/1/17 03:00:04 | N   | IV   |
| R1710073-021 | Antimony, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 60 µg/L U    | 1   | 8   | 60   |       |       | 11/1/17 03:03:22 | N   | IV   |
| R1710073-021 | Barium, Total      | N/A |               | Water  | 0.03 ppm   | 50 mL       | 33 µg/L      | 1   | 13  | 20   |       |       | 11/1/17 03:03:22 | N   | IV   |
| R1710073-021 | Beryllium, Total   | N/A |               | Water  | 0.00 ppm   | 50 mL       | 3.0 µg/L U   | 1   | 0.7 | 3.0  |       |       | 11/1/17 03:03:22 | N   | IV   |
| R1710073-021 | Cadmium, Total     | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 0.9 | 5.0  |       |       | 11/1/17 03:03:22 | N   | IV   |
| R1710073-021 | Chromium, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 3   | 10   |       |       | 11/1/17 03:03:22 | N   | IV   |
| R1710073-021 | Copper, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 20 µg/L U    | 1   | 10  | 20   |       |       | 11/1/17 03:03:22 | N   | IV   |
| R1710073-021 | Iron, Total        | N/A |               | Water  | 8.09 ppm   | 50 mL       | 8090 µg/L    | 1   | 80  | 100  |       |       | 11/1/17 03:03:22 | N   | IV   |
| R1710073-021 | Magnesium, Total   | N/A |               | Water  | 7.62 ppm   | 50 mL       | 7600 µg/L    | 1   | 300 | 1000 |       |       | 11/1/17 03:03:22 | N   | IV   |
| R1710073-021 | Manganese, Total   | N/A |               | Water  | 0.15 ppm   | 50 mL       | 146 µg/L     | 1   | 5   | 10   |       |       | 11/1/17 03:03:22 | N   | IV   |
| R1710073-021 | Nickel, Total      | N/A |               | Water  | -0.01 ppm  | 50 mL       | 40 µg/L U    | 1   | 9   | 40   |       |       | 11/1/17 03:03:22 | N   | IV   |
| R1710073-021 | Silver, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 2   | 10   |       |       | 11/1/17 03:03:22 | N   | IV   |
| R1710073-021 | Zinc, Total        | N/A |               | Water  | 0.01 ppm   | 50 mL       | 20 µg/L U    | 1   | 7   | 20   |       |       | 11/1/17 03:03:22 | N   | IV   |

! indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

# Analytical Results Summary

Instrument Name: R-ICP-AES-06

Analyst: NMANSEN

Analysis Lot: 568348 Method/Testcode: 6010C/Cd D

| <u>Lab Code</u> | <u>Target Analytes</u> | <u>QC</u> | <u>Parent Sample</u> | <u>Matrix</u> | <u>Raw Result</u> | <u>Sample Amt.</u> | <u>Final Result</u> | <u>Dil</u> | <u>MDL</u> | <u>PQL</u> | <u>% Rec</u> | <u>% RSD</u> | <u>Date Analyzed</u> | <u>QC?</u> | <u>Tier</u> |
|-----------------|------------------------|-----------|----------------------|---------------|-------------------|--------------------|---------------------|------------|------------|------------|--------------|--------------|----------------------|------------|-------------|
| R1710073-022    | Cadmium, Dissolved     | N/A       |                      | Water         | 0.00 ppm          | 50 mL              | 5.0 µg/L U          | 1          | 0.9        | 5.0        |              |              | 11/1/17 03:06:41     | N          | IV          |

U indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

# Metals Cover Page

Analyst: NM

Date: 11/1/17

Instrument: <sup>CK11217</sup>  
EA 10P6

Data File: 6NOVD1B

Reviewed By: CK112/17

Entered By: CK112/17

| Starlims Run # | Analytes Used              | Batch ID | Method | Failed Analytes | Repeats          |
|----------------|----------------------------|----------|--------|-----------------|------------------|
| 568460         | Fe                         | 301955   | 6010C  |                 |                  |
|                | Mn                         | 301957   | 6010C  |                 |                  |
| 568461         | Ca Fe K Mg Mn Pb Se Tl     | 301960   | 6010C  |                 |                  |
| 568462         | Ag Al As Ba Be Cd Cr Cu    | 302021   | 6010C  | Mn              |                  |
|                | Fe Mg Mn Na Ni Pb<br>Sb Zn |          |        |                 |                  |
| 568463         | Cd Cu Fe Pb Sb Se Zn       | 302022   | 6010C  | Mn              |                  |
| 568464         | Tal + Bma Sn Sr            | 301956   | 6010C  |                 | 10194-003,005 Fe |

## Package Data:

| Client Sub# | TIER           | Analytes Used | Batch ID | Raw Data Copied? |
|-------------|----------------|---------------|----------|------------------|
|             | III / IV / ILM |               |          | Yes / No         |
|             | III / IV / ILM |               |          | Yes / No         |
|             | III / IV / ILM |               |          | Yes / No         |
|             | III / IV / ILM |               |          | Yes / No         |
|             | III / IV / ILM |               |          | Yes / No         |
|             | III / IV / ILM |               |          | Yes / No         |
|             | III / IV / ILM |               |          | Yes / No         |
|             | III / IV / ILM |               |          | Yes / No         |

**ICP-6 Run Log**  
Serial number: MY15340001

Analyst: NM

Date: 11/17

Data File: 6NOVO13

| MRL      | Prep Date | Lot #     | Cal Std 1         | Prep Date | Lot #      |
|----------|-----------|-----------|-------------------|-----------|------------|
| ICSA     | 9/18/17   | M7620093B | Cal Std 2         | 11/17     | M7620010D  |
| ICSAB    | 10/13/17  | M7620109A | Cal Std 5/ HLCCV1 | 10/25/17  | M7620022B  |
| Int. Std | 10/13/17  | M762011SH | ICV/CCV           | 11/17     | M76200498B |
| HLCCV3   | 10/25/17  | M7620125N | HLCCV2            | 10/25/17  | M7620072B  |

(Cal Std 4 is a 1/5 and Cal Std 3 is a 1/100 dilution of Cal Std 5)

| Blank Prep - Daily | NHO3 | HCl | Pipet Used | DOD Pipet Verification | IEC Date |
|--------------------|------|-----|------------|------------------------|----------|
|                    |      |     | M25, M35   | M7290047               | -        |

| Lot  | Sample                              | Time  | Method                                | Time | Sample                                |
|------|-------------------------------------|-------|---------------------------------------|------|---------------------------------------|
| 1:9  | PBW-301955                          | 1:39  | R1710113-003 10X 002                  | 2:6  | R1710088-002S                         |
| 1:10 | LCSW-301955                         | 1:40  | R1710113-003 2X 002                   | 2:7  | R1710088-002SD                        |
| 1:11 | R1710073-009 10X                    | 1:41  | R1710113-003 002                      | 2:8  | R1710088-002A                         |
| 1:12 | R1710073-009L 10X                   | 1:42  | R1710113-004 100X                     | 2:9  | R1710088-002L                         |
| 1:13 | PBW-301957                          | 1:43  | R1710113-004 10X                      | 2:10 | R1710088-003                          |
| 1:14 | LCSW-301957                         | 1:44  | R1710113-004 2X                       | 2:11 | R1710088-004                          |
| 1:15 | R1710031-019                        | 1:45  | R1710113-005 100X                     | 2:12 | R1710211-001                          |
| 1:16 | R1710031-019L                       | 1:46  | R1710113-005 10X                      | 2:13 | R1710211-002                          |
| 1:17 | PBW-301960                          | S1:6  | Continuing Calibration Verification   | 2:14 | R1710211-003                          |
| 1:18 | LCSW-301960                         | S1:7  | Continuing Calibration Blank          | 2:15 | R1710211-004                          |
| S1:6 | Continuing Calibration Verification | 1:47  | R1710113-005 2X                       | S1:8 | Continuing Calibration Verification 1 |
| S1:7 | Continuing Calibration Blank        | 1:48  | R1710113-005                          | S1:9 | Continuing Calibration Blank 1        |
| 1:19 | R1710054-001                        | 1:49  | R1710113-006 10X                      | 2:16 | R1710236-001                          |
| 1:20 | R1710054-001S                       | 1:50  | R1710113-007 10X                      | 2:17 | R1710236-002                          |
| 1:21 | R1710054-001SD                      | 1:51  | R1710113-007                          | 2:18 | R1710236-003                          |
| 1:22 | R1710054-001A                       | 1:52  | R1710200-001 10X                      | 2:19 | R1710236-004                          |
| 1:23 | R1710054-001L                       | 1:53  | R1710200-001                          | 2:20 | R1710236-005                          |
| 1:24 | R1710054-002                        | 1:54  | R1710200-002 003                      | 2:21 | R1710236-006                          |
| 1:25 | R1710054-004                        | 1:55  | R1710054-013                          | 2:22 | R1710236-007                          |
| 1:26 | R1710054-006                        | S1:6  | Continuing Calibration Verification   | 2:23 | R1710236-008                          |
| 1:27 | R1710054-008 10X                    | S1:7  | Continuing Calibration Blank          | 2:24 | R1710236-009                          |
| 1:28 | R1710054-008                        | S1:3  | Contract Required Detection Limit     | 2:25 | R1710236-010                          |
| S1:6 | Continuing Calibration Verification | S1:4  | Interference Check Solution A         | S1:8 | Continuing Calibration Verification 1 |
| S1:7 | Continuing Calibration Blank        | S1:5  | Interference Check Solution AB        | S1:9 | Continuing Calibration Blank 1        |
| 1:29 | R1710054-010                        | S1:21 | HLCCV2                                | 2:26 | R1710236-010L                         |
| 1:30 | R1710054-012 10X                    | S1:22 | HLCCV3                                | 2:27 | PBW-302021 RPT                        |
| 1:31 | R1710054-012                        | S1:23 | HLCCV1                                | S1:8 | Continuing Calibration Verification 1 |
| 1:32 | R1710113-001 10X                    | S1:8  | Continuing Calibration Verification 1 | S1:9 | Continuing Calibration Blank 1        |
| 1:33 | R1710113-001                        | S1:9  | Continuing Calibration Blank 1        | S1:3 | Contract Required Detection Limit     |
| 1:34 | R1710113-002 100X                   | 1:56  | PBW-301737                            | S1:4 | Interference Check Solution A         |
| 1:35 | R1710113-002 10X                    | 1:57  | LCSW-301737                           | S1:5 | Interference Check Solution AB        |
| 1:36 | R1710113-002 2X                     | 1:58  | R1710018-003 100X                     | S1:6 | Continuing Calibration Verification   |
| 1:37 | R1710113-002                        | 1:59  | R1710018-009 100X                     | S1:7 | Continuing Calibration Blank          |
| 1:38 | R1710113-003 100X                   | 1:60  | R1710018-009L 100X                    |      |                                       |
| S1:6 | Continuing Calibration Verification | 2:1   | FBLK-302021                           |      |                                       |
| S1:7 | Continuing Calibration Blank        | 2:2   | PBW-302021                            |      |                                       |
|      |                                     | 2:3   | LCSW-302021                           |      |                                       |
|      |                                     | 2:4   | R1710088-001                          |      |                                       |
|      |                                     | 2:5   | R1710088-002                          |      |                                       |
|      |                                     | S1:8  | Continuing Calibration Verification 1 |      |                                       |
|      |                                     | S1:9  | Continuing Calibration Blank 1        |      |                                       |

**ICP-6 Run Log**  
Serial number: MY15340001

Analyst: NM

Date: 11/17

Data File: 6NOV01B

|          | Prep Date | Lot # |                   | Prep Date | Lot # |
|----------|-----------|-------|-------------------|-----------|-------|
| MRL      |           |       | Cal Std 1         |           |       |
| ICSA     |           |       | Cal Std 2         |           |       |
| ICSAB    |           |       | Cal Std 5/ HLCCV1 | NM 11/17  |       |
| Int. Std |           |       | ICV/CCV           |           |       |
|          |           |       | HLCCV2            |           |       |

*See Previous Page*

(Cal Std 4 is a 1/5 and Cal Std 3 is a 1/100 dilution of Cal Std 5)

| Blank Prep - Daily | NHO3 | HCl | Pipet Used | DOD Pipet Verification | IEC Date |
|--------------------|------|-----|------------|------------------------|----------|
|                    |      |     |            |                        |          |

| Lot  |                                      |      |                                      |
|------|--------------------------------------|------|--------------------------------------|
| 2:28 | PBW-302022                           | 2:56 | PBW-301956                           |
| 2:29 | LCSW-302022                          | 2:57 | LCSW-301956                          |
| 2:30 | R1710078-002                         | 2:58 | R1710073-023                         |
| 2:31 | R1710078-002S                        | 2:59 | R1710073-024                         |
| 2:32 | R1710078-002SD                       | 2:60 | R1710073-028                         |
| 2:33 | R1710078-002A                        | 3:1  | R1710073-029                         |
| 2:34 | R1710078-002L                        | 3:2  | R1710073-030                         |
| 2:35 | R1710078-003                         | 3:3  | R1710073-031                         |
| 2:36 | R1710078-004                         | 3:4  | R1710073-032                         |
| 2:37 | R1710078-005                         | 3:5  | R1710073-033                         |
| S1:6 | Continuing Calibration Verification  | S1:8 | Continuing Calibration Verification1 |
| S1:7 | Continuing Calibration Blank         | S1:9 | Continuing Calibration Blank1        |
| 2:38 | R1710078-006                         | 3:6  | R1710073-033L                        |
| 2:39 | R1710078-007                         | 3:7  | R1710163-003                         |
| 2:40 | R1710078-009                         | 3:8  | R1710163-010                         |
| 2:41 | R1710078-010                         | 3:9  | R1710194-001                         |
| 2:42 | R1710078-011                         | 3:10 | R1710194-002                         |
| 2:43 | R1710078-012                         | 3:11 | R1710194-002S                        |
| 2:44 | R1710078-013                         | 3:12 | R1710194-002SD                       |
| 2:45 | R1710078-014                         | 3:13 | R1710194-002A                        |
| 2:46 | R1710078-015                         | 3:14 | R1710194-002L                        |
| 2:47 | R1710078-016                         | 3:15 | R1710194-003                         |
| S1:6 | Continuing Calibration Verification  | S1:8 | Continuing Calibration Verification1 |
| S1:7 | Continuing Calibration Blank         | S1:9 | Continuing Calibration Blank1        |
| 2:48 | R1710205-001 20X                     | 3:16 | R1710194-004                         |
| 2:49 | R1710205-001 5X                      | 3:17 | R1710194-005                         |
| 2:50 | R1710205-001                         | 3:18 | R1710194-007                         |
| 2:51 | R1710205-001D 5X                     | 3:19 | R1710208-003                         |
| 2:52 | R1710205-002 20X                     | 3:20 | R1710208-008                         |
| 2:53 | R1710205-002 5X                      | S1:8 | Continuing Calibration Verification1 |
| 2:54 | R1710205-002                         | S1:9 | Continuing Calibration Blank1        |
| 2:55 | R1710205-002D 5X                     | S1:3 | Contract Required Detection Limit    |
| S1:6 | Continuing Calibration Verification  | S1:4 | Interference Check Solution A        |
| S1:7 | Continuing Calibration Blank         | S1:5 | Interference Check Solution AB       |
| S1:3 | Contract Required Detection Limit    | S1:8 | Continuing Calibration Verification1 |
| S1:4 | Interference Check Solution A        | S1:9 | Continuing Calibration Blank1        |
| S1:5 | Interference Check Solution AB       |      |                                      |
| S1:8 | Continuing Calibration Verification1 |      |                                      |
| S1:9 | Continuing Calibration Blank1        |      |                                      |

*NM*  
*11/17*  
*72*

Forms Controlled\MetalsRunLog\ICP6Runlog r1.doc





Path: C:\Agilent\ICP Expert\My Results\6NOV01B.esws

Date created: 11/10/2015 11:09:45 AM

Instrument used: MY15340001

Software Version : 7.100.6821.61355 Firmware Version : 2994

Notes:

*Analysis:  
NM 11/1/17  
(OK 11/1/17)*

Detailed Results

| Date Time          | Label      | Element Label (nm) | Conc         | %RSD | Unadjusted Conc | Intensity  |
|--------------------|------------|--------------------|--------------|------|-----------------|------------|
| 11/1/2017 17:20:48 | Blank      | Ag (328.068 nm)    | 0.0000 (ppm) | N/A  | 0.0000 (ppm)    | -125.6661  |
| 11/1/2017 17:20:48 | Blank      | Al (394.401 nm)    | 0.0000 (ppm) | N/A  | 0.0000 (ppm)    | 83.2660    |
| 11/1/2017 17:20:48 | Blank      | As (188.980 nm)    | 0.0000 (ppm) | N/A  | 0.0000 (ppm)    | -2.8977    |
| 11/1/2017 17:20:48 | Blank      | B (249.772 nm)     | 0.0000 (ppm) | N/A  | 0.0000 (ppm)    | 90.8182    |
| 11/1/2017 17:20:48 | Blank      | Ba (230.424 nm)    | 0.0000 (ppm) | N/A  | 0.0000 (ppm)    | 8.0097     |
| 11/1/2017 17:20:48 | Blank      | Be (313.107 nm)    | 0.0000 (ppm) | N/A  | 0.0000 (ppm)    | -506.4220  |
| 11/1/2017 17:20:48 | Blank      | Ca (227.547 nm)    | 0.0000 (ppm) | N/A  | 0.0000 (ppm)    | 6.1700     |
| 11/1/2017 17:20:48 | Blank      | Cd (214.439 nm)    | 0.0000 (ppm) | N/A  | 0.0000 (ppm)    | 12.4480    |
| 11/1/2017 17:20:48 | Blank      | Co (230.786 nm)    | 0.0000 (ppm) | N/A  | 0.0000 (ppm)    | -1.3037    |
| 11/1/2017 17:20:48 | Blank      | Cr (267.716 nm)    | 0.0000 (ppm) | N/A  | 0.0000 (ppm)    | -0.4709    |
| 11/1/2017 17:20:48 | Blank      | Cu (327.395 nm)    | 0.0000 (ppm) | N/A  | 0.0000 (ppm)    | 21.4778    |
| 11/1/2017 17:20:48 | Blank      | Fe (234.350 nm)    | 0.0000 (ppm) | N/A  | 0.0000 (ppm)    | 72.7576    |
| 11/1/2017 17:20:48 | Blank      | K (766.491 nm)     | 0.0000 (ppm) | N/A  | 0.0000 (ppm)    | 57.4981    |
| 11/1/2017 17:20:48 | Blank      | Mg (279.078 nm)    | 0.0000 (ppm) | N/A  | 0.0000 (ppm)    | -7.0294    |
| 11/1/2017 17:20:48 | Blank      | Mn (257.610 nm)    | 0.0000 (ppm) | N/A  | 0.0000 (ppm)    | 32.5669    |
| 11/1/2017 17:20:48 | Blank      | Mo (202.032 nm)    | 0.0000 (ppm) | N/A  | 0.0000 (ppm)    | 16.7992    |
| 11/1/2017 17:20:48 | Blank      | Na (588.995 nm)    | 0.0000 (ppm) | N/A  | 0.0000 (ppm)    | -5978.7201 |
| 11/1/2017 17:20:48 | Blank      | Ni (230.299 nm)    | 0.0000 (ppm) | N/A  | 0.0000 (ppm)    | -26.0500   |
| 11/1/2017 17:20:48 | Blank      | Pb (220.353 nm)    | 0.0000 (ppm) | N/A  | 0.0000 (ppm)    | 5.6342     |
| 11/1/2017 17:20:48 | Blank      | Sb (217.582 nm)    | 0.0000 (ppm) | N/A  | 0.0000 (ppm)    | 4.1307     |
| 11/1/2017 17:20:48 | Blank      | Se (196.026 nm)    | 0.0000 (ppm) | N/A  | 0.0000 (ppm)    | 5.5189     |
| 11/1/2017 17:20:48 | Blank      | Sn (189.925 nm)    | 0.0000 (ppm) | N/A  | 0.0000 (ppm)    | -0.1532    |
| 11/1/2017 17:20:48 | Blank      | Sr (216.596 nm)    | 0.0000 (ppm) | N/A  | 0.0000 (ppm)    | -1.1777    |
| 11/1/2017 17:20:48 | Blank      | Ti (336.122 nm)    | 0.0000 (ppm) | N/A  | 0.0000 (ppm)    | -419.8931  |
| 11/1/2017 17:20:48 | Blank      | Ti (351.923 nm)    | 0.0000 (ppm) | N/A  | 0.0000 (ppm)    | 14.6249    |
| 11/1/2017 17:20:48 | Blank      | V (292.401 nm)     | 0.0000 (ppm) | N/A  | 0.0000 (ppm)    | 110.0844   |
| 11/1/2017 17:20:48 | Blank      | Y (360.074 nm)     | 1.00 (Ratio) | 0.00 | 1.00 (Ratio)    | 936410.29  |
| 11/1/2017 17:20:48 | Blank      | Y_R (360.074 nm)   | 1.00 (Ratio) | 0.00 | 1.00 (Ratio)    | 936127.42  |
| 11/1/2017 17:20:48 | Blank      | Zn (213.857 nm)    | 0.0000 (ppm) | N/A  | 0.0000 (ppm)    | -30.7212   |
| 11/1/2017 17:24:08 | Standard 1 | Ag (328.068 nm)    |              | N/A  |                 | -120.5821  |
| 11/1/2017 17:24:08 | Standard 1 | Al (394.401 nm)    |              | N/A  |                 | 304.1290   |
| 11/1/2017 17:24:08 | Standard 1 | As (188.980 nm)    | 0.0050 (ppm) | N/A  | 0.0050 (ppm)    | 4.4570     |
| 11/1/2017 17:24:08 | Standard 1 | B (249.772 nm)     |              | N/A  |                 | 72.2977    |
| 11/1/2017 17:24:08 | Standard 1 | Ba (230.424 nm)    | 0.0200 (ppm) | N/A  | 0.0200 (ppm)    | 742.3201   |
| 11/1/2017 17:24:08 | Standard 1 | Be (313.107 nm)    |              | N/A  |                 | -519.0163  |
| 11/1/2017 17:24:08 | Standard 1 | Ca (227.547 nm)    |              | N/A  |                 | 34.3221    |
| 11/1/2017 17:24:08 | Standard 1 | Cd (214.439 nm)    | 0.0010 (ppm) | N/A  | 0.0010 (ppm)    | 36.9250    |
| 11/1/2017 17:24:08 | Standard 1 | Co (230.786 nm)    | 0.0030 (ppm) | N/A  | 0.0030 (ppm)    | 27.2280    |
| 11/1/2017 17:24:08 | Standard 1 | Cr (267.716 nm)    | 0.0050 (ppm) | N/A  | 0.0050 (ppm)    | 251.2194   |
| 11/1/2017 17:24:08 | Standard 1 | Cu (327.395 nm)    | 0.0100 (ppm) | N/A  | 0.0100 (ppm)    | 652.1048   |

| Date Time          | Label      | Element Label (nm) | Conc         | %RSD | Unadjusted Conc | Intensity  |
|--------------------|------------|--------------------|--------------|------|-----------------|------------|
| 11/1/2017 17:24:08 | Standard 1 | Fe (234.350 nm)    |              | N/A  |                 | 11.3660    |
| 11/1/2017 17:24:08 | Standard 1 | K (766.491 nm)     |              | N/A  |                 | 5715.3334  |
| 11/1/2017 17:24:08 | Standard 1 | Mg (279.078 nm)    |              | N/A  |                 | 992.9101   |
| 11/1/2017 17:24:08 | Standard 1 | Mn (257.610 nm)    | 0.0100 (ppm) | N/A  | 0.0100 (ppm)    | 3402.0811  |
| 11/1/2017 17:24:08 | Standard 1 | Mo (202.032 nm)    | 0.0250 (ppm) | N/A  | 0.0250 (ppm)    | 270.6692   |
| 11/1/2017 17:24:08 | Standard 1 | Na (588.995 nm)    |              | N/A  |                 | 17391.1109 |
| 11/1/2017 17:24:08 | Standard 1 | Ni (230.299 nm)    |              | N/A  |                 | -24.5895   |
| 11/1/2017 17:24:08 | Standard 1 | Pb (220.353 nm)    | 0.0050 (ppm) | N/A  | 0.0050 (ppm)    | 16.0676    |
| 11/1/2017 17:24:08 | Standard 1 | Sb (217.582 nm)    | 0.0100 (ppm) | N/A  | 0.0100 (ppm)    | 15.3119    |
| 11/1/2017 17:24:08 | Standard 1 | Se (196.026 nm)    |              | N/A  |                 | 6.0892     |
| 11/1/2017 17:24:08 | Standard 1 | Sn (189.925 nm)    |              | N/A  |                 | -0.6474    |
| 11/1/2017 17:24:08 | Standard 1 | Sr (216.596 nm)    |              | N/A  |                 | -4.3918    |
| 11/1/2017 17:24:08 | Standard 1 | Ti (336.122 nm)    |              | N/A  |                 | -443.2258  |
| 11/1/2017 17:24:08 | Standard 1 | Tl (351.923 nm)    | 0.0100 (ppm) | N/A  | 0.0100 (ppm)    | 31.3451    |
| 11/1/2017 17:24:08 | Standard 1 | V (292.401 nm)     | 0.0030 (ppm) | N/A  | 0.0030 (ppm)    | 207.9685   |
| 11/1/2017 17:24:08 | Standard 1 | Y (360.074 nm)     | 1.00 (Ratio) | 0.79 | 1.00 (Ratio)    | 931929.48  |
| 11/1/2017 17:24:08 | Standard 1 | Y_R (360.074 nm)   | 1.00 (Ratio) | 0.79 | 1.00 (Ratio)    | 931675.06  |
| 11/1/2017 17:24:08 | Standard 1 | Zn (213.857 nm)    | 0.0100 (ppm) | N/A  | 0.0100 (ppm)    | 256.3019   |
| 11/1/2017 17:27:29 | Standard 2 | Ag (328.068 nm)    |              | N/A  |                 | -119.1428  |
| 11/1/2017 17:27:29 | Standard 2 | Al (394.401 nm)    | 0.1000 (ppm) | N/A  | 0.1000 (ppm)    | 1244.6777  |
| 11/1/2017 17:27:29 | Standard 2 | As (188.980 nm)    | 0.0100 (ppm) | N/A  | 0.0100 (ppm)    | 7.6778     |
| 11/1/2017 17:27:29 | Standard 2 | B (249.772 nm)     | 0.2000 (ppm) | N/A  | 0.2000 (ppm)    | 5369.6136  |
| 11/1/2017 17:27:29 | Standard 2 | Ba (230.424 nm)    |              | N/A  |                 | 1.3254     |
| 11/1/2017 17:27:29 | Standard 2 | Be (313.107 nm)    | 0.0030 (ppm) | N/A  | 0.0030 (ppm)    | 3859.3622  |
| 11/1/2017 17:27:29 | Standard 2 | Ca (227.547 nm)    | 1.0000 (ppm) | N/A  | 1.0000 (ppm)    | 58.2607    |
| 11/1/2017 17:27:29 | Standard 2 | Cd (214.439 nm)    | 0.0050 (ppm) | N/A  | 0.0050 (ppm)    | 128.2170   |
| 11/1/2017 17:27:29 | Standard 2 | Co (230.786 nm)    |              | N/A  |                 | -2.1899    |
| 11/1/2017 17:27:29 | Standard 2 | Cr (267.716 nm)    |              | N/A  |                 | 12.9543    |
| 11/1/2017 17:27:29 | Standard 2 | Cu (327.395 nm)    | 0.0200 (ppm) | N/A  | 0.0200 (ppm)    | 1245.8600  |
| 11/1/2017 17:27:29 | Standard 2 | Fe (234.350 nm)    |              | N/A  |                 | 28.8829    |
| 11/1/2017 17:27:29 | Standard 2 | K (766.491 nm)     | 2.0000 (ppm) | N/A  | 2.0000 (ppm)    | 5614.8593  |
| 11/1/2017 17:27:29 | Standard 2 | Mg (279.078 nm)    | 1.0000 (ppm) | N/A  | 1.0000 (ppm)    | 1983.3364  |
| 11/1/2017 17:27:29 | Standard 2 | Mn (257.610 nm)    |              | N/A  |                 | 43.0209    |
| 11/1/2017 17:27:29 | Standard 2 | Mo (202.032 nm)    |              | N/A  |                 | 12.2301    |
| 11/1/2017 17:27:29 | Standard 2 | Na (588.995 nm)    | 1.0000 (ppm) | N/A  | 1.0000 (ppm)    | 39908.5670 |
| 11/1/2017 17:27:29 | Standard 2 | Ni (230.299 nm)    |              | N/A  |                 | -24.9398   |
| 11/1/2017 17:27:29 | Standard 2 | Pb (220.353 nm)    | 0.0500 (ppm) | N/A  | 0.0500 (ppm)    | 118.8628   |
| 11/1/2017 17:27:29 | Standard 2 | Sb (217.582 nm)    | 0.0600 (ppm) | N/A  | 0.0600 (ppm)    | 86.7875    |
| 11/1/2017 17:27:29 | Standard 2 | Se (196.026 nm)    | 0.0100 (ppm) | N/A  | 0.0100 (ppm)    | 13.4063    |
| 11/1/2017 17:27:29 | Standard 2 | Sn (189.925 nm)    | 0.5000 (ppm) | N/A  | 0.5000 (ppm)    | 636.4301   |
| 11/1/2017 17:27:29 | Standard 2 | Sr (216.596 nm)    |              | N/A  |                 | -0.6183    |
| 11/1/2017 17:27:29 | Standard 2 | Ti (336.122 nm)    |              | N/A  |                 | -425.4702  |
| 11/1/2017 17:27:29 | Standard 2 | Tl (351.923 nm)    |              | N/A  |                 | 7.9410     |
| 11/1/2017 17:27:29 | Standard 2 | V (292.401 nm)     |              | N/A  |                 | 108.0613   |
| 11/1/2017 17:27:29 | Standard 2 | Y (360.074 nm)     | 1.00 (Ratio) | 0.90 | 1.00 (Ratio)    | 932347.41  |
| 11/1/2017 17:27:29 | Standard 2 | Y_R (360.074 nm)   | 1.00 (Ratio) | 0.90 | 1.00 (Ratio)    | 932219.31  |
| 11/1/2017 17:27:29 | Standard 2 | Zn (213.857 nm)    |              | N/A  |                 | -26.5468   |
| 11/1/2017 17:30:49 | Standard 3 | Ag (328.068 nm)    | 0.0100 (ppm) | N/A  | 0.0100 (ppm)    | 594.9387   |
| 11/1/2017 17:30:49 | Standard 3 | Al (394.401 nm)    |              | N/A  |                 | 2382.0745  |
| 11/1/2017 17:30:49 | Standard 3 | As (188.980 nm)    |              | N/A  |                 | 16.6388    |
| 11/1/2017 17:30:49 | Standard 3 | B (249.772 nm)     |              | N/A  |                 | 1435.1353  |

| Date Time          | Label      | Element Label (nm) | Conc          | %RSD | Unadjusted Conc | Intensity   |
|--------------------|------------|--------------------|---------------|------|-----------------|-------------|
| 11/1/2017 17:30:49 | Standard 3 | Ba (230.424 nm)    |               | N/A  |                 | 7453.8470   |
| 11/1/2017 17:30:49 | Standard 3 | Be (313.107 nm)    | 0.0050 (ppm)  | N/A  | 0.0050 (ppm)    | 6835.9273   |
| 11/1/2017 17:30:49 | Standard 3 | Ca (227.547 nm)    | 0.5000 (ppm)  | N/A  | 0.5000 (ppm)    | 31.6589     |
| 11/1/2017 17:30:49 | Standard 3 | Cd (214.439 nm)    |               | N/A  |                 | 244.3878    |
| 11/1/2017 17:30:49 | Standard 3 | Co (230.786 nm)    | 0.0500 (ppm)  | N/A  | 0.0500 (ppm)    | 523.9441    |
| 11/1/2017 17:30:49 | Standard 3 | Cr (267.716 nm)    | 0.0100 (ppm)  | N/A  | 0.0100 (ppm)    | 528.8173    |
| 11/1/2017 17:30:49 | Standard 3 | Cu (327.395 nm)    |               | N/A  |                 | 1547.0876   |
| 11/1/2017 17:30:49 | Standard 3 | Fe (234.350 nm)    | 0.1000 (ppm)  | N/A  | 0.1000 (ppm)    | 1512.4554   |
| 11/1/2017 17:30:49 | Standard 3 | K (766.491 nm)     | 0.5000 (ppm)  | N/A  | 0.5000 (ppm)    | 1442.4589   |
| 11/1/2017 17:30:49 | Standard 3 | Mg (279.078 nm)    | 0.5000 (ppm)  | N/A  | 0.5000 (ppm)    | 987.8086    |
| 11/1/2017 17:30:49 | Standard 3 | Mn (257.610 nm)    |               | N/A  |                 | 5114.1157   |
| 11/1/2017 17:30:49 | Standard 3 | Mo (202.032 nm)    |               | N/A  |                 | 538.3619    |
| 11/1/2017 17:30:49 | Standard 3 | Na (588.995 nm)    | 0.5000 (ppm)  | N/A  | 0.5000 (ppm)    | 17114.7957  |
| 11/1/2017 17:30:49 | Standard 3 | Ni (230.299 nm)    | 0.0400 (ppm)  | N/A  | 0.0400 (ppm)    | 261.0267    |
| 11/1/2017 17:30:49 | Standard 3 | Pb (220.353 nm)    |               | N/A  |                 | 26.9026     |
| 11/1/2017 17:30:49 | Standard 3 | Sb (217.582 nm)    |               | N/A  |                 | 138.2927    |
| 11/1/2017 17:30:49 | Standard 3 | Se (196.026 nm)    |               | N/A  |                 | 14.0321     |
| 11/1/2017 17:30:49 | Standard 3 | Sn (189.925 nm)    |               | N/A  |                 | 129.2747    |
| 11/1/2017 17:30:49 | Standard 3 | Sr (216.596 nm)    | 0.0500 (ppm)  | N/A  | 0.0500 (ppm)    | 760.8255    |
| 11/1/2017 17:30:49 | Standard 3 | Ti (336.122 nm)    | 0.0500 (ppm)  | N/A  | 0.0500 (ppm)    | 10487.9120  |
| 11/1/2017 17:30:49 | Standard 3 | Tl (351.923 nm)    | 0.0200 (ppm)  | N/A  | 0.0200 (ppm)    | 60.5364     |
| 11/1/2017 17:30:49 | Standard 3 | V (292.401 nm)     | 0.0500 (ppm)  | N/A  | 0.0500 (ppm)    | 1885.7703   |
| 11/1/2017 17:30:49 | Standard 3 | Y (360.074 nm)     | 1.00 (Ratio)  | 0.78 | 1.00 (Ratio)    | 935845.66   |
| 11/1/2017 17:30:49 | Standard 3 | Y_R (360.074 nm)   | 1.00 (Ratio)  | 0.79 | 1.00 (Ratio)    | 935679.32   |
| 11/1/2017 17:30:49 | Standard 3 | Zn (213.857 nm)    | 0.0200 (ppm)  | N/A  | 0.0200 (ppm)    | 547.1374    |
| 11/1/2017 17:34:10 | Standard 4 | Ag (328.068 nm)    | 0.2000 (ppm)  | N/A  | 0.2000 (ppm)    | 14266.3824  |
| 11/1/2017 17:34:10 | Standard 4 | Al (394.401 nm)    | 4.0000 (ppm)  | N/A  | 4.0000 (ppm)    | 49672.1429  |
| 11/1/2017 17:34:10 | Standard 4 | As (188.980 nm)    | 0.4000 (ppm)  | N/A  | 0.4000 (ppm)    | 362.9156    |
| 11/1/2017 17:34:10 | Standard 4 | B (249.772 nm)     | 1.0000 (ppm)  | N/A  | 1.0000 (ppm)    | 28126.3091  |
| 11/1/2017 17:34:10 | Standard 4 | Ba (230.424 nm)    | 4.0000 (ppm)  | N/A  | 4.0000 (ppm)    | 145965.0033 |
| 11/1/2017 17:34:10 | Standard 4 | Be (313.107 nm)    | 0.1000 (ppm)  | N/A  | 0.1000 (ppm)    | 150837.9344 |
| 11/1/2017 17:34:10 | Standard 4 | Ca (227.547 nm)    | 10.0000 (ppm) | N/A  | 10.0000 (ppm)   | 564.8295    |
| 11/1/2017 17:34:10 | Standard 4 | Cd (214.439 nm)    | 0.2000 (ppm)  | N/A  | 0.2000 (ppm)    | 4645.2034   |
| 11/1/2017 17:34:10 | Standard 4 | Co (230.786 nm)    | 1.0000 (ppm)  | N/A  | 1.0000 (ppm)    | 10454.7271  |
| 11/1/2017 17:34:10 | Standard 4 | Cr (267.716 nm)    | 0.2000 (ppm)  | N/A  | 0.2000 (ppm)    | 10521.0412  |
| 11/1/2017 17:34:10 | Standard 4 | Cu (327.395 nm)    | 0.5000 (ppm)  | N/A  | 0.5000 (ppm)    | 30580.8213  |
| 11/1/2017 17:34:10 | Standard 4 | Fe (234.350 nm)    | 2.0000 (ppm)  | N/A  | 2.0000 (ppm)    | 23972.1755  |
| 11/1/2017 17:34:10 | Standard 4 | K (766.491 nm)     | 10.0000 (ppm) | N/A  | 10.0000 (ppm)   | 29583.0168  |
| 11/1/2017 17:34:10 | Standard 4 | Mg (279.078 nm)    | 10.0000 (ppm) | N/A  | 10.0000 (ppm)   | 20043.2782  |
| 11/1/2017 17:34:10 | Standard 4 | Mn (257.610 nm)    | 0.3000 (ppm)  | N/A  | 0.3000 (ppm)    | 98605.0293  |
| 11/1/2017 17:34:10 | Standard 4 | Mo (202.032 nm)    | 1.0000 (ppm)  | N/A  | 1.0000 (ppm)    | 10714.5245  |
| 11/1/2017 17:34:10 | Standard 4 | Na (588.995 nm)    | 10.0000 (ppm) | N/A  | 10.0000 (ppm)   | 451756.9732 |
| 11/1/2017 17:34:10 | Standard 4 | Ni (230.299 nm)    | 0.8000 (ppm)  | N/A  | 0.8000 (ppm)    | 5663.8154   |
| 11/1/2017 17:34:10 | Standard 4 | Pb (220.353 nm)    | 0.2000 (ppm)  | N/A  | 0.2000 (ppm)    | 457.3086    |
| 11/1/2017 17:34:10 | Standard 4 | Sb (217.582 nm)    | 2.0000 (ppm)  | N/A  | 2.0000 (ppm)    | 2827.2394   |
| 11/1/2017 17:34:10 | Standard 4 | Se (196.026 nm)    | 0.2000 (ppm)  | N/A  | 0.2000 (ppm)    | 175.1382    |
| 11/1/2017 17:34:10 | Standard 4 | Sn (189.925 nm)    | 2.0000 (ppm)  | N/A  | 2.0000 (ppm)    | 2594.7338   |
| 11/1/2017 17:34:10 | Standard 4 | Sr (216.596 nm)    | 1.0000 (ppm)  | N/A  | 1.0000 (ppm)    | 15099.5713  |
| 11/1/2017 17:34:10 | Standard 4 | Ti (336.122 nm)    | 1.0000 (ppm)  | N/A  | 1.0000 (ppm)    | 220224.7585 |
| 11/1/2017 17:34:10 | Standard 4 | Tl (351.923 nm)    | 0.4000 (ppm)  | N/A  | 0.4000 (ppm)    | 1089.3385   |
| 11/1/2017 17:34:10 | Standard 4 | V (292.401 nm)     | 1.0000 (ppm)  | N/A  | 1.0000 (ppm)    | 36065.5295  |

| Date Time          | Label                            | Element Label (nm) | Conc          | %RSD | Unadjusted Conc | Intensity    |
|--------------------|----------------------------------|--------------------|---------------|------|-----------------|--------------|
| 11/1/2017 17:34:10 | Standard 4                       | Y (360.074 nm)     | 0.98 (Ratio)  | 0.78 | 0.98 (Ratio)    | 916371.29    |
| 11/1/2017 17:34:10 | Standard 4                       | Y_R (360.074 nm)   | 0.98 (Ratio)  | 0.78 | 0.98 (Ratio)    | 916380.92    |
| 11/1/2017 17:34:10 | Standard 4                       | Zn (213.857 nm)    | 0.4000 (ppm)  | N/A  | 0.4000 (ppm)    | 11486.1719   |
| 11/1/2017 17:37:29 | Standard 5                       | Ag (328.068 nm)    | 1.0000 (ppm)  | N/A  | 1.0000 (ppm)    | 73395.5200   |
| 11/1/2017 17:37:29 | Standard 5                       | Al (394.401 nm)    | 20.0000 (ppm) | N/A  | 20.0000 (ppm)   | 267918.2714  |
| 11/1/2017 17:37:29 | Standard 5                       | As (188.980 nm)    | 2.0000 (ppm)  | N/A  | 2.0000 (ppm)    | 1849.0375    |
| 11/1/2017 17:37:29 | Standard 5                       | B (249.772 nm)     | 5.0000 (ppm)  | N/A  | 5.0000 (ppm)    | 143517.7933  |
| 11/1/2017 17:37:29 | Standard 5                       | Ba (230.424 nm)    | 20.0000 (ppm) | N/A  | 20.0000 (ppm)   | 698765.2672  |
| 11/1/2017 17:37:29 | Standard 5                       | Be (313.107 nm)    | 0.5000 (ppm)  | N/A  | 0.5000 (ppm)    | 757935.2284  |
| 11/1/2017 17:37:29 | Standard 5                       | Ca (227.547 nm)    | 50.0000 (ppm) | N/A  | 50.0000 (ppm)   | 2948.4473    |
| 11/1/2017 17:37:29 | Standard 5                       | Cd (214.439 nm)    | 1.0000 (ppm)  | N/A  | 1.0000 (ppm)    | 22737.3538   |
| 11/1/2017 17:37:29 | Standard 5                       | Co (230.786 nm)    | 5.0000 (ppm)  | N/A  | 5.0000 (ppm)    | 51425.9752   |
| 11/1/2017 17:37:29 | Standard 5                       | Cr (267.716 nm)    | 1.0000 (ppm)  | N/A  | 1.0000 (ppm)    | 52134.9536   |
| 11/1/2017 17:37:29 | Standard 5                       | Cu (327.395 nm)    | 2.5000 (ppm)  | N/A  | 2.5000 (ppm)    | 157213.9620  |
| 11/1/2017 17:37:29 | Standard 5                       | Fe (234.350 nm)    | 10.0000 (ppm) | N/A  | 10.0000 (ppm)   | 116107.8748  |
| 11/1/2017 17:37:29 | Standard 5                       | K (766.491 nm)     | 50.0000 (ppm) | N/A  | 50.0000 (ppm)   | 154732.0858  |
| 11/1/2017 17:37:29 | Standard 5                       | Mg (279.078 nm)    | 50.0000 (ppm) | N/A  | 50.0000 (ppm)   | 100908.2747  |
| 11/1/2017 17:37:29 | Standard 5                       | Mn (257.610 nm)    | 1.5000 (ppm)  | N/A  | 1.5000 (ppm)    | 485024.4948  |
| 11/1/2017 17:37:29 | Standard 5                       | Mo (202.032 nm)    | 5.0000 (ppm)  | N/A  | 5.0000 (ppm)    | 53516.5660   |
| 11/1/2017 17:37:29 | Standard 5                       | Na (588.995 nm)    | 50.0000 (ppm) | N/A  | 50.0000 (ppm)   | 2288585.9378 |
| 11/1/2017 17:37:29 | Standard 5                       | Ni (230.299 nm)    | 4.0000 (ppm)  | N/A  | 4.0000 (ppm)    | 27702.7510   |
| 11/1/2017 17:37:29 | Standard 5                       | Pb (220.353 nm)    | 1.0000 (ppm)  | N/A  | 1.0000 (ppm)    | 2236.7490    |
| 11/1/2017 17:37:29 | Standard 5                       | Sb (217.582 nm)    | 10.0000 (ppm) | N/A  | 10.0000 (ppm)   | 14276.0977   |
| 11/1/2017 17:37:29 | Standard 5                       | Se (196.026 nm)    | 1.0000 (ppm)  | N/A  | 1.0000 (ppm)    | 880.0851     |
| 11/1/2017 17:37:29 | Standard 5                       | Sn (189.925 nm)    | 10.0000 (ppm) | N/A  | 10.0000 (ppm)   | 12732.8993   |
| 11/1/2017 17:37:29 | Standard 5                       | Sr (216.596 nm)    | 5.0000 (ppm)  | N/A  | 5.0000 (ppm)    | 74548.4614   |
| 11/1/2017 17:37:29 | Standard 5                       | Ti (336.122 nm)    | 5.0000 (ppm)  | N/A  | 5.0000 (ppm)    | 1095818.0589 |
| 11/1/2017 17:37:29 | Standard 5                       | Tl (351.923 nm)    | 2.0000 (ppm)  | N/A  | 2.0000 (ppm)    | 5705.0758    |
| 11/1/2017 17:37:29 | Standard 5                       | V (292.401 nm)     | 5.0000 (ppm)  | N/A  | 5.0000 (ppm)    | 180102.4786  |
| 11/1/2017 17:37:29 | Standard 5                       | Y (360.074 nm)     | 0.93 (Ratio)  | 0.80 | 0.93 (Ratio)    | 868890.18    |
| 11/1/2017 17:37:29 | Standard 5                       | Y_R (360.074 nm)   | 0.93 (Ratio)  | 0.80 | 0.93 (Ratio)    | 869028.13    |
| 11/1/2017 17:37:29 | Standard 5                       | Zn (213.857 nm)    | 2.0000 (ppm)  | N/A  | 2.0000 (ppm)    | 58100.2862   |
| 11/1/2017 17:40:49 | Initial Calibration Verification | Ag (328.068 nm)    | 0.4886 (ppm)  | 0.49 | 0.4886 (ppm)    | 35764.4811   |
| 11/1/2017 17:40:49 | Initial Calibration Verification | Al (394.401 nm)    | 9.4977 (ppm)  | 0.66 | 9.4977 (ppm)    | 126910.6797  |
| 11/1/2017 17:40:49 | Initial Calibration Verification | As (188.980 nm)    | 0.9721 (ppm)  | 0.12 | 0.9721 (ppm)    | 896.8549     |
| 11/1/2017 17:40:49 | Initial Calibration Verification | B (249.772 nm)     | 2.4209 (ppm)  | 0.49 | 2.4209 (ppm)    | 69465.9169   |
| 11/1/2017 17:40:49 | Initial Calibration Verification | Ba (230.424 nm)    | 10.3099 (ppm) | 0.52 | 10.3099 (ppm)   | 360829.2121  |
| 11/1/2017 17:40:49 | Initial Calibration Verification | Be (313.107 nm)    | 0.2528 (ppm)  | 0.50 | 0.2528 (ppm)    | 382962.9256  |
| 11/1/2017 17:40:49 | Initial Calibration Verification | Ca (227.547 nm)    | 24.1550 (ppm) | 0.42 | 24.1550 (ppm)   | 1424.7344    |
| 11/1/2017 17:40:49 | Initial Calibration Verification | Cd (214.439 nm)    | 0.5005 (ppm)  | 0.29 | 0.5005 (ppm)    | 11395.6512   |
| 11/1/2017 17:40:49 | Initial Calibration Verification | Co (230.786 nm)    | 2.5956 (ppm)  | 0.36 | 2.5956 (ppm)    | 26712.5173   |
| 11/1/2017 17:40:49 | Initial Calibration Verification | Cr (267.716 nm)    | 0.5032 (ppm)  | 0.44 | 0.5032 (ppm)    | 26244.4738   |
| 11/1/2017 17:40:49 | Initial Calibration Verification | Cu (327.395 nm)    | 1.2006 (ppm)  | 1.00 | 1.2006 (ppm)    | 75430.4256   |
| 11/1/2017 17:40:49 | Initial Calibration Verification | Fe (234.350 nm)    | 4.8566 (ppm)  | 0.34 | 4.8566 (ppm)    | 56492.8087   |
| 11/1/2017 17:40:49 | Initial Calibration Verification | K (766.491 nm)     | 24.5424 (ppm) | 0.89 | 24.5424 (ppm)   | 75833.6653   |
| 11/1/2017 17:40:49 | Initial Calibration Verification | Mg (279.078 nm)    | 24.9510 (ppm) | 0.34 | 24.9510 (ppm)   | 50338.6978   |
| 11/1/2017 17:40:49 | Initial Calibration Verification | Mn (257.610 nm)    | 0.7528 (ppm)  | 0.44 | 0.7528 (ppm)    | 243574.2879  |
| 11/1/2017 17:40:49 | Initial Calibration Verification | Mo (202.032 nm)    | 2.4017 (ppm)  | 0.40 | 2.4017 (ppm)    | 25714.2532   |
| 11/1/2017 17:40:49 | Initial Calibration Verification | Na (588.995 nm)    | 24.5807 (ppm) | 0.94 | 24.5807 (ppm)   | 1121949.1038 |
| 11/1/2017 17:40:49 | Initial Calibration Verification | Ni (230.299 nm)    | 2.0378 (ppm)  | 0.34 | 2.0378 (ppm)    | 14114.8888   |
| 11/1/2017 17:40:49 | Initial Calibration Verification | Pb (220.353 nm)    | 0.4997 (ppm)  | 0.80 | 0.4997 (ppm)    | 1121.1533    |

| Date Time          | Label                             | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity   |
|--------------------|-----------------------------------|--------------------|-----------------|----------|-----------------|-------------|
| 11/1/2017 17:40:49 | Initial Calibration Verification  | Sb (217.582 nm)    | 4.9161 (ppm)    | 0.54     | 4.9161 (ppm)    | 7017.4608   |
| 11/1/2017 17:40:49 | Initial Calibration Verification  | Se (196.026 nm)    | 0.4851 (ppm)    | 0.55     | 0.4851 (ppm)    | 429.3152    |
| 11/1/2017 17:40:49 | Initial Calibration Verification  | Sn (189.925 nm)    | 5.0760 (ppm)    | 0.55     | 5.0760 (ppm)    | 6467.8073   |
| 11/1/2017 17:40:49 | Initial Calibration Verification  | Sr (216.596 nm)    | 2.5220 (ppm)    | 0.21     | 2.5220 (ppm)    | 37619.6264  |
| 11/1/2017 17:40:49 | Initial Calibration Verification  | Ti (336.122 nm)    | 2.4942 (ppm)    | 0.45     | 2.4942 (ppm)    | 546567.2936 |
| 11/1/2017 17:40:49 | Initial Calibration Verification  | Tl (351.923 nm)    | 0.9867 (ppm)    | 0.70     | 0.9867 (ppm)    | 2815.8881   |
| 11/1/2017 17:40:49 | Initial Calibration Verification  | V (292.401 nm)     | 2.5198 (ppm)    | 0.46     | 2.5198 (ppm)    | 90814.6452  |
| 11/1/2017 17:40:49 | Initial Calibration Verification  | Y (360.074 nm)     | 0.96 (Ratio)    | 0.83     | 0.96 (Ratio)    | 894283.14   |
| 11/1/2017 17:40:49 | Initial Calibration Verification  | Y_R (360.074 nm)   | 0.96 (Ratio)    | 0.84     | 0.96 (Ratio)    | 894449.34   |
| 11/1/2017 17:40:49 | Initial Calibration Verification  | Zn (213.857 nm)    | 1.0039 (ppm)    | 0.39     | 1.0039 (ppm)    | 29138.6502  |
| 11/1/2017 17:44:08 | Initial Calibration Blank         | Ag (328.068 nm)    | 0.0002 (ppm)    | 28.42    | 0.0002 (ppm)    | -112.6960   |
| 11/1/2017 17:44:08 | Initial Calibration Blank         | Al (394.401 nm)    | 0.0026 (ppm)    | 16.94    | 0.0026 (ppm)    | 117.6638    |
| 11/1/2017 17:44:08 | Initial Calibration Blank         | As (188.980 nm)    | 0.0031 (ppm)    | 33.03    | 0.0031 (ppm)    | -0.0219     |
| 11/1/2017 17:44:08 | Initial Calibration Blank         | B (249.772 nm)     | 0.0032 (ppm)    | 22.62    | 0.0032 (ppm)    | 183.1051    |
| 11/1/2017 17:44:08 | Initial Calibration Blank         | Ba (230.424 nm)    | 0.0037 (ppm)    | 7.83     | 0.0037 (ppm)    | 137.4008    |
| 11/1/2017 17:44:08 | Initial Calibration Blank         | Be (313.107 nm)    | 0.0001 (ppm)    | 11.06    | 0.0001 (ppm)    | -375.2670   |
| 11/1/2017 17:44:08 | Initial Calibration Blank         | Ca (227.547 nm)    | -0.0239 u (ppm) | 63.66    | -0.0239 (ppm)   | 4.7641      |
| 11/1/2017 17:44:08 | Initial Calibration Blank         | Cd (214.439 nm)    | 0.0003 (ppm)    | 20.33    | 0.0003 (ppm)    | 18.6680     |
| 11/1/2017 17:44:08 | Initial Calibration Blank         | Co (230.786 nm)    | 0.0009 (ppm)    | 13.43    | 0.0009 (ppm)    | 7.4847      |
| 11/1/2017 17:44:08 | Initial Calibration Blank         | Cr (267.716 nm)    | 0.0002 (ppm)    | 39.10    | 0.0002 (ppm)    | 7.9013      |
| 11/1/2017 17:44:08 | Initial Calibration Blank         | Cu (327.395 nm)    | 0.0004 (ppm)    | 39.70    | 0.0004 (ppm)    | 47.3874     |
| 11/1/2017 17:44:08 | Initial Calibration Blank         | Fe (234.350 nm)    | 0.0907 (ppm)    | 1.01     | 0.0907 (ppm)    | 1126.9762   |
| 11/1/2017 17:44:08 | Initial Calibration Blank         | K (766.491 nm)     | 0.0389 (ppm)    | 22.62    | 0.0389 (ppm)    | 177.6543    |
| 11/1/2017 17:44:08 | Initial Calibration Blank         | Mg (279.078 nm)    | 0.0117 (ppm)    | 15.51    | 0.0117 (ppm)    | 16.5292     |
| 11/1/2017 17:44:08 | Initial Calibration Blank         | Mn (257.610 nm)    | 0.0004 (ppm)    | 2.47     | 0.0004 (ppm)    | 173.8905    |
| 11/1/2017 17:44:08 | Initial Calibration Blank         | Mo (202.032 nm)    | 0.0027 (ppm)    | 4.68     | 0.0027 (ppm)    | 45.8946     |
| 11/1/2017 17:44:08 | Initial Calibration Blank         | Na (588.995 nm)    | 0.0111 (ppm)    | 17.03    | 0.0111 (ppm)    | -5470.6056  |
| 11/1/2017 17:44:08 | Initial Calibration Blank         | Ni (230.299 nm)    | 0.0014 (ppm)    | 20.99    | 0.0014 (ppm)    | -16.5886    |
| 11/1/2017 17:44:08 | Initial Calibration Blank         | Pb (220.353 nm)    | 0.0003 u (ppm)  | > 100.00 | 0.0003 (ppm)    | 6.3941      |
| 11/1/2017 17:44:08 | Initial Calibration Blank         | Sb (217.582 nm)    | 0.0049 (ppm)    | 17.10    | 0.0049 (ppm)    | 11.0802     |
| 11/1/2017 17:44:08 | Initial Calibration Blank         | Se (196.026 nm)    | 0.0014 u (ppm)  | > 100.00 | 0.0014 (ppm)    | 6.7049      |
| 11/1/2017 17:44:08 | Initial Calibration Blank         | Sn (189.925 nm)    | 0.0036 (ppm)    | 7.40     | 0.0036 (ppm)    | 4.4091      |
| 11/1/2017 17:44:08 | Initial Calibration Blank         | Sr (216.596 nm)    | 0.0010 (ppm)    | 2.17     | 0.0010 (ppm)    | 13.0839     |
| 11/1/2017 17:44:08 | Initial Calibration Blank         | Ti (336.122 nm)    | 0.0018 (ppm)    | 7.35     | 0.0018 (ppm)    | -16.7611    |
| 11/1/2017 17:44:08 | Initial Calibration Blank         | Tl (351.923 nm)    | -0.0003 u (ppm) | > 100.00 | -0.0003 (ppm)   | 13.8616     |
| 11/1/2017 17:44:08 | Initial Calibration Blank         | V (292.401 nm)     | 0.0008 (ppm)    | 14.43    | 0.0008 (ppm)    | 140.3344    |
| 11/1/2017 17:44:08 | Initial Calibration Blank         | Y (360.074 nm)     | 1.00 (Ratio)    | 0.81     | 1.00 (Ratio)    | 937920.16   |
| 11/1/2017 17:44:08 | Initial Calibration Blank         | Y_R (360.074 nm)   | 1.00 (Ratio)    | 0.81     | 1.00 (Ratio)    | 938067.08   |
| 11/1/2017 17:44:08 | Initial Calibration Blank         | Zn (213.857 nm)    | 0.0015 (ppm)    | 3.04     | 0.0015 (ppm)    | 12.0512     |
| 11/1/2017 17:47:26 | Contract Required Detection Limit | Ag (328.068 nm)    | 0.0096 (ppm)    | 0.37     | 0.0096 (ppm)    | 578.6562    |
| 11/1/2017 17:47:26 | Contract Required Detection Limit | Al (394.401 nm)    | 0.1725 (ppm)    | 0.71     | 0.1725 (ppm)    | 2386.2240   |
| 11/1/2017 17:47:26 | Contract Required Detection Limit | As (188.980 nm)    | 0.0226 (ppm)    | 11.46    | 0.0226 (ppm)    | 18.0185     |
| 11/1/2017 17:47:26 | Contract Required Detection Limit | B (249.772 nm)     | 0.1884 (ppm)    | 0.63     | 0.1884 (ppm)    | 5489.4533   |
| 11/1/2017 17:47:26 | Contract Required Detection Limit | Ba (230.424 nm)    | 0.2100 (ppm)    | 0.49     | 0.2100 (ppm)    | 7357.5545   |
| 11/1/2017 17:47:26 | Contract Required Detection Limit | Be (313.107 nm)    | 0.0048 (ppm)    | 0.40     | 0.0048 (ppm)    | 6789.0236   |
| 11/1/2017 17:47:26 | Contract Required Detection Limit | Ca (227.547 nm)    | 0.9542 (ppm)    | 4.27     | 0.9542 (ppm)    | 62.2101     |
| 11/1/2017 17:47:26 | Contract Required Detection Limit | Cd (214.439 nm)    | 0.0102 (ppm)    | 0.87     | 0.0102 (ppm)    | 244.6587    |
| 11/1/2017 17:47:26 | Contract Required Detection Limit | Co (230.786 nm)    | 0.0507 (ppm)    | 0.78     | 0.0507 (ppm)    | 520.1030    |
| 11/1/2017 17:47:26 | Contract Required Detection Limit | Cr (267.716 nm)    | 0.0100 (ppm)    | 0.95     | 0.0100 (ppm)    | 521.2067    |
| 11/1/2017 17:47:26 | Contract Required Detection Limit | Cu (327.395 nm)    | 0.0240 (ppm)    | 0.91     | 0.0240 (ppm)    | 1531.5064   |
| 11/1/2017 17:47:26 | Contract Required Detection Limit | Fe (234.350 nm)    | 0.0965 (ppm)    | 0.50     | 0.0965 (ppm)    | 1194.0249   |

| Date Time          | Label                             | Element Label (nm) | Conc             | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|-----------------------------------|--------------------|------------------|----------|-----------------|--------------|
| 11/1/2017 17:47:26 | Contract Required Detection Limit | K (766.491 nm)     | 0.9342 (ppm)     | 0.63     | 0.9342 (ppm)    | 2941.9125    |
| 11/1/2017 17:47:26 | Contract Required Detection Limit | Mg (279.078 nm)    | 0.9895 (ppm)     | 0.55     | 0.9895 (ppm)    | 1989.6074    |
| 11/1/2017 17:47:26 | Contract Required Detection Limit | Mn (257.610 nm)    | 0.0152 (ppm)     | 0.49     | 0.0152 (ppm)    | 4949.5758    |
| 11/1/2017 17:47:26 | Contract Required Detection Limit | Mo (202.032 nm)    | 0.0246 (ppm)     | 2.15     | 0.0246 (ppm)    | 280.3838     |
| 11/1/2017 17:47:26 | Contract Required Detection Limit | Na (588.995 nm)    | 1.0048 (ppm)     | 1.00     | 1.0048 (ppm)    | 40127.0917   |
| 11/1/2017 17:47:26 | Contract Required Detection Limit | Ni (230.299 nm)    | 0.0405 (ppm)     | 1.27     | 0.0405 (ppm)    | 255.2248     |
| 11/1/2017 17:47:26 | Contract Required Detection Limit | Pb (220.353 nm)    | 0.0104 (ppm)     | 3.59     | 0.0104 (ppm)    | 28.8377      |
| 11/1/2017 17:47:26 | Contract Required Detection Limit | Sb (217.582 nm)    | 0.0594 (ppm)     | 1.88     | 0.0594 (ppm)    | 88.9390      |
| 11/1/2017 17:47:26 | Contract Required Detection Limit | Se (196.026 nm)    | 0.0083 (ppm)     | 20.10    | 0.0083 (ppm)    | 12.7383      |
| 11/1/2017 17:47:26 | Contract Required Detection Limit | Sn (189.925 nm)    | 0.5028 (ppm)     | 0.87     | 0.5028 (ppm)    | 640.5861     |
| 11/1/2017 17:47:26 | Contract Required Detection Limit | Sr (216.596 nm)    | 0.1005 (ppm)     | 0.98     | 0.1005 (ppm)    | 1498.4798    |
| 11/1/2017 17:47:26 | Contract Required Detection Limit | Ti (336.122 nm)    | 0.0504 (ppm)     | 0.47     | 0.0504 (ppm)    | 10624.7477   |
| 11/1/2017 17:47:26 | Contract Required Detection Limit | Tl (351.923 nm)    | 0.0167 (ppm)     | 10.84    | 0.0167 (ppm)    | 61.9084      |
| 11/1/2017 17:47:26 | Contract Required Detection Limit | V (292.401 nm)     | 0.0490 (ppm)     | 0.75     | 0.0490 (ppm)    | 1874.3505    |
| 11/1/2017 17:47:26 | Contract Required Detection Limit | Y (360.074 nm)     | 1.00 (Ratio)     | 0.88     | 1.00 (Ratio)    | 936819.24    |
| 11/1/2017 17:47:26 | Contract Required Detection Limit | Y_R (360.074 nm)   | 1.00 (Ratio)     | 0.88     | 1.00 (Ratio)    | 936951.99    |
| 11/1/2017 17:47:26 | Contract Required Detection Limit | Zn (213.857 nm)    | 0.0194 (ppm)     | 0.98     | 0.0194 (ppm)    | 532.4512     |
| 11/1/2017 17:50:45 | Interference Check Solution A     | Ag (328.068 nm)    | 0.0001 (ppm)     | 86.45    | 0.0001 (ppm)    | -115.1555    |
| 11/1/2017 17:50:45 | Interference Check Solution A     | Al (394.401 nm)    | 264.0686 o (ppm) | 0.60     | 264.0686 (ppm)  | 3526311.6350 |
| 11/1/2017 17:50:45 | Interference Check Solution A     | As (188.980 nm)    | 0.0010 u (ppm)   | > 100.00 | 0.0010 (ppm)    | -1.9591      |
| 11/1/2017 17:50:45 | Interference Check Solution A     | B (249.772 nm)     | 0.0385 (ppm)     | 0.75     | 0.0385 (ppm)    | 1193.9110    |
| 11/1/2017 17:50:45 | Interference Check Solution A     | Ba (230.424 nm)    | 0.0004 (ppm)     | 15.43    | 0.0004 (ppm)    | 22.4000      |
| 11/1/2017 17:50:45 | Interference Check Solution A     | Be (313.107 nm)    | -0.0001 u (ppm)  | 10.02    | -0.0001 (ppm)   | -595.6892    |
| 11/1/2017 17:50:45 | Interference Check Solution A     | Ca (227.547 nm)    | 269.0827 o (ppm) | 0.51     | 269.0827 (ppm)  | 15808.7664   |
| 11/1/2017 17:50:45 | Interference Check Solution A     | Cd (214.439 nm)    | -0.0010 u (ppm)  | 19.16    | -0.0010 (ppm)   | -11.3070     |
| 11/1/2017 17:50:45 | Interference Check Solution A     | Co (230.786 nm)    | -0.0020 u (ppm)  | 34.15    | -0.0020 (ppm)   | -21.5367     |
| 11/1/2017 17:50:45 | Interference Check Solution A     | Cr (267.716 nm)    | 0.0001 (ppm)     | > 100.00 | 0.0001 (ppm)    | 2.6516       |
| 11/1/2017 17:50:45 | Interference Check Solution A     | Cu (327.395 nm)    | 0.0006 (ppm)     | 36.73    | 0.0006 (ppm)    | 60.5874      |
| 11/1/2017 17:50:45 | Interference Check Solution A     | Fe (234.350 nm)    | 89.3710 o (ppm)  | 0.34     | 89.3710 (ppm)   | 1038303.6608 |
| 11/1/2017 17:50:45 | Interference Check Solution A     | K (766.491 nm)     | 0.0379 (ppm)     | 29.31    | 0.0379 (ppm)    | 174.5728     |
| 11/1/2017 17:50:45 | Interference Check Solution A     | Mg (279.078 nm)    | 265.2229 o (ppm) | 0.47     | 265.2229 (ppm)  | 535155.0003  |
| 11/1/2017 17:50:45 | Interference Check Solution A     | Mn (257.610 nm)    | 0.0015 (ppm)     | 1.28     | 0.0015 (ppm)    | 530.8409     |
| 11/1/2017 17:50:45 | Interference Check Solution A     | Mo (202.032 nm)    | -0.0003 u (ppm)  | > 100.00 | -0.0003 (ppm)   | 14.1166      |
| 11/1/2017 17:50:45 | Interference Check Solution A     | Na (588.995 nm)    | 0.0034 (ppm)     | 35.96    | 0.0034 (ppm)    | -5822.9249   |
| 11/1/2017 17:50:45 | Interference Check Solution A     | Ni (230.299 nm)    | -0.0013 u (ppm)  | 47.18    | -0.0013 (ppm)   | -35.3225     |
| 11/1/2017 17:50:45 | Interference Check Solution A     | Pb (220.353 nm)    | -0.0043 u (ppm)  | 36.00    | -0.0043 (ppm)   | -4.0168      |
| 11/1/2017 17:50:45 | Interference Check Solution A     | Sb (217.582 nm)    | -0.0039 u (ppm)  | > 100.00 | -0.0039 (ppm)   | -1.3915      |
| 11/1/2017 17:50:45 | Interference Check Solution A     | Se (196.026 nm)    | 0.0002 u (ppm)   | > 100.00 | 0.0002 (ppm)    | 5.7217       |
| 11/1/2017 17:50:45 | Interference Check Solution A     | Sn (189.925 nm)    | -0.0010 u (ppm)  | > 100.00 | -0.0010 (ppm)   | -1.4784      |
| 11/1/2017 17:50:45 | Interference Check Solution A     | Sr (216.596 nm)    | 0.0190 (ppm)     | 4.41     | 0.0190 (ppm)    | 282.2909     |
| 11/1/2017 17:50:45 | Interference Check Solution A     | Ti (336.122 nm)    | 0.0015 (ppm)     | 2.13     | 0.0015 (ppm)    | -95.6801     |
| 11/1/2017 17:50:45 | Interference Check Solution A     | Tl (351.923 nm)    | 0.0010 u (ppm)   | > 100.00 | 0.0010 (ppm)    | 17.4153      |
| 11/1/2017 17:50:45 | Interference Check Solution A     | V (292.401 nm)     | 0.0035 K (ppm)   | 7.18     | 0.0035 (ppm)    | 237.4810 K   |
| 11/1/2017 17:50:45 | Interference Check Solution A     | Y (360.074 nm)     | 0.87 (Ratio)     | 0.70     | 0.87 (Ratio)    | 813640.70    |
| 11/1/2017 17:50:45 | Interference Check Solution A     | Y_R (360.074 nm)   | 0.87 (Ratio)     | 0.70     | 0.87 (Ratio)    | 814135.24    |
| 11/1/2017 17:50:45 | Interference Check Solution A     | Zn (213.857 nm)    | 0.0118 K (ppm)   | 1.95     | 0.0118 (ppm)    | 311.2878 K   |
| 11/1/2017 17:54:04 | Interference Check Solution AB    | Ag (328.068 nm)    | 0.2158 (ppm)     | 0.25     | 0.2158 (ppm)    | 15729.8611   |
| 11/1/2017 17:54:04 | Interference Check Solution AB    | Al (394.401 nm)    | 264.5467 o (ppm) | 0.57     | 264.5467 (ppm)  | 3532696.6077 |
| 11/1/2017 17:54:04 | Interference Check Solution AB    | As (188.980 nm)    | 0.1006 (ppm)     | 1.75     | 0.1006 (ppm)    | 90.2521      |
| 11/1/2017 17:54:04 | Interference Check Solution AB    | B (249.772 nm)     | 0.0389 (ppm)     | 0.55     | 0.0389 (ppm)    | 1206.1632    |
| 11/1/2017 17:54:04 | Interference Check Solution AB    | Ba (230.424 nm)    | 0.5291 (ppm)     | 0.61     | 0.5291 (ppm)    | 18524.2051   |

| Date Time          | Label                               | Element Label (nm) | Conc             | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|-------------------------------------|--------------------|------------------|----------|-----------------|--------------|
| 11/1/2017 17:54:04 | Interference Check Solution AB      | Be (313.107 nm)    | 0.5078 (ppm)     | 0.38     | 0.5078 (ppm)    | 769664.6889  |
| 11/1/2017 17:54:04 | Interference Check Solution AB      | Ca (227.547 nm)    | 267.4399 o (ppm) | 0.51     | 267.4399 (ppm)  | 15712.2855   |
| 11/1/2017 17:54:04 | Interference Check Solution AB      | Cd (214.439 nm)    | 0.9683 (ppm)     | 0.32     | 0.9683 (ppm)    | 22033.4860   |
| 11/1/2017 17:54:04 | Interference Check Solution AB      | Co (230.786 nm)    | 0.4975 (ppm)     | 0.23     | 0.4975 (ppm)    | 5119.4020    |
| 11/1/2017 17:54:04 | Interference Check Solution AB      | Cr (267.716 nm)    | 0.4949 (ppm)     | 0.39     | 0.4949 (ppm)    | 25811.8119   |
| 11/1/2017 17:54:04 | Interference Check Solution AB      | Cu (327.395 nm)    | 0.5284 (ppm)     | 0.81     | 0.5284 (ppm)    | 33207.8924   |
| 11/1/2017 17:54:04 | Interference Check Solution AB      | Fe (234.350 nm)    | 89.4293 o (ppm)  | 0.49     | 89.4293 (ppm)   | 1038981.2748 |
| 11/1/2017 17:54:04 | Interference Check Solution AB      | K (766.491 nm)     | 0.0154 (ppm)     | 62.26    | 0.0154 (ppm)    | 105.0068     |
| 11/1/2017 17:54:04 | Interference Check Solution AB      | Mg (279.078 nm)    | 264.2204 o (ppm) | 0.44     | 264.2204 (ppm)  | 533132.2114  |
| 11/1/2017 17:54:04 | Interference Check Solution AB      | Mn (257.610 nm)    | 0.4977 (ppm)     | 0.38     | 0.4977 (ppm)    | 161057.0160  |
| 11/1/2017 17:54:04 | Interference Check Solution AB      | Mo (202.032 nm)    | -0.0001 u (ppm)  | > 100.00 | -0.0001 (ppm)   | 15.8221      |
| 11/1/2017 17:54:04 | Interference Check Solution AB      | Na (588.995 nm)    | 0.0112 (ppm)     | 8.91     | 0.0112 (ppm)    | -5466.9700   |
| 11/1/2017 17:54:04 | Interference Check Solution AB      | Ni (230.299 nm)    | 0.9618 (ppm)     | 0.41     | 0.9618 (ppm)    | 6648.0045    |
| 11/1/2017 17:54:04 | Interference Check Solution AB      | Pb (220.353 nm)    | 0.0491 (ppm)     | 9.56     | 0.0491 (ppm)    | 115.2898     |
| 11/1/2017 17:54:04 | Interference Check Solution AB      | Sb (217.582 nm)    | 0.6172 (ppm)     | 0.40     | 0.6172 (ppm)    | 884.6187     |
| 11/1/2017 17:54:04 | Interference Check Solution AB      | Se (196.026 nm)    | 0.0505 (ppm)     | 10.07    | 0.0505 (ppm)    | 49.6269      |
| 11/1/2017 17:54:04 | Interference Check Solution AB      | Sn (189.925 nm)    | 0.0007 u (ppm)   | > 100.00 | 0.0007 (ppm)    | 0.7645       |
| 11/1/2017 17:54:04 | Interference Check Solution AB      | Sr (216.596 nm)    | 0.0195 (ppm)     | 2.36     | 0.0195 (ppm)    | 289.8990     |
| 11/1/2017 17:54:04 | Interference Check Solution AB      | Ti (336.122 nm)    | 0.0013 (ppm)     | 4.49     | 0.0013 (ppm)    | -143.1309    |
| 11/1/2017 17:54:04 | Interference Check Solution AB      | Tl (351.923 nm)    | 0.1131 (ppm)     | 3.22     | 0.1131 (ppm)    | 335.7082     |
| 11/1/2017 17:54:04 | Interference Check Solution AB      | V (292.401 nm)     | 0.5100 (ppm)     | 0.52     | 0.5100 (ppm)    | 18466.9096   |
| 11/1/2017 17:54:04 | Interference Check Solution AB      | Y (360.074 nm)     | 0.87 (Ratio)     | 0.64     | 0.87 (Ratio)    | 814648.90    |
| 11/1/2017 17:54:04 | Interference Check Solution AB      | Y_R (360.074 nm)   | 0.87 (Ratio)     | 0.64     | 0.87 (Ratio)    | 815182.36    |
| 11/1/2017 17:54:04 | Interference Check Solution AB      | Zn (213.857 nm)    | 1.0326 (ppm)     | 0.33     | 1.0326 (ppm)    | 29970.9318   |
| 11/1/2017 17:57:23 | Continuing Calibration Verification | Ag (328.068 nm)    | 0.4896 (ppm)     | 0.47     | 0.4896 (ppm)    | 35842.2563   |
| 11/1/2017 17:57:23 | Continuing Calibration Verification | Al (394.401 nm)    | 9.5581 (ppm)     | 0.84     | 9.5581 (ppm)    | 127716.3804  |
| 11/1/2017 17:57:23 | Continuing Calibration Verification | As (188.980 nm)    | 0.9721 (ppm)     | 0.73     | 0.9721 (ppm)    | 896.7843     |
| 11/1/2017 17:57:23 | Continuing Calibration Verification | B (249.772 nm)     | 2.4180 (ppm)     | 0.36     | 2.4180 (ppm)    | 69382.6740   |
| 11/1/2017 17:57:23 | Continuing Calibration Verification | Ba (230.424 nm)    | 10.3246 (ppm)    | 0.60     | 10.3246 (ppm)   | 361344.3666  |
| 11/1/2017 17:57:23 | Continuing Calibration Verification | Be (313.107 nm)    | 0.2535 (ppm)     | 0.37     | 0.2535 (ppm)    | 384051.7901  |
| 11/1/2017 17:57:23 | Continuing Calibration Verification | Ca (227.547 nm)    | 24.3040 (ppm)    | 1.26     | 24.3040 (ppm)   | 1433.4853    |
| 11/1/2017 17:57:23 | Continuing Calibration Verification | Cd (214.439 nm)    | 0.4995 (ppm)     | 0.30     | 0.4995 (ppm)    | 11371.7281   |
| 11/1/2017 17:57:23 | Continuing Calibration Verification | Co (230.786 nm)    | 2.5947 (ppm)     | 0.52     | 2.5947 (ppm)    | 26703.9400   |
| 11/1/2017 17:57:23 | Continuing Calibration Verification | Cr (267.716 nm)    | 0.5038 (ppm)     | 0.41     | 0.5038 (ppm)    | 26273.7978   |
| 11/1/2017 17:57:23 | Continuing Calibration Verification | Cu (327.395 nm)    | 1.2059 (ppm)     | 0.76     | 1.2059 (ppm)    | 75764.8886   |
| 11/1/2017 17:57:23 | Continuing Calibration Verification | Fe (234.350 nm)    | 4.8853 (ppm)     | 0.62     | 4.8853 (ppm)    | 56825.7208   |
| 11/1/2017 17:57:23 | Continuing Calibration Verification | K (766.491 nm)     | 24.5915 (ppm)    | 0.77     | 24.5915 (ppm)   | 75985.4201   |
| 11/1/2017 17:57:23 | Continuing Calibration Verification | Mg (279.078 nm)    | 25.0423 (ppm)    | 0.48     | 25.0423 (ppm)   | 50522.9546   |
| 11/1/2017 17:57:23 | Continuing Calibration Verification | Mn (257.610 nm)    | 0.7533 (ppm)     | 0.42     | 0.7533 (ppm)    | 243740.1816  |
| 11/1/2017 17:57:23 | Continuing Calibration Verification | Mo (202.032 nm)    | 2.3971 (ppm)     | 0.40     | 2.3971 (ppm)    | 25665.9086   |
| 11/1/2017 17:57:23 | Continuing Calibration Verification | Na (588.995 nm)    | 24.6830 (ppm)    | 1.01     | 24.6830 (ppm)   | 1126644.1682 |
| 11/1/2017 17:57:23 | Continuing Calibration Verification | Ni (230.299 nm)    | 2.0386 (ppm)     | 0.40     | 2.0386 (ppm)    | 14119.9725   |
| 11/1/2017 17:57:23 | Continuing Calibration Verification | Pb (220.353 nm)    | 0.4987 (ppm)     | 0.59     | 0.4987 (ppm)    | 1118.8031    |
| 11/1/2017 17:57:23 | Continuing Calibration Verification | Sb (217.582 nm)    | 4.9039 (ppm)     | 0.69     | 4.9039 (ppm)    | 7000.0340    |
| 11/1/2017 17:57:23 | Continuing Calibration Verification | Se (196.026 nm)    | 0.4799 (ppm)     | 1.04     | 0.4799 (ppm)    | 424.7685     |
| 11/1/2017 17:57:23 | Continuing Calibration Verification | Sn (189.925 nm)    | 5.0622 (ppm)     | 0.17     | 5.0622 (ppm)    | 6450.2219    |
| 11/1/2017 17:57:23 | Continuing Calibration Verification | Sr (216.596 nm)    | 2.5105 (ppm)     | 0.43     | 2.5105 (ppm)    | 37449.0022   |
| 11/1/2017 17:57:23 | Continuing Calibration Verification | Ti (336.122 nm)    | 2.4985 (ppm)     | 0.51     | 2.4985 (ppm)    | 547510.8191  |
| 11/1/2017 17:57:23 | Continuing Calibration Verification | Tl (351.923 nm)    | 0.9898 (ppm)     | 0.21     | 0.9898 (ppm)    | 2824.6141    |
| 11/1/2017 17:57:23 | Continuing Calibration Verification | V (292.401 nm)     | 2.5205 (ppm)     | 0.47     | 2.5205 (ppm)    | 90838.8108   |
| 11/1/2017 17:57:23 | Continuing Calibration Verification | Y (360.074 nm)     | 0.95 (Ratio)     | 0.87     | 0.95 (Ratio)    | 893009.96    |

| Date Time          | Label                               | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity  |
|--------------------|-------------------------------------|--------------------|-----------------|----------|-----------------|------------|
| 11/1/2017 17:57:23 | Continuing Calibration Verification | Y_R (360.074 nm)   | 0.95 (Ratio)    | 0.87     | 0.95 (Ratio)    | 893394.17  |
| 11/1/2017 17:57:23 | Continuing Calibration Verification | Zn (213.857 nm)    | 1.0029 (ppm)    | 0.48     | 1.0029 (ppm)    | 29107.1666 |
| 11/1/2017 18:00:42 | Continuing Calibration Blank        | Ag (328.068 nm)    | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | -125.0601  |
| 11/1/2017 18:00:42 | Continuing Calibration Blank        | Al (394.401 nm)    | 0.0004 u (ppm)  | > 100.00 | 0.0004 (ppm)    | 88.0177    |
| 11/1/2017 18:00:42 | Continuing Calibration Blank        | As (188.980 nm)    | 0.0041 u (ppm)  | 91.25    | 0.0041 (ppm)    | 0.9173     |
| 11/1/2017 18:00:42 | Continuing Calibration Blank        | B (249.772 nm)     | 0.0013 (ppm)    | 44.37    | 0.0013 (ppm)    | 127.5502   |
| 11/1/2017 18:00:42 | Continuing Calibration Blank        | Ba (230.424 nm)    | 0.0003 (ppm)    | 99.64    | 0.0003 (ppm)    | 17.2115    |
| 11/1/2017 18:00:42 | Continuing Calibration Blank        | Be (313.107 nm)    | 0.0000 (ppm)    | 80.24    | 0.0000 (ppm)    | -488.3986  |
| 11/1/2017 18:00:42 | Continuing Calibration Blank        | Ca (227.547 nm)    | -0.0150 u (ppm) | > 100.00 | -0.0150 (ppm)   | 5.2886     |
| 11/1/2017 18:00:42 | Continuing Calibration Blank        | Cd (214.439 nm)    | 0.0001 (ppm)    | > 100.00 | 0.0001 (ppm)    | 14.4581    |
| 11/1/2017 18:00:42 | Continuing Calibration Blank        | Co (230.786 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | -1.7865    |
| 11/1/2017 18:00:42 | Continuing Calibration Blank        | Cr (267.716 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | -2.3663    |
| 11/1/2017 18:00:42 | Continuing Calibration Blank        | Cu (327.395 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | 19.0215    |
| 11/1/2017 18:00:42 | Continuing Calibration Blank        | Fe (234.350 nm)    | 0.0049 (ppm)    | 8.88     | 0.0049 (ppm)    | 129.6935   |
| 11/1/2017 18:00:42 | Continuing Calibration Blank        | K (766.491 nm)     | 0.0111 (ppm)    | 79.60    | 0.0111 (ppm)    | 91.8796    |
| 11/1/2017 18:00:42 | Continuing Calibration Blank        | Mg (279.078 nm)    | 0.0029 (ppm)    | 29.91    | 0.0029 (ppm)    | -1.1377    |
| 11/1/2017 18:00:42 | Continuing Calibration Blank        | Mn (257.610 nm)    | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | 32.3239    |
| 11/1/2017 18:00:42 | Continuing Calibration Blank        | Mo (202.032 nm)    | 0.0017 (ppm)    | 15.17    | 0.0017 (ppm)    | 35.1998    |
| 11/1/2017 18:00:42 | Continuing Calibration Blank        | Na (588.995 nm)    | 0.0017 (ppm)    | 77.57    | 0.0017 (ppm)    | -5901.8076 |
| 11/1/2017 18:00:42 | Continuing Calibration Blank        | Ni (230.299 nm)    | 0.0001 u (ppm)  | > 100.00 | 0.0001 (ppm)    | -25.5616   |
| 11/1/2017 18:00:42 | Continuing Calibration Blank        | Pb (220.353 nm)    | -0.0006 u (ppm) | > 100.00 | -0.0006 (ppm)   | 4.2885     |
| 11/1/2017 18:00:42 | Continuing Calibration Blank        | Sb (217.582 nm)    | 0.0015 u (ppm)  | > 100.00 | 0.0015 (ppm)    | 6.2931     |
| 11/1/2017 18:00:42 | Continuing Calibration Blank        | Se (196.026 nm)    | -0.0009 u (ppm) | 4.64     | -0.0009 (ppm)   | 4.7115     |
| 11/1/2017 18:00:42 | Continuing Calibration Blank        | Sn (189.925 nm)    | 0.0012 (ppm)    | 79.09    | 0.0012 (ppm)    | 1.4345     |
| 11/1/2017 18:00:42 | Continuing Calibration Blank        | Sr (216.596 nm)    | 0.0001 u (ppm)  | > 100.00 | 0.0001 (ppm)    | 0.2017     |
| 11/1/2017 18:00:42 | Continuing Calibration Blank        | Ti (336.122 nm)    | 0.0007 (ppm)    | 0.84     | 0.0007 (ppm)    | -266.1129  |
| 11/1/2017 18:00:42 | Continuing Calibration Blank        | Tl (351.923 nm)    | -0.0003 u (ppm) | > 100.00 | -0.0003 (ppm)   | 13.6622    |
| 11/1/2017 18:00:42 | Continuing Calibration Blank        | V (292.401 nm)     | 0.0001 u (ppm)  | > 100.00 | 0.0001 (ppm)    | 111.9799   |
| 11/1/2017 18:00:42 | Continuing Calibration Blank        | Y (360.074 nm)     | 1.00 (Ratio)    | 0.84     | 1.00 (Ratio)    | 934211.15  |
| 11/1/2017 18:00:42 | Continuing Calibration Blank        | Y_R (360.074 nm)   | 1.00 (Ratio)    | 0.84     | 1.00 (Ratio)    | 934454.59  |
| 11/1/2017 18:00:42 | Continuing Calibration Blank        | Zn (213.857 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | -30.0730   |
| 11/1/2017 18:04:01 | PBW-301955                          | Ag (328.068 nm)    | 0.0001 (ppm)    | 19.01    | 0.0001 (ppm)    | -115.8806  |
| 11/1/2017 18:04:01 | PBW-301955                          | Al (394.401 nm)    | -0.0004 u (ppm) | 63.20    | -0.0004 (ppm)   | 77.4323    |
| 11/1/2017 18:04:01 | PBW-301955                          | As (188.980 nm)    | 0.0011 (ppm)    | > 100.00 | 0.0011 (ppm)    | -1.8548    |
| 11/1/2017 18:04:01 | PBW-301955                          | B (249.772 nm)     | 0.0003 (ppm)    | 67.50    | 0.0003 (ppm)    | 98.0259    |
| 11/1/2017 18:04:01 | PBW-301955                          | Ba (230.424 nm)    | -0.0002 u (ppm) | 13.02    | -0.0002 (ppm)   | 1.4673     |
| 11/1/2017 18:04:01 | PBW-301955                          | Be (313.107 nm)    | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | -505.7360  |
| 11/1/2017 18:04:01 | PBW-301955                          | Ca (227.547 nm)    | -0.0211 u (ppm) | > 100.00 | -0.0211 (ppm)   | 4.9299     |
| 11/1/2017 18:04:01 | PBW-301955                          | Cd (214.439 nm)    | -0.0001 u (ppm) | 84.37    | -0.0001 (ppm)   | 9.5753     |
| 11/1/2017 18:04:01 | PBW-301955                          | Co (230.786 nm)    | 0.0001 u (ppm)  | > 100.00 | 0.0001 (ppm)    | -0.6666    |
| 11/1/2017 18:04:01 | PBW-301955                          | Cr (267.716 nm)    | -0.0002 u (ppm) | 23.71    | -0.0002 (ppm)   | -9.4685    |
| 11/1/2017 18:04:01 | PBW-301955                          | Cu (327.395 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | 16.5850    |
| 11/1/2017 18:04:01 | PBW-301955                          | Fe (234.350 nm)    | -0.0054 u (ppm) | 1.46     | -0.0054 (ppm)   | 10.4033    |
| 11/1/2017 18:04:01 | PBW-301955                          | K (766.491 nm)     | -0.0050 u (ppm) | 49.73    | -0.0050 (ppm)   | 41.9858    |
| 11/1/2017 18:04:01 | PBW-301955                          | Mg (279.078 nm)    | 0.0013 u (ppm)  | > 100.00 | 0.0013 (ppm)    | -4.4050    |
| 11/1/2017 18:04:01 | PBW-301955                          | Mn (257.610 nm)    | 0.0000 (ppm)    | 62.53    | 0.0000 (ppm)    | 24.0694    |
| 11/1/2017 18:04:01 | PBW-301955                          | Mo (202.032 nm)    | -0.0006 u (ppm) | 33.02    | -0.0006 (ppm)   | 10.4247    |
| 11/1/2017 18:04:01 | PBW-301955                          | Na (588.995 nm)    | 0.0054 (ppm)    | 13.12    | 0.0054 (ppm)    | -5731.7666 |
| 11/1/2017 18:04:01 | PBW-301955                          | Ni (230.299 nm)    | 0.0005 (ppm)    | > 100.00 | 0.0005 (ppm)    | -22.8739   |
| 11/1/2017 18:04:01 | PBW-301955                          | Pb (220.353 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | 5.4282     |
| 11/1/2017 18:04:01 | PBW-301955                          | Sb (217.582 nm)    | -0.0012 u (ppm) | > 100.00 | -0.0012 (ppm)   | 2.4155     |



| Date Time          | Label            | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity   |
|--------------------|------------------|--------------------|-----------------|----------|-----------------|-------------|
| 11/1/2017 18:04:01 | PBW-301955       | Se (196.026 nm)    | -0.0030 u (ppm) | > 100.00 | -0.0030 (ppm)   | 2.8657      |
| 11/1/2017 18:04:01 | PBW-301955       | Sn (189.925 nm)    | -0.0004 u (ppm) | > 100.00 | -0.0004 (ppm)   | -0.6162     |
| 11/1/2017 18:04:01 | PBW-301955       | Sr (216.596 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | -1.0215     |
| 11/1/2017 18:04:01 | PBW-301955       | Tl (336.122 nm)    | 0.0005 (ppm)    | 4.68     | 0.0005 (ppm)    | -303.7606   |
| 11/1/2017 18:04:01 | PBW-301955       | Tl (351.923 nm)    | -0.0030 u (ppm) | > 100.00 | -0.0030 (ppm)   | 6.1599      |
| 11/1/2017 18:04:01 | PBW-301955       | V (292.401 nm)     | -0.0002 u (ppm) | 26.45    | -0.0002 (ppm)   | 103.4196    |
| 11/1/2017 18:04:01 | PBW-301955       | Y (360.074 nm)     | 1.02 (Ratio)    | 0.83     | 1.02 (Ratio)    | 953920.80   |
| 11/1/2017 18:04:01 | PBW-301955       | Y_R (360.074 nm)   | 1.02 (Ratio)    | 0.83     | 1.02 (Ratio)    | 954111.96   |
| 11/1/2017 18:04:01 | PBW-301955       | Zn (213.857 nm)    | 0.0034 (ppm)    | 2.51     | 0.0034 (ppm)    | 67.8068     |
| 11/1/2017 18:07:20 | LCSW-301955      | Ag (328.068 nm)    | 0.0497 (ppm)    | 0.49     | 0.0497 (ppm)    | 3524.6041   |
| 11/1/2017 18:07:20 | LCSW-301955      | Al (394.401 nm)    | 1.8487 (ppm)    | 0.59     | 1.8487 (ppm)    | 24769.6167  |
| 11/1/2017 18:07:20 | LCSW-301955      | As (188.980 nm)    | 0.0405 (ppm)    | 1.78     | 0.0405 (ppm)    | 34.5486     |
| 11/1/2017 18:07:20 | LCSW-301955      | B (249.772 nm)     | 0.9642 (ppm)    | 0.43     | 0.9642 (ppm)    | 27721.6330  |
| 11/1/2017 18:07:20 | LCSW-301955      | Ba (230.424 nm)    | 2.0773 (ppm)    | 0.40     | 2.0773 (ppm)    | 72707.5603  |
| 11/1/2017 18:07:20 | LCSW-301955      | Be (313.107 nm)    | 0.0502 (ppm)    | 0.42     | 0.0502 (ppm)    | 75644.8425  |
| 11/1/2017 18:07:20 | LCSW-301955      | Ca (227.547 nm)    | 1.8483 (ppm)    | 2.43     | 1.8483 (ppm)    | 114.7171    |
| 11/1/2017 18:07:20 | LCSW-301955      | Cd (214.439 nm)    | 0.0513 (ppm)    | 0.64     | 0.0513 (ppm)    | 1178.3871   |
| 11/1/2017 18:07:20 | LCSW-301955      | Co (230.786 nm)    | 0.5138 (ppm)    | 0.37     | 0.5138 (ppm)    | 5286.5068   |
| 11/1/2017 18:07:20 | LCSW-301955      | Cr (267.716 nm)    | 0.1979 (ppm)    | 0.40     | 0.1979 (ppm)    | 10321.1823  |
| 11/1/2017 18:07:20 | LCSW-301955      | Cu (327.395 nm)    | 0.2438 (ppm)    | 0.87     | 0.2438 (ppm)    | 15336.7298  |
| 11/1/2017 18:07:20 | LCSW-301955      | Fe (234.350 nm)    | 0.9680 (ppm)    | 0.42     | 0.9680 (ppm)    | 11318.0146  |
| 11/1/2017 18:07:20 | LCSW-301955      | K (766.491 nm)     | 19.1774 (ppm)   | 0.61     | 19.1774 (ppm)   | 59268.9689  |
| 11/1/2017 18:07:20 | LCSW-301955      | Mg (279.078 nm)    | 1.9921 (ppm)    | 0.48     | 1.9921 (ppm)    | 4012.5371   |
| 11/1/2017 18:07:20 | LCSW-301955      | Mn (257.610 nm)    | 0.4950 (ppm)    | 0.43     | 0.4950 (ppm)    | 160167.1967 |
| 11/1/2017 18:07:20 | LCSW-301955      | Mo (202.032 nm)    | 0.4740 (ppm)    | 0.32     | 0.4740 (ppm)    | 5088.8688   |
| 11/1/2017 18:07:20 | LCSW-301955      | Na (588.995 nm)    | 19.5046 (ppm)   | 0.67     | 19.5046 (ppm)   | 889023.0464 |
| 11/1/2017 18:07:20 | LCSW-301955      | Ni (230.299 nm)    | 0.5127 (ppm)    | 0.41     | 0.5127 (ppm)    | 3531.7589   |
| 11/1/2017 18:07:20 | LCSW-301955      | Pb (220.353 nm)    | 0.5148 (ppm)    | 0.69     | 0.5148 (ppm)    | 1154.7728   |
| 11/1/2017 18:07:20 | LCSW-301955      | Sb (217.582 nm)    | 0.4947 (ppm)    | 0.84     | 0.4947 (ppm)    | 709.8629    |
| 11/1/2017 18:07:20 | LCSW-301955      | Se (196.026 nm)    | 1.0463 (ppm)    | 0.32     | 1.0463 (ppm)    | 919.5266    |
| 11/1/2017 18:07:20 | LCSW-301955      | Sn (189.925 nm)    | 5.0205 (ppm)    | 0.36     | 5.0205 (ppm)    | 6397.1631   |
| 11/1/2017 18:07:20 | LCSW-301955      | Sr (216.596 nm)    | 2.0387 (ppm)    | 0.18     | 2.0387 (ppm)    | 30410.2161  |
| 11/1/2017 18:07:20 | LCSW-301955      | Tl (336.122 nm)    | 0.4903 (ppm)    | 0.52     | 0.4903 (ppm)    | 107098.5952 |
| 11/1/2017 18:07:20 | LCSW-301955      | Tl (351.923 nm)    | 1.8791 (ppm)    | 0.31     | 1.8791 (ppm)    | 5349.5071   |
| 11/1/2017 18:07:20 | LCSW-301955      | V (292.401 nm)     | 0.4984 (ppm)    | 0.49     | 0.4984 (ppm)    | 18050.4891  |
| 11/1/2017 18:07:20 | LCSW-301955      | Y (360.074 nm)     | 0.99 (Ratio)    | 0.82     | 0.99 (Ratio)    | 922806.82   |
| 11/1/2017 18:07:20 | LCSW-301955      | Y_R (360.074 nm)   | 0.99 (Ratio)    | 0.81     | 0.99 (Ratio)    | 923071.03   |
| 11/1/2017 18:07:20 | LCSW-301955      | Zn (213.857 nm)    | 0.5043 (ppm)    | 0.25     | 0.5043 (ppm)    | 14620.5593  |
| 11/1/2017 18:10:40 | R1710073-009 10X | Ag (328.068 nm)    | 0.0001 (ppm)    | > 100.00 | 0.0001 (ppm)    | -120.2724   |
| 11/1/2017 18:10:40 | R1710073-009 10X | Al (394.401 nm)    | 0.0111 (ppm)    | 4.96     | 0.0111 (ppm)    | 231.8794    |
| 11/1/2017 18:10:40 | R1710073-009 10X | As (188.980 nm)    | 0.0035 (ppm)    | 46.69    | 0.0035 (ppm)    | 0.3704      |
| 11/1/2017 18:10:40 | R1710073-009 10X | B (249.772 nm)     | 0.0429 (ppm)    | 3.54     | 0.0429 (ppm)    | 1320.5306   |
| 11/1/2017 18:10:40 | R1710073-009 10X | Ba (230.424 nm)    | 0.3925 (ppm)    | 6.00     | 0.3925 (ppm)    | 13744.0991  |
| 11/1/2017 18:10:40 | R1710073-009 10X | Be (313.107 nm)    | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | -504.6075   |
| 11/1/2017 18:10:40 | R1710073-009 10X | Ca (227.547 nm)    | 6.4713 (ppm)    | 4.48     | 6.4713 (ppm)    | 386.2138    |
| 11/1/2017 18:10:40 | R1710073-009 10X | Cd (214.439 nm)    | 0.0001 (ppm)    | 82.97    | 0.0001 (ppm)    | 14.4774     |
| 11/1/2017 18:10:40 | R1710073-009 10X | Co (230.786 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | -2.3772     |
| 11/1/2017 18:10:40 | R1710073-009 10X | Cr (267.716 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | -1.4899     |
| 11/1/2017 18:10:40 | R1710073-009 10X | Cu (327.395 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | 21.8861     |
| 11/1/2017 18:10:40 | R1710073-009 10X | Fe (234.350 nm)    | 5.6239 (ppm)    | 4.55     | 5.6239 (ppm)    | 65406.7089  |
| 11/1/2017 18:10:40 | R1710073-009 10X | K (766.491 nm)     | 2.5378 (ppm)    | 4.11     | 2.5378 (ppm)    | 7893.2152   |

| Date Time          | Label             | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity   |
|--------------------|-------------------|--------------------|-----------------|----------|-----------------|-------------|
| 11/1/2017 18:10:40 | R1710073-009 10X  | Mg (279.078 nm)    | 1.4319 (ppm)    | 4.37     | 1.4319 (ppm)    | 2882.1703   |
| 11/1/2017 18:10:40 | R1710073-009 10X  | Mn (257.610 nm)    | 0.0286 (ppm)    | 4.52     | 0.0286 (ppm)    | 9288.2592   |
| 11/1/2017 18:10:40 | R1710073-009 10X  | Mo (202.032 nm)    | 0.0002 u (ppm)  | > 100.00 | 0.0002 (ppm)    | 19.3877     |
| 11/1/2017 18:10:40 | R1710073-009 10X  | Na (588.995 nm)    | 5.2286 (ppm)    | 4.21     | 5.2286 (ppm)    | 233943.7608 |
| 11/1/2017 18:10:40 | R1710073-009 10X  | Ni (230.299 nm)    | -0.0004 u (ppm) | 70.84    | -0.0004 (ppm)   | -28.6941    |
| 11/1/2017 18:10:40 | R1710073-009 10X  | Pb (220.353 nm)    | 0.0203 (ppm)    | 5.54     | 0.0203 (ppm)    | 50.9227     |
| 11/1/2017 18:10:40 | R1710073-009 10X  | Sb (217.582 nm)    | -0.0013 u (ppm) | 10.35    | -0.0013 (ppm)   | 2.2220      |
| 11/1/2017 18:10:40 | R1710073-009 10X  | Se (196.026 nm)    | 0.0013 u (ppm)  | > 100.00 | 0.0013 (ppm)    | 6.6455      |
| 11/1/2017 18:10:40 | R1710073-009 10X  | Sn (189.925 nm)    | 0.0019 (ppm)    | 63.02    | 0.0019 (ppm)    | 2.3023      |
| 11/1/2017 18:10:40 | R1710073-009 10X  | Sr (216.596 nm)    | 0.0445 (ppm)    | 6.50     | 0.0445 (ppm)    | 662.3874    |
| 11/1/2017 18:10:40 | R1710073-009 10X  | Ti (336.122 nm)    | 0.0004 (ppm)    | 13.88    | 0.0004 (ppm)    | -326.2138   |
| 11/1/2017 18:10:40 | R1710073-009 10X  | Tl (351.923 nm)    | -0.0008 u (ppm) | > 100.00 | -0.0008 (ppm)   | 12.2795     |
| 11/1/2017 18:10:40 | R1710073-009 10X  | V (292.401 nm)     | 0.0001 (ppm)    | 12.13    | 0.0001 (ppm)    | 115.3343    |
| 11/1/2017 18:10:40 | R1710073-009 10X  | Y (360.074 nm)     | 0.99 (Ratio)    | 0.88     | 0.99 (Ratio)    | 930884.49   |
| 11/1/2017 18:10:40 | R1710073-009 10X  | Y_R (360.074 nm)   | 0.99 (Ratio)    | 0.88     | 0.99 (Ratio)    | 931043.90   |
| 11/1/2017 18:10:40 | R1710073-009 10X  | Zn (213.857 nm)    | 0.0127 (ppm)    | 7.38     | 0.0127 (ppm)    | 339.0071    |
| 11/1/2017 18:13:59 | R1710073-009L 10X | Ag (328.068 nm)    | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | -123.4988   |
| 11/1/2017 18:13:59 | R1710073-009L 10X | Al (394.401 nm)    | 0.0028 (ppm)    | 7.53     | 0.0028 (ppm)    | 120.7423    |
| 11/1/2017 18:13:59 | R1710073-009L 10X | As (188.980 nm)    | 0.0008 u (ppm)  | > 100.00 | 0.0008 (ppm)    | -2.1793     |
| 11/1/2017 18:13:59 | R1710073-009L 10X | B (249.772 nm)     | 0.0087 (ppm)    | 1.43     | 0.0087 (ppm)    | 339.4708    |
| 11/1/2017 18:13:59 | R1710073-009L 10X | Ba (230.424 nm)    | 0.0911 (ppm)    | 0.52     | 0.0911 (ppm)    | 3196.5335   |
| 11/1/2017 18:13:59 | R1710073-009L 10X | Be (313.107 nm)    | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | -511.3131   |
| 11/1/2017 18:13:59 | R1710073-009L 10X | Ca (227.547 nm)    | 1.4348 (ppm)    | 3.99     | 1.4348 (ppm)    | 90.4321     |
| 11/1/2017 18:13:59 | R1710073-009L 10X | Cd (214.439 nm)    | 0.0002 (ppm)    | 44.31    | 0.0002 (ppm)    | 17.1676     |
| 11/1/2017 18:13:59 | R1710073-009L 10X | Co (230.786 nm)    | 0.0001 u (ppm)  | > 100.00 | 0.0001 (ppm)    | -0.7726     |
| 11/1/2017 18:13:59 | R1710073-009L 10X | Cr (267.716 nm)    | 0.0001 (ppm)    | > 100.00 | 0.0001 (ppm)    | 3.7460      |
| 11/1/2017 18:13:59 | R1710073-009L 10X | Cu (327.395 nm)    | 0.0001 (ppm)    | > 100.00 | 0.0001 (ppm)    | 25.8444     |
| 11/1/2017 18:13:59 | R1710073-009L 10X | Fe (234.350 nm)    | 1.2656 (ppm)    | 0.46     | 1.2656 (ppm)    | 14775.0915  |
| 11/1/2017 18:13:59 | R1710073-009L 10X | K (766.491 nm)     | 0.5617 (ppm)    | 1.27     | 0.5617 (ppm)    | 1791.6437   |
| 11/1/2017 18:13:59 | R1710073-009L 10X | Mg (279.078 nm)    | 0.3240 (ppm)    | 0.37     | 0.3240 (ppm)    | 646.7681    |
| 11/1/2017 18:13:59 | R1710073-009L 10X | Mn (257.610 nm)    | 0.0065 (ppm)    | 0.74     | 0.0065 (ppm)    | 2145.4160   |
| 11/1/2017 18:13:59 | R1710073-009L 10X | Mo (202.032 nm)    | -0.0004 u (ppm) | 34.44    | -0.0004 (ppm)   | 12.2137     |
| 11/1/2017 18:13:59 | R1710073-009L 10X | Na (588.995 nm)    | 1.1878 (ppm)    | 0.92     | 1.1878 (ppm)    | 48524.5212  |
| 11/1/2017 18:13:59 | R1710073-009L 10X | Ni (230.299 nm)    | 0.0007 (ppm)    | > 100.00 | 0.0007 (ppm)    | -21.0543    |
| 11/1/2017 18:13:59 | R1710073-009L 10X | Pb (220.353 nm)    | 0.0051 (ppm)    | 35.34    | 0.0051 (ppm)    | 16.9526     |
| 11/1/2017 18:13:59 | R1710073-009L 10X | Sb (217.582 nm)    | -0.0011 u (ppm) | 19.97    | -0.0011 (ppm)   | 2.5114      |
| 11/1/2017 18:13:59 | R1710073-009L 10X | Se (196.026 nm)    | -0.0043 u (ppm) | 34.17    | -0.0043 (ppm)   | 1.8010      |
| 11/1/2017 18:13:59 | R1710073-009L 10X | Sn (189.925 nm)    | 0.0007 (ppm)    | 98.63    | 0.0007 (ppm)    | 0.7591      |
| 11/1/2017 18:13:59 | R1710073-009L 10X | Sr (216.596 nm)    | 0.0100 (ppm)    | 2.85     | 0.0100 (ppm)    | 148.2906    |
| 11/1/2017 18:13:59 | R1710073-009L 10X | Ti (336.122 nm)    | -0.0001 u (ppm) | 83.14    | -0.0001 (ppm)   | -433.5499   |
| 11/1/2017 18:13:59 | R1710073-009L 10X | Tl (351.923 nm)    | -0.0026 u (ppm) | 89.68    | -0.0026 (ppm)   | 7.3391      |
| 11/1/2017 18:13:59 | R1710073-009L 10X | V (292.401 nm)     | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | 110.3434    |
| 11/1/2017 18:13:59 | R1710073-009L 10X | Y (360.074 nm)     | 1.00 (Ratio)    | 0.88     | 1.00 (Ratio)    | 938526.78   |
| 11/1/2017 18:13:59 | R1710073-009L 10X | Y_R (360.074 nm)   | 1.00 (Ratio)    | 0.89     | 1.00 (Ratio)    | 938629.67   |
| 11/1/2017 18:13:59 | R1710073-009L 10X | Zn (213.857 nm)    | 0.0061 (ppm)    | 0.77     | 0.0061 (ppm)    | 147.0605    |
| 11/1/2017 18:17:19 | PBW-301957        | Ag (328.068 nm)    | 0.0001 (ppm)    | 88.20    | 0.0001 (ppm)    | -120.5472   |
| 11/1/2017 18:17:19 | PBW-301957        | Al (394.401 nm)    | -0.0006 u (ppm) | 57.17    | -0.0006 (ppm)   | 75.3383     |
| 11/1/2017 18:17:19 | PBW-301957        | As (188.980 nm)    | 0.0021 (ppm)    | 27.92    | 0.0021 (ppm)    | -0.9303     |
| 11/1/2017 18:17:19 | PBW-301957        | B (249.772 nm)     | -0.0007 u (ppm) | 8.30     | -0.0007 (ppm)   | 72.1509     |
| 11/1/2017 18:17:19 | PBW-301957        | Ba (230.424 nm)    | -0.0001 u (ppm) | 45.21    | -0.0001 (ppm)   | 4.4715      |
| 11/1/2017 18:17:19 | PBW-301957        | Be (313.107 nm)    | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | -512.8498   |

| Date Time          | Label       | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity   |
|--------------------|-------------|--------------------|-----------------|----------|-----------------|-------------|
| 11/1/2017 18:17:19 | PBW-301957  | Ca (227.547 nm)    | -0.0433 u (ppm) | 67.49    | -0.0433 (ppm)   | 3.6263      |
| 11/1/2017 18:17:19 | PBW-301957  | Cd (214.439 nm)    | -0.0001 u (ppm) | 61.17    | -0.0001 (ppm)   | 9.3260      |
| 11/1/2017 18:17:19 | PBW-301957  | Co (230.786 nm)    | -0.0003 u (ppm) | 23.36    | -0.0003 (ppm)   | -4.0050     |
| 11/1/2017 18:17:19 | PBW-301957  | Cr (267.716 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | -5.1879     |
| 11/1/2017 18:17:19 | PBW-301957  | Cu (327.395 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | 14.8441     |
| 11/1/2017 18:17:19 | PBW-301957  | Fe (234.350 nm)    | -0.0046 u (ppm) | 1.11     | -0.0046 (ppm)   | 19.5848     |
| 11/1/2017 18:17:19 | PBW-301957  | K (766.491 nm)     | -0.0144 u (ppm) | 65.91    | -0.0144 (ppm)   | 13.1626     |
| 11/1/2017 18:17:19 | PBW-301957  | Mg (279.078 nm)    | 0.0013 (ppm)    | 25.55    | 0.0013 (ppm)    | -4.3479     |
| 11/1/2017 18:17:19 | PBW-301957  | Mn (257.610 nm)    | 0.0000 (ppm)    | 25.43    | 0.0000 (ppm)    | 39.3952     |
| 11/1/2017 18:17:19 | PBW-301957  | Mo (202.032 nm)    | -0.0006 u (ppm) | 47.44    | -0.0006 (ppm)   | 9.8686      |
| 11/1/2017 18:17:19 | PBW-301957  | Na (588.995 nm)    | 0.0061 (ppm)    | 16.03    | 0.0061 (ppm)    | -5700.2715  |
| 11/1/2017 18:17:19 | PBW-301957  | Ni (230.299 nm)    | 0.0010 (ppm)    | 39.80    | 0.0010 (ppm)    | -19.2652    |
| 11/1/2017 18:17:19 | PBW-301957  | Pb (220.353 nm)    | -0.0004 u (ppm) | > 100.00 | -0.0004 (ppm)   | 4.7634      |
| 11/1/2017 18:17:19 | PBW-301957  | Sb (217.582 nm)    | -0.0015 u (ppm) | 81.43    | -0.0015 (ppm)   | 2.0326      |
| 11/1/2017 18:17:19 | PBW-301957  | Se (196.026 nm)    | -0.0019 u (ppm) | > 100.00 | -0.0019 (ppm)   | 3.8893      |
| 11/1/2017 18:17:19 | PBW-301957  | Sn (189.925 nm)    | -0.0002 u (ppm) | > 100.00 | -0.0002 (ppm)   | -0.3870     |
| 11/1/2017 18:17:19 | PBW-301957  | Sr (216.596 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | -1.4204     |
| 11/1/2017 18:17:19 | PBW-301957  | Ti (336.122 nm)    | 0.0003 (ppm)    | 10.44    | 0.0003 (ppm)    | -346.1270   |
| 11/1/2017 18:17:19 | PBW-301957  | Tl (351.923 nm)    | -0.0020 u (ppm) | > 100.00 | -0.0020 (ppm)   | 8.8577      |
| 11/1/2017 18:17:19 | PBW-301957  | V (292.401 nm)     | -0.0002 u (ppm) | 48.07    | -0.0002 (ppm)   | 102.4398    |
| 11/1/2017 18:17:19 | PBW-301957  | Y (360.074 nm)     | 1.02 (Ratio)    | 0.74     | 1.02 (Ratio)    | 951333.68   |
| 11/1/2017 18:17:19 | PBW-301957  | Y_R (360.074 nm)   | 1.02 (Ratio)    | 0.74     | 1.02 (Ratio)    | 951527.59   |
| 11/1/2017 18:17:19 | PBW-301957  | Zn (213.857 nm)    | 0.0013 (ppm)    | 2.06     | 0.0013 (ppm)    | 7.7272      |
| 11/1/2017 18:20:38 | LCSW-301957 | Ag (328.068 nm)    | 0.0495 (ppm)    | 0.65     | 0.0495 (ppm)    | 3507.0741   |
| 11/1/2017 18:20:38 | LCSW-301957 | Al (394.401 nm)    | 1.8455 (ppm)    | 0.53     | 1.8455 (ppm)    | 24726.9979  |
| 11/1/2017 18:20:38 | LCSW-301957 | As (188.980 nm)    | 0.0392 (ppm)    | 8.91     | 0.0392 (ppm)    | 33.4097     |
| 11/1/2017 18:20:38 | LCSW-301957 | B (249.772 nm)     | 0.9607 (ppm)    | 0.38     | 0.9607 (ppm)    | 27622.5629  |
| 11/1/2017 18:20:38 | LCSW-301957 | Ba (230.424 nm)    | 2.0643 (ppm)    | 0.36     | 2.0643 (ppm)    | 72253.2623  |
| 11/1/2017 18:20:38 | LCSW-301957 | Be (313.107 nm)    | 0.0501 (ppm)    | 0.39     | 0.0501 (ppm)    | 75492.4554  |
| 11/1/2017 18:20:38 | LCSW-301957 | Ca (227.547 nm)    | 1.8835 (ppm)    | 3.28     | 1.8835 (ppm)    | 116.7820    |
| 11/1/2017 18:20:38 | LCSW-301957 | Cd (214.439 nm)    | 0.0513 (ppm)    | 0.07     | 0.0513 (ppm)    | 1178.0855   |
| 11/1/2017 18:20:38 | LCSW-301957 | Co (230.786 nm)    | 0.5125 (ppm)    | 0.31     | 0.5125 (ppm)    | 5273.8325   |
| 11/1/2017 18:20:38 | LCSW-301957 | Cr (267.716 nm)    | 0.1976 (ppm)    | 0.35     | 0.1976 (ppm)    | 10303.9007  |
| 11/1/2017 18:20:38 | LCSW-301957 | Cu (327.395 nm)    | 0.2441 (ppm)    | 0.89     | 0.2441 (ppm)    | 15351.2367  |
| 11/1/2017 18:20:38 | LCSW-301957 | Fe (234.350 nm)    | 0.9679 (ppm)    | 0.45     | 0.9679 (ppm)    | 11316.4380  |
| 11/1/2017 18:20:38 | LCSW-301957 | K (766.491 nm)     | 19.1272 (ppm)   | 0.63     | 19.1272 (ppm)   | 59114.0219  |
| 11/1/2017 18:20:38 | LCSW-301957 | Mg (279.078 nm)    | 1.9863 (ppm)    | 0.49     | 1.9863 (ppm)    | 4000.9858   |
| 11/1/2017 18:20:38 | LCSW-301957 | Mn (257.610 nm)    | 0.4938 (ppm)    | 0.32     | 0.4938 (ppm)    | 159806.2551 |
| 11/1/2017 18:20:38 | LCSW-301957 | Mo (202.032 nm)    | 0.4733 (ppm)    | 0.30     | 0.4733 (ppm)    | 5081.1954   |
| 11/1/2017 18:20:38 | LCSW-301957 | Na (588.995 nm)    | 19.4829 (ppm)   | 0.60     | 19.4829 (ppm)   | 888027.8572 |
| 11/1/2017 18:20:38 | LCSW-301957 | Ni (230.299 nm)    | 0.5122 (ppm)    | 0.78     | 0.5122 (ppm)    | 3527.9757   |
| 11/1/2017 18:20:38 | LCSW-301957 | Pb (220.353 nm)    | 0.5115 (ppm)    | 0.42     | 0.5115 (ppm)    | 1147.4987   |
| 11/1/2017 18:20:38 | LCSW-301957 | Sb (217.582 nm)    | 0.4915 (ppm)    | 0.44     | 0.4915 (ppm)    | 705.3658    |
| 11/1/2017 18:20:38 | LCSW-301957 | Se (196.026 nm)    | 1.0312 (ppm)    | 0.31     | 1.0312 (ppm)    | 906.2947    |
| 11/1/2017 18:20:38 | LCSW-301957 | Sn (189.925 nm)    | 5.0000 (ppm)    | 0.42     | 5.0000 (ppm)    | 6370.9621   |
| 11/1/2017 18:20:38 | LCSW-301957 | Sr (216.596 nm)    | 2.0285 (ppm)    | 0.20     | 2.0285 (ppm)    | 30258.0767  |
| 11/1/2017 18:20:38 | LCSW-301957 | Ti (336.122 nm)    | 0.4902 (ppm)    | 0.55     | 0.4902 (ppm)    | 107075.0274 |
| 11/1/2017 18:20:38 | LCSW-301957 | Tl (351.923 nm)    | 1.8724 (ppm)    | 0.64     | 1.8724 (ppm)    | 5330.4065   |
| 11/1/2017 18:20:38 | LCSW-301957 | V (292.401 nm)     | 0.4974 (ppm)    | 0.30     | 0.4974 (ppm)    | 18016.2447  |
| 11/1/2017 18:20:38 | LCSW-301957 | Y (360.074 nm)     | 0.98 (Ratio)    | 0.87     | 0.98 (Ratio)    | 921310.21   |
| 11/1/2017 18:20:38 | LCSW-301957 | Y_R (360.074 nm)   | 0.98 (Ratio)    | 0.86     | 0.98 (Ratio)    | 921628.04   |

| Date Time          | Label         | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity  |
|--------------------|---------------|--------------------|-----------------|----------|-----------------|------------|
| 11/1/2017 18:20:38 | LCSW-301957   | Zn (213.857 nm)    | 0.5022 (ppm)    | 0.58     | 0.5022 (ppm)    | 14560.7737 |
| 11/1/2017 18:23:57 | R1710031-019  | Ag (328.068 nm)    | 0.0001 (ppm)    | > 100.00 | 0.0001 (ppm)    | -120.7739  |
| 11/1/2017 18:23:57 | R1710031-019  | Al (394.401 nm)    | 0.0420 (ppm)    | 0.53     | 0.0420 (ppm)    | 643.6436   |
| 11/1/2017 18:23:57 | R1710031-019  | As (188.980 nm)    | 0.0001 u (ppm)  | > 100.00 | 0.0001 (ppm)    | -2.7603    |
| 11/1/2017 18:23:57 | R1710031-019  | B (249.772 nm)     | 0.0002 (ppm)    | 89.22    | 0.0002 (ppm)    | 96.7943    |
| 11/1/2017 18:23:57 | R1710031-019  | Ba (230.424 nm)    | 0.0010 (ppm)    | 9.44     | 0.0010 (ppm)    | 41.8910    |
| 11/1/2017 18:23:57 | R1710031-019  | Be (313.107 nm)    | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | -506.6303  |
| 11/1/2017 18:23:57 | R1710031-019  | Ca (227.547 nm)    | 0.2326 (ppm)    | 8.06     | 0.2326 (ppm)    | 19.8295    |
| 11/1/2017 18:23:57 | R1710031-019  | Cd (214.439 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | 10.5549    |
| 11/1/2017 18:23:57 | R1710031-019  | Co (230.786 nm)    | -0.0002 u (ppm) | > 100.00 | -0.0002 (ppm)   | -3.4416    |
| 11/1/2017 18:23:57 | R1710031-019  | Cr (267.716 nm)    | 0.0003 (ppm)    | 40.85    | 0.0003 (ppm)    | 13.8731    |
| 11/1/2017 18:23:57 | R1710031-019  | Cu (327.395 nm)    | 0.0005 (ppm)    | 3.30     | 0.0005 (ppm)    | 50.6900    |
| 11/1/2017 18:23:57 | R1710031-019  | Fe (234.350 nm)    | 0.0004 (ppm)    | 19.75    | 0.0004 (ppm)    | 77.8914    |
| 11/1/2017 18:23:57 | R1710031-019  | K (766.491 nm)     | 0.0401 (ppm)    | 19.08    | 0.0401 (ppm)    | 181.2850   |
| 11/1/2017 18:23:57 | R1710031-019  | Mg (279.078 nm)    | 0.0256 (ppm)    | 1.57     | 0.0256 (ppm)    | 44.5688    |
| 11/1/2017 18:23:57 | R1710031-019  | Mn (257.610 nm)    | 0.0001 (ppm)    | 6.72     | 0.0001 (ppm)    | 53.2509    |
| 11/1/2017 18:23:57 | R1710031-019  | Mo (202.032 nm)    | 0.0001 u (ppm)  | > 100.00 | 0.0001 (ppm)    | 18.3649    |
| 11/1/2017 18:23:57 | R1710031-019  | Na (588.995 nm)    | 0.5902 (ppm)    | 0.58     | 0.5902 (ppm)    | 21103.6585 |
| 11/1/2017 18:23:57 | R1710031-019  | Ni (230.299 nm)    | -0.0006 u (ppm) | 39.81    | -0.0006 (ppm)   | -30.5210   |
| 11/1/2017 18:23:57 | R1710031-019  | Pb (220.353 nm)    | -0.0011 u (ppm) | 94.76    | -0.0011 (ppm)   | 3.2240     |
| 11/1/2017 18:23:57 | R1710031-019  | Sb (217.582 nm)    | -0.0020 u (ppm) | 71.82    | -0.0020 (ppm)   | 1.3217     |
| 11/1/2017 18:23:57 | R1710031-019  | Se (196.026 nm)    | -0.0039 u (ppm) | 82.79    | -0.0039 (ppm)   | 2.1302     |
| 11/1/2017 18:23:57 | R1710031-019  | Sn (189.925 nm)    | -0.0002 u (ppm) | 36.69    | -0.0002 (ppm)   | -0.3602    |
| 11/1/2017 18:23:57 | R1710031-019  | Sr (216.596 nm)    | 0.0008 (ppm)    | 32.74    | 0.0008 (ppm)    | 10.1701    |
| 11/1/2017 18:23:57 | R1710031-019  | Ti (336.122 nm)    | 0.0007 (ppm)    | 2.46     | 0.0007 (ppm)    | -271.3162  |
| 11/1/2017 18:23:57 | R1710031-019  | Tl (351.923 nm)    | -0.0025 u (ppm) | 88.19    | -0.0025 (ppm)   | 7.6520     |
| 11/1/2017 18:23:57 | R1710031-019  | V (292.401 nm)     | -0.0001 u (ppm) | 91.83    | -0.0001 (ppm)   | 105.5462   |
| 11/1/2017 18:23:57 | R1710031-019  | Y (360.074 nm)     | 1.01 (Ratio)    | 0.83     | 1.01 (Ratio)    | 949967.70  |
| 11/1/2017 18:23:57 | R1710031-019  | Y_R (360.074 nm)   | 1.02 (Ratio)    | 0.83     | 1.02 (Ratio)    | 950323.86  |
| 11/1/2017 18:23:57 | R1710031-019  | Zn (213.857 nm)    | 0.0021 (ppm)    | 3.88     | 0.0021 (ppm)    | 30.6982    |
| 11/1/2017 18:27:16 | R1710031-019L | Ag (328.068 nm)    | 0.0001 (ppm)    | > 100.00 | 0.0001 (ppm)    | -120.9468  |
| 11/1/2017 18:27:16 | R1710031-019L | Al (394.401 nm)    | 0.0077 (ppm)    | 7.65     | 0.0077 (ppm)    | 185.6451   |
| 11/1/2017 18:27:16 | R1710031-019L | As (188.980 nm)    | 0.0020 (ppm)    | > 100.00 | 0.0020 (ppm)    | -1.0075    |
| 11/1/2017 18:27:16 | R1710031-019L | B (249.772 nm)     | -0.0009 u (ppm) | 9.84     | -0.0009 (ppm)   | 64.9636    |
| 11/1/2017 18:27:16 | R1710031-019L | Ba (230.424 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | 9.6863     |
| 11/1/2017 18:27:16 | R1710031-019L | Be (313.107 nm)    | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | -512.6424  |
| 11/1/2017 18:27:16 | R1710031-019L | Ca (227.547 nm)    | 0.0229 (ppm)    | > 100.00 | 0.0229 (ppm)    | 7.5147     |
| 11/1/2017 18:27:16 | R1710031-019L | Cd (214.439 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | 12.7991    |
| 11/1/2017 18:27:16 | R1710031-019L | Co (230.786 nm)    | -0.0002 u (ppm) | > 100.00 | -0.0002 (ppm)   | -2.8577    |
| 11/1/2017 18:27:16 | R1710031-019L | Cr (267.716 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | -1.1217    |
| 11/1/2017 18:27:16 | R1710031-019L | Cu (327.395 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | 21.7228    |
| 11/1/2017 18:27:16 | R1710031-019L | Fe (234.350 nm)    | -0.0027 u (ppm) | 13.02    | -0.0027 (ppm)   | 41.2311    |
| 11/1/2017 18:27:16 | R1710031-019L | K (766.491 nm)     | -0.0014 u (ppm) | > 100.00 | -0.0014 (ppm)   | 53.0361    |
| 11/1/2017 18:27:16 | R1710031-019L | Mg (279.078 nm)    | 0.0060 (ppm)    | 22.17    | 0.0060 (ppm)    | 4.9847     |
| 11/1/2017 18:27:16 | R1710031-019L | Mn (257.610 nm)    | 0.0000 (ppm)    | 12.15    | 0.0000 (ppm)    | 19.0389    |
| 11/1/2017 18:27:16 | R1710031-019L | Mo (202.032 nm)    | -0.0004 u (ppm) | 37.20    | -0.0004 (ppm)   | 12.4407    |
| 11/1/2017 18:27:16 | R1710031-019L | Na (588.995 nm)    | 0.1132 (ppm)    | 0.21     | 0.1132 (ppm)    | -783.9166  |
| 11/1/2017 18:27:16 | R1710031-019L | Ni (230.299 nm)    | 0.0004 (ppm)    | 79.05    | 0.0004 (ppm)    | -23.5714   |
| 11/1/2017 18:27:16 | R1710031-019L | Pb (220.353 nm)    | 0.0002 u (ppm)  | > 100.00 | 0.0002 (ppm)    | 5.9742     |
| 11/1/2017 18:27:16 | R1710031-019L | Sb (217.582 nm)    | -0.0019 u (ppm) | 84.26    | -0.0019 (ppm)   | 1.3741     |
| 11/1/2017 18:27:16 | R1710031-019L | Se (196.026 nm)    | -0.0019 u (ppm) | > 100.00 | -0.0019 (ppm)   | 3.8269     |

| Date Time          | Label         | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity  |
|--------------------|---------------|--------------------|-----------------|----------|-----------------|------------|
| 11/1/2017 18:27:16 | R1710031-019L | Sn (189.925 nm)    | 0.0007 (ppm)    | 42.78    | 0.0007 (ppm)    | 0.7839     |
| 11/1/2017 18:27:16 | R1710031-019L | Sr (216.596 nm)    | 0.0001 u (ppm)  | > 100.00 | 0.0001 (ppm)    | 0.3391     |
| 11/1/2017 18:27:16 | R1710031-019L | Ti (336.122 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | -434.3284  |
| 11/1/2017 18:27:16 | R1710031-019L | Ti (351.923 nm)    | -0.0012 u (ppm) | > 100.00 | -0.0012 (ppm)   | 11.2287    |
| 11/1/2017 18:27:16 | R1710031-019L | V (292.401 nm)     | -0.0002 u (ppm) | 99.57    | -0.0002 (ppm)   | 103.3285   |
| 11/1/2017 18:27:16 | R1710031-019L | Y (360.074 nm)     | 1.01 (Ratio)    | 1.00     | 1.01 (Ratio)    | 844271.92  |
| 11/1/2017 18:27:16 | R1710031-019L | Y_R (360.074 nm)   | 1.01 (Ratio)    | 1.00     | 1.01 (Ratio)    | 844655.80  |
| 11/1/2017 18:27:16 | R1710031-019L | Zn (213.857 nm)    | 0.0068 (ppm)    | 2.48     | 0.0068 (ppm)    | 165.8848   |
| 11/1/2017 18:30:35 | PBW-301960    | Ag (328.068 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | -128.6120  |
| 11/1/2017 18:30:35 | PBW-301960    | Al (394.401 nm)    | 0.0022 (ppm)    | 15.74    | 0.0022 (ppm)    | 112.9266   |
| 11/1/2017 18:30:35 | PBW-301960    | As (188.980 nm)    | 0.0015 u (ppm)  | > 100.00 | 0.0015 (ppm)    | -1.4937    |
| 11/1/2017 18:30:35 | PBW-301960    | B (249.772 nm)     | -0.0005 u (ppm) | 46.74    | -0.0005 (ppm)   | 77.5436    |
| 11/1/2017 18:30:35 | PBW-301960    | Ba (230.424 nm)    | 0.0001 (ppm)    | > 100.00 | 0.0001 (ppm)    | 10.0936    |
| 11/1/2017 18:30:35 | PBW-301960    | Be (313.107 nm)    | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | -511.9764  |
| 11/1/2017 18:30:35 | PBW-301960    | Ca (227.547 nm)    | 0.0303 (ppm)    | 27.55    | 0.0303 (ppm)    | 7.9521     |
| 11/1/2017 18:30:35 | PBW-301960    | Cd (214.439 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | 12.4570    |
| 11/1/2017 18:30:35 | PBW-301960    | Co (230.786 nm)    | -0.0002 u (ppm) | > 100.00 | -0.0002 (ppm)   | -3.2638    |
| 11/1/2017 18:30:35 | PBW-301960    | Cr (267.716 nm)    | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | -0.7614    |
| 11/1/2017 18:30:35 | PBW-301960    | Cu (327.395 nm)    | 0.0005 (ppm)    | 15.97    | 0.0005 (ppm)    | 51.8854    |
| 11/1/2017 18:30:35 | PBW-301960    | Fe (234.350 nm)    | 0.0007 (ppm)    | 9.42     | 0.0007 (ppm)    | 81.4113    |
| 11/1/2017 18:30:35 | PBW-301960    | K (766.491 nm)     | 0.1017 (ppm)    | 4.59     | 0.1017 (ppm)    | 371.5038   |
| 11/1/2017 18:30:35 | PBW-301960    | Mg (279.078 nm)    | 0.0042 (ppm)    | 47.19    | 0.0042 (ppm)    | 1.3816     |
| 11/1/2017 18:30:35 | PBW-301960    | Mn (257.610 nm)    | 0.0005 (ppm)    | 1.30     | 0.0005 (ppm)    | 203.6624   |
| 11/1/2017 18:30:35 | PBW-301960    | Mo (202.032 nm)    | -0.0006 u (ppm) | 31.08    | -0.0006 (ppm)   | 10.7719    |
| 11/1/2017 18:30:35 | PBW-301960    | Na (588.895 nm)    | 0.0396 (ppm)    | 3.36     | 0.0396 (ppm)    | -4161.3204 |
| 11/1/2017 18:30:35 | PBW-301960    | Ni (230.299 nm)    | 0.0011 (ppm)    | 42.56    | 0.0011 (ppm)    | -18.1061   |
| 11/1/2017 18:30:35 | PBW-301960    | Pb (220.353 nm)    | -0.0002 u (ppm) | > 100.00 | -0.0002 (ppm)   | 5.1489     |
| 11/1/2017 18:30:35 | PBW-301960    | Sb (217.582 nm)    | -0.0017 u (ppm) | 72.23    | -0.0017 (ppm)   | 1.6890     |
| 11/1/2017 18:30:35 | PBW-301960    | Se (196.026 nm)    | -0.0030 u (ppm) | 48.03    | -0.0030 (ppm)   | 2.9190     |
| 11/1/2017 18:30:35 | PBW-301960    | Sn (189.925 nm)    | 0.0009 (ppm)    | 33.88    | 0.0009 (ppm)    | 0.9765     |
| 11/1/2017 18:30:35 | PBW-301960    | Sr (216.596 nm)    | 0.0001 u (ppm)  | > 100.00 | 0.0001 (ppm)    | -0.2027    |
| 11/1/2017 18:30:35 | PBW-301960    | Ti (336.122 nm)    | 0.0005 (ppm)    | 5.99     | 0.0005 (ppm)    | -315.5426  |
| 11/1/2017 18:30:35 | PBW-301960    | Ti (351.923 nm)    | -0.0018 u (ppm) | 73.49    | -0.0018 (ppm)   | 9.4947     |
| 11/1/2017 18:30:35 | PBW-301960    | V (292.401 nm)     | -0.0002 u (ppm) | 64.79    | -0.0002 (ppm)   | 101.7021   |
| 11/1/2017 18:30:35 | PBW-301960    | Y (360.074 nm)     | 1.02 (Ratio)    | 0.96     | 1.02 (Ratio)    | 955206.80  |
| 11/1/2017 18:30:35 | PBW-301960    | Y_R (360.074 nm)   | 1.02 (Ratio)    | 0.96     | 1.02 (Ratio)    | 955692.64  |
| 11/1/2017 18:30:35 | PBW-301960    | Zn (213.857 nm)    | 0.0049 (ppm)    | 1.10     | 0.0049 (ppm)    | 112.8568   |
| 11/1/2017 18:33:53 | LCSW-301960   | Ag (328.068 nm)    | 0.0495 (ppm)    | 0.51     | 0.0495 (ppm)    | 3508.9364  |
| 11/1/2017 18:33:53 | LCSW-301960   | Al (394.401 nm)    | 1.8544 (ppm)    | 0.64     | 1.8544 (ppm)    | 24846.4771 |
| 11/1/2017 18:33:53 | LCSW-301960   | As (188.980 nm)    | 0.0403 (ppm)    | 6.58     | 0.0403 (ppm)    | 34.3584    |
| 11/1/2017 18:33:53 | LCSW-301960   | B (249.772 nm)     | 0.9628 (ppm)    | 0.45     | 0.9628 (ppm)    | 27680.4447 |
| 11/1/2017 18:33:53 | LCSW-301960   | Ba (230.424 nm)    | 2.0637 (ppm)    | 0.36     | 2.0637 (ppm)    | 72231.8925 |
| 11/1/2017 18:33:53 | LCSW-301960   | Be (313.107 nm)    | 0.0500 (ppm)    | 0.54     | 0.0500 (ppm)    | 75382.5722 |
| 11/1/2017 18:33:53 | LCSW-301960   | Ca (227.547 nm)    | 1.9143 (ppm)    | 0.40     | 1.9143 (ppm)    | 118.5908   |
| 11/1/2017 18:33:53 | LCSW-301960   | Cd (214.439 nm)    | 0.0508 (ppm)    | 0.28     | 0.0508 (ppm)    | 1168.8233  |
| 11/1/2017 18:33:53 | LCSW-301960   | Co (230.786 nm)    | 0.5114 (ppm)    | 0.50     | 0.5114 (ppm)    | 5261.7329  |
| 11/1/2017 18:33:53 | LCSW-301960   | Cr (267.716 nm)    | 0.1974 (ppm)    | 0.44     | 0.1974 (ppm)    | 10295.5575 |
| 11/1/2017 18:33:53 | LCSW-301960   | Cu (327.395 nm)    | 0.2444 (ppm)    | 0.41     | 0.2444 (ppm)    | 15371.7211 |
| 11/1/2017 18:33:53 | LCSW-301960   | Fe (234.350 nm)    | 0.9728 (ppm)    | 0.48     | 0.9728 (ppm)    | 11373.5293 |
| 11/1/2017 18:33:53 | LCSW-301960   | K (766.491 nm)     | 19.3742 (ppm)   | 0.71     | 19.3742 (ppm)   | 59976.6084 |
| 11/1/2017 18:33:53 | LCSW-301960   | Mg (279.078 nm)    | 1.9894 (ppm)    | 0.46     | 1.9894 (ppm)    | 4007.0483  |

| Date Time          | Label                               | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|-------------------------------------|--------------------|-----------------|----------|-----------------|--------------|
| 11/1/2017 18:33:53 | LCSW-301960                         | Mn (257.610 nm)    | 0.4945 (ppm)    | 0.50     | 0.4945 (ppm)    | 160003.2399  |
| 11/1/2017 18:33:53 | LCSW-301960                         | Mo (202.032 nm)    | 0.4731 (ppm)    | 0.31     | 0.4731 (ppm)    | 5078.9978    |
| 11/1/2017 18:33:53 | LCSW-301960                         | Na (588.995 nm)    | 19.6614 (ppm)   | 0.81     | 19.6614 (ppm)   | 896220.5476  |
| 11/1/2017 18:33:53 | LCSW-301960                         | Ni (230.299 nm)    | 0.5088 (ppm)    | 0.48     | 0.5088 (ppm)    | 3504.5028    |
| 11/1/2017 18:33:53 | LCSW-301960                         | Pb (220.353 nm)    | 0.5102 (ppm)    | 0.19     | 0.5102 (ppm)    | 1144.4422    |
| 11/1/2017 18:33:53 | LCSW-301960                         | Sb (217.582 nm)    | 0.4932 (ppm)    | 1.63     | 0.4932 (ppm)    | 707.6872     |
| 11/1/2017 18:33:53 | LCSW-301960                         | Se (196.026 nm)    | 1.0284 (ppm)    | 0.30     | 1.0284 (ppm)    | 903.8955     |
| 11/1/2017 18:33:53 | LCSW-301960                         | Sn (189.925 nm)    | 5.0157 (ppm)    | 0.56     | 5.0157 (ppm)    | 6390.9792    |
| 11/1/2017 18:33:53 | LCSW-301960                         | Sr (216.596 nm)    | 2.0256 (ppm)    | 0.62     | 2.0256 (ppm)    | 30214.9579   |
| 11/1/2017 18:33:53 | LCSW-301960                         | Ti (336.122 nm)    | 0.4913 (ppm)    | 0.51     | 0.4913 (ppm)    | 107331.8187  |
| 11/1/2017 18:33:53 | LCSW-301960                         | Ti (351.923 nm)    | 1.8734 (ppm)    | 0.52     | 1.8734 (ppm)    | 5333.4299    |
| 11/1/2017 18:33:53 | LCSW-301960                         | V (292.401 nm)     | 0.4973 (ppm)    | 0.49     | 0.4973 (ppm)    | 18009.7080   |
| 11/1/2017 18:33:53 | LCSW-301960                         | Y (360.074 nm)     | 0.99 (Ratio)    | 0.97     | 0.99 (Ratio)    | 925696.45    |
| 11/1/2017 18:33:53 | LCSW-301960                         | Y_R (360.074 nm)   | 0.99 (Ratio)    | 0.97     | 0.99 (Ratio)    | 926188.29    |
| 11/1/2017 18:33:53 | LCSW-301960                         | Zn (213.857 nm)    | 0.5062 (ppm)    | 0.68     | 0.5062 (ppm)    | 14677.4730   |
| 11/1/2017 18:37:12 | Continuing Calibration Verification | Ag (328.068 nm)    | 0.4908 (ppm)    | 0.56     | 0.4908 (ppm)    | 35930.1062   |
| 11/1/2017 18:37:12 | Continuing Calibration Verification | Al (394.401 nm)    | 9.5721 (ppm)    | 0.65     | 9.5721 (ppm)    | 127904.2102  |
| 11/1/2017 18:37:12 | Continuing Calibration Verification | As (188.980 nm)    | 0.9720 (ppm)    | 1.44     | 0.9720 (ppm)    | 896.7329     |
| 11/1/2017 18:37:12 | Continuing Calibration Verification | B (249.772 nm)     | 2.4184 (ppm)    | 0.40     | 2.4184 (ppm)    | 69396.0494   |
| 11/1/2017 18:37:12 | Continuing Calibration Verification | Ba (230.424 nm)    | 10.3041 (ppm)   | 0.24     | 10.3041 (ppm)   | 360627.4244  |
| 11/1/2017 18:37:12 | Continuing Calibration Verification | Be (313.107 nm)    | 0.2540 (ppm)    | 0.53     | 0.2540 (ppm)    | 384719.2060  |
| 11/1/2017 18:37:12 | Continuing Calibration Verification | Ca (227.547 nm)    | 24.2740 (ppm)   | 0.73     | 24.2740 (ppm)   | 1431.7229    |
| 11/1/2017 18:37:12 | Continuing Calibration Verification | Cd (214.439 nm)    | 0.4985 (ppm)    | 0.36     | 0.4985 (ppm)    | 11349.0478   |
| 11/1/2017 18:37:12 | Continuing Calibration Verification | Co (230.786 nm)    | 2.5943 (ppm)    | 0.46     | 2.5943 (ppm)    | 26699.3835   |
| 11/1/2017 18:37:12 | Continuing Calibration Verification | Cr (267.716 nm)    | 0.5045 (ppm)    | 0.33     | 0.5045 (ppm)    | 26312.9360   |
| 11/1/2017 18:37:12 | Continuing Calibration Verification | Cu (327.395 nm)    | 1.2074 (ppm)    | 1.04     | 1.2074 (ppm)    | 75859.7230   |
| 11/1/2017 18:37:12 | Continuing Calibration Verification | Fe (234.350 nm)    | 4.8580 (ppm)    | 0.40     | 4.8580 (ppm)    | 56508.5311   |
| 11/1/2017 18:37:12 | Continuing Calibration Verification | K (766.491 nm)     | 24.7855 (ppm)   | 0.76     | 24.7855 (ppm)   | 76584.3568   |
| 11/1/2017 18:37:12 | Continuing Calibration Verification | Mg (279.078 nm)    | 24.9802 (ppm)   | 0.49     | 24.9802 (ppm)   | 50397.6750   |
| 11/1/2017 18:37:12 | Continuing Calibration Verification | Mn (257.610 nm)    | 0.7548 (ppm)    | 0.39     | 0.7548 (ppm)    | 244241.9388  |
| 11/1/2017 18:37:12 | Continuing Calibration Verification | Mo (202.032 nm)    | 2.3978 (ppm)    | 0.38     | 2.3978 (ppm)    | 25672.8129   |
| 11/1/2017 18:37:12 | Continuing Calibration Verification | Na (588.995 nm)    | 24.8571 (ppm)   | 0.85     | 24.8571 (ppm)   | 1134633.9440 |
| 11/1/2017 18:37:12 | Continuing Calibration Verification | Ni (230.299 nm)    | 2.0392 (ppm)    | 0.47     | 2.0392 (ppm)    | 14123.9914   |
| 11/1/2017 18:37:12 | Continuing Calibration Verification | Pb (220.353 nm)    | 0.4985 (ppm)    | 0.91     | 0.4985 (ppm)    | 1118.3447    |
| 11/1/2017 18:37:12 | Continuing Calibration Verification | Sb (217.582 nm)    | 4.8980 (ppm)    | 0.57     | 4.8980 (ppm)    | 6991.6250    |
| 11/1/2017 18:37:12 | Continuing Calibration Verification | Se (196.026 nm)    | 0.4851 (ppm)    | 0.40     | 0.4851 (ppm)    | 429.3102     |
| 11/1/2017 18:37:12 | Continuing Calibration Verification | Sn (189.925 nm)    | 5.0514 (ppm)    | 0.57     | 5.0514 (ppm)    | 6436.4847    |
| 11/1/2017 18:37:12 | Continuing Calibration Verification | Sr (216.596 nm)    | 2.5101 (ppm)    | 0.49     | 2.5101 (ppm)    | 37443.4222   |
| 11/1/2017 18:37:12 | Continuing Calibration Verification | Ti (336.122 nm)    | 2.5061 (ppm)    | 0.68     | 2.5061 (ppm)    | 549168.0378  |
| 11/1/2017 18:37:12 | Continuing Calibration Verification | Ti (351.923 nm)    | 0.9905 (ppm)    | 0.30     | 0.9905 (ppm)    | 2826.8359    |
| 11/1/2017 18:37:12 | Continuing Calibration Verification | V (292.401 nm)     | 2.5287 (ppm)    | 0.41     | 2.5287 (ppm)    | 91134.3237   |
| 11/1/2017 18:37:12 | Continuing Calibration Verification | Y (360.074 nm)     | 0.95 (Ratio)    | 1.01     | 0.95 (Ratio)    | 891545.88    |
| 11/1/2017 18:37:12 | Continuing Calibration Verification | Y_R (360.074 nm)   | 0.95 (Ratio)    | 1.00     | 0.95 (Ratio)    | 892051.51    |
| 11/1/2017 18:37:12 | Continuing Calibration Verification | Zn (213.857 nm)    | 1.0017 (ppm)    | 0.34     | 1.0017 (ppm)    | 29074.8773   |
| 11/1/2017 18:40:31 | Continuing Calibration Blank        | Ag (328.068 nm)    | 0.0001 (ppm)    | > 100.00 | 0.0001 (ppm)    | -120.8394    |
| 11/1/2017 18:40:31 | Continuing Calibration Blank        | Al (394.401 nm)    | -0.0009 u (ppm) | 55.92    | -0.0009 (ppm)   | 71.4503      |
| 11/1/2017 18:40:31 | Continuing Calibration Blank        | As (188.980 nm)    | 0.0016 (ppm)    | > 100.00 | 0.0016 (ppm)    | -1.4125      |
| 11/1/2017 18:40:31 | Continuing Calibration Blank        | B (249.772 nm)     | 0.0011 (ppm)    | 41.47    | 0.0011 (ppm)    | 122.6164     |
| 11/1/2017 18:40:31 | Continuing Calibration Blank        | Ba (230.424 nm)    | 0.0001 u (ppm)  | > 100.00 | 0.0001 (ppm)    | 10.4816      |
| 11/1/2017 18:40:31 | Continuing Calibration Blank        | Be (313.107 nm)    | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | -513.3411    |
| 11/1/2017 18:40:31 | Continuing Calibration Blank        | Ca (227.547 nm)    | -0.0012 u (ppm) | > 100.00 | -0.0012 (ppm)   | 6.1006       |

| Date Time          | Label                        | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|------------------------------|--------------------|-----------------|----------|-----------------|--------------|
| 11/1/2017 18:40:31 | Continuing Calibration Blank | Cd (214.439 nm)    | 0.0001 (ppm)    | 35.83    | 0.0001 (ppm)    | 14.6997      |
| 11/1/2017 18:40:31 | Continuing Calibration Blank | Co (230.786 nm)    | -0.0002 u (ppm) | > 100.00 | -0.0002 (ppm)   | -3.4398      |
| 11/1/2017 18:40:31 | Continuing Calibration Blank | Cr (267.716 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | -2.5116      |
| 11/1/2017 18:40:31 | Continuing Calibration Blank | Cu (327.395 nm)    | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | 21.2398      |
| 11/1/2017 18:40:31 | Continuing Calibration Blank | Fe (234.350 nm)    | 0.0041 (ppm)    | 6.76     | 0.0041 (ppm)    | 120.9248     |
| 11/1/2017 18:40:31 | Continuing Calibration Blank | K (766.491 nm)     | 0.0154 (ppm)    | 46.10    | 0.0154 (ppm)    | 104.9221     |
| 11/1/2017 18:40:31 | Continuing Calibration Blank | Mg (279.078 nm)    | 0.0022 (ppm)    | 33.38    | 0.0022 (ppm)    | -2.6066      |
| 11/1/2017 18:40:31 | Continuing Calibration Blank | Mn (257.610 nm)    | 0.0000 (ppm)    | 15.40    | 0.0000 (ppm)    | 22.8633      |
| 11/1/2017 18:40:31 | Continuing Calibration Blank | Mo (202.032 nm)    | 0.0015 (ppm)    | 8.11     | 0.0015 (ppm)    | 33.2400      |
| 11/1/2017 18:40:31 | Continuing Calibration Blank | Na (588.995 nm)    | 0.0016 (ppm)    | 76.94    | 0.0016 (ppm)    | -5906.4138   |
| 11/1/2017 18:40:31 | Continuing Calibration Blank | Ni (230.299 nm)    | 0.0006 (ppm)    | 47.56    | 0.0006 (ppm)    | -21.8214     |
| 11/1/2017 18:40:31 | Continuing Calibration Blank | Pb (220.353 nm)    | -0.0005 u (ppm) | > 100.00 | -0.0005 (ppm)   | 4.4165       |
| 11/1/2017 18:40:31 | Continuing Calibration Blank | Sb (217.582 nm)    | 0.0006 u (ppm)  | > 100.00 | 0.0006 (ppm)    | 4.9287       |
| 11/1/2017 18:40:31 | Continuing Calibration Blank | Se (196.026 nm)    | 0.0017 u (ppm)  | > 100.00 | 0.0017 (ppm)    | 6.9723       |
| 11/1/2017 18:40:31 | Continuing Calibration Blank | Sn (189.925 nm)    | 0.0006 (ppm)    | 10.39    | 0.0006 (ppm)    | 0.6147       |
| 11/1/2017 18:40:31 | Continuing Calibration Blank | Sr (216.596 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | -2.5392      |
| 11/1/2017 18:40:31 | Continuing Calibration Blank | Ti (336.122 nm)    | 0.0007 (ppm)    | 7.06     | 0.0007 (ppm)    | -276.2754    |
| 11/1/2017 18:40:31 | Continuing Calibration Blank | Tl (351.923 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | 14.2814      |
| 11/1/2017 18:40:31 | Continuing Calibration Blank | V (292.401 nm)     | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | 110.8571     |
| 11/1/2017 18:40:31 | Continuing Calibration Blank | Y (360.074 nm)     | 1.00 (Ratio)    | 0.89     | 1.00 (Ratio)    | 933844.62    |
| 11/1/2017 18:40:31 | Continuing Calibration Blank | Y_R (360.074 nm)   | 1.00 (Ratio)    | 0.89     | 1.00 (Ratio)    | 934176.61    |
| 11/1/2017 18:40:31 | Continuing Calibration Blank | Zn (213.857 nm)    | -0.0001 u (ppm) | 78.91    | -0.0001 (ppm)   | -33.6876     |
| 11/1/2017 18:43:49 | R1710054-001                 | Ag (328.068 nm)    | 0.0001 (ppm)    | 72.13    | 0.0001 (ppm)    | -121.5990    |
| 11/1/2017 18:43:49 | R1710054-001                 | Al (394.401 nm)    | 0.0212 (ppm)    | 2.52     | 0.0212 (ppm)    | 366.3427     |
| 11/1/2017 18:43:49 | R1710054-001                 | As (188.980 nm)    | 0.0017 u (ppm)  | > 100.00 | 0.0017 (ppm)    | -1.3360      |
| 11/1/2017 18:43:49 | R1710054-001                 | B (249.772 nm)     | 0.0353 (ppm)    | 0.85     | 0.0353 (ppm)    | 1101.1478    |
| 11/1/2017 18:43:49 | R1710054-001                 | Ba (230.424 nm)    | 0.0707 (ppm)    | 0.50     | 0.0707 (ppm)    | 2481.0870    |
| 11/1/2017 18:43:49 | R1710054-001                 | Be (313.107 nm)    | 0.0000 (ppm)    | 33.92    | 0.0000 (ppm)    | -526.0843    |
| 11/1/2017 18:43:49 | R1710054-001                 | Ca (227.547 nm)    | 35.7280 (ppm)   | 0.70     | 35.7280 (ppm)   | 2104.3896    |
| 11/1/2017 18:43:49 | R1710054-001                 | Cd (214.439 nm)    | -0.0001 u (ppm) | 27.93    | -0.0001 (ppm)   | 10.7039      |
| 11/1/2017 18:43:49 | R1710054-001                 | Co (230.786 nm)    | 0.0001 u (ppm)  | > 100.00 | 0.0001 (ppm)    | -0.7469      |
| 11/1/2017 18:43:49 | R1710054-001                 | Cr (267.716 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | -6.5194      |
| 11/1/2017 18:43:49 | R1710054-001                 | Cu (327.395 nm)    | 0.0001 (ppm)    | 89.90    | 0.0001 (ppm)    | 29.6267      |
| 11/1/2017 18:43:49 | R1710054-001                 | Fe (234.350 nm)    | 0.0625 (ppm)    | 0.60     | 0.0625 (ppm)    | 799.2359     |
| 11/1/2017 18:43:49 | R1710054-001                 | K (766.491 nm)     | 3.9792 (ppm)    | 0.73     | 3.9792 (ppm)    | 12343.6025   |
| 11/1/2017 18:43:49 | R1710054-001                 | Mg (279.078 nm)    | 19.5509 (ppm)   | 0.39     | 19.5509 (ppm)   | 39442.4921   |
| 11/1/2017 18:43:49 | R1710054-001                 | Mn (257.610 nm)    | 0.0026 (ppm)    | 0.71     | 0.0026 (ppm)    | 880.9878     |
| 11/1/2017 18:43:49 | R1710054-001                 | Mo (202.032 nm)    | -0.0002 u (ppm) | > 100.00 | -0.0002 (ppm)   | 15.0291      |
| 11/1/2017 18:43:49 | R1710054-001                 | Na (588.995 nm)    | 46.9986 (ppm)   | 0.85     | 46.9986 (ppm)   | 2150638.3581 |
| 11/1/2017 18:43:49 | R1710054-001                 | Ni (230.299 nm)    | -0.0022 u (ppm) | 51.47    | -0.0022 (ppm)   | -41.0241     |
| 11/1/2017 18:43:49 | R1710054-001                 | Pb (220.353 nm)    | -0.0019 u (ppm) | 46.89    | -0.0019 (ppm)   | 1.3165       |
| 11/1/2017 18:43:49 | R1710054-001                 | Sb (217.582 nm)    | -0.0004 u (ppm) | > 100.00 | -0.0004 (ppm)   | 3.5611       |
| 11/1/2017 18:43:49 | R1710054-001                 | Se (196.026 nm)    | 0.0011 (ppm)    | > 100.00 | 0.0011 (ppm)    | 6.4636       |
| 11/1/2017 18:43:49 | R1710054-001                 | Sn (189.925 nm)    | -0.0005 u (ppm) | > 100.00 | -0.0005 (ppm)   | -0.8150      |
| 11/1/2017 18:43:49 | R1710054-001                 | Sr (216.596 nm)    | 0.3841 (ppm)    | 0.60     | 0.3841 (ppm)    | 5728.4007    |
| 11/1/2017 18:43:49 | R1710054-001                 | Ti (336.122 nm)    | 0.0007 (ppm)    | 12.67    | 0.0007 (ppm)    | -255.4899    |
| 11/1/2017 18:43:49 | R1710054-001                 | Tl (351.923 nm)    | -0.0037 u (ppm) | 55.03    | -0.0037 (ppm)   | 4.1756       |
| 11/1/2017 18:43:49 | R1710054-001                 | V (292.401 nm)     | 0.0003 (ppm)    | 47.98    | 0.0003 (ppm)    | 122.4411     |
| 11/1/2017 18:43:49 | R1710054-001                 | Y (360.074 nm)     | 0.97 (Ratio)    | 0.79     | 0.97 (Ratio)    | 905798.85    |
| 11/1/2017 18:43:49 | R1710054-001                 | Y_R (360.074 nm)   | 0.97 (Ratio)    | 0.80     | 0.97 (Ratio)    | 906436.57    |
| 11/1/2017 18:43:49 | R1710054-001                 | Zn (213.857 nm)    | 0.0040 (ppm)    | 4.19     | 0.0040 (ppm)    | 86.1252      |

| Date Time          | Label          | Element Label (nm) | Conc          | %RSD  | Unadjusted Conc | Intensity    |
|--------------------|----------------|--------------------|---------------|-------|-----------------|--------------|
| 11/1/2017 18:47:09 | R1710054-001S  | Ag (328.068 nm)    | 0.0505 (ppm)  | 0.80  | 0.0505 (ppm)    | 3583.3260    |
| 11/1/2017 18:47:09 | R1710054-001S  | Al (394.401 nm)    | 1.9886 (ppm)  | 0.67  | 1.9886 (ppm)    | 26638.5078   |
| 11/1/2017 18:47:09 | R1710054-001S  | As (188.980 nm)    | 0.0429 (ppm)  | 10.09 | 0.0429 (ppm)    | 36.7714      |
| 11/1/2017 18:47:09 | R1710054-001S  | B (249.772 nm)     | 1.0317 (ppm)  | 0.48  | 1.0317 (ppm)    | 29655.2394   |
| 11/1/2017 18:47:09 | R1710054-001S  | Ba (230.424 nm)    | 2.1271 (ppm)  | 0.52  | 2.1271 (ppm)    | 74450.9416   |
| 11/1/2017 18:47:09 | R1710054-001S  | Be (313.107 nm)    | 0.0512 (ppm)  | 0.51  | 0.0512 (ppm)    | 77195.6711   |
| 11/1/2017 18:47:09 | R1710054-001S  | Ca (227.547 nm)    | 38.6646 (ppm) | 0.76  | 38.6646 (ppm)   | 2276.8521    |
| 11/1/2017 18:47:09 | R1710054-001S  | Cd (214.439 nm)    | 0.0509 (ppm)  | 0.93  | 0.0509 (ppm)    | 1169.9476    |
| 11/1/2017 18:47:09 | R1710054-001S  | Co (230.786 nm)    | 0.5089 (ppm)  | 0.33  | 0.5089 (ppm)    | 5236.5511    |
| 11/1/2017 18:47:09 | R1710054-001S  | Cr (267.716 nm)    | 0.1995 (ppm)  | 0.49  | 0.1995 (ppm)    | 10402.9827   |
| 11/1/2017 18:47:09 | R1710054-001S  | Cu (327.395 nm)    | 0.2505 (ppm)  | 0.95  | 0.2505 (ppm)    | 15758.2863   |
| 11/1/2017 18:47:09 | R1710054-001S  | Fe (234.350 nm)    | 1.0414 (ppm)  | 0.46  | 1.0414 (ppm)    | 12170.6685   |
| 11/1/2017 18:47:09 | R1710054-001S  | K (766.491 nm)     | 24.5781 (ppm) | 0.86  | 24.5781 (ppm)   | 75944.0214   |
| 11/1/2017 18:47:09 | R1710054-001S  | Mg (279.078 nm)    | 21.8876 (ppm) | 0.49  | 21.8876 (ppm)   | 44157.2818   |
| 11/1/2017 18:47:09 | R1710054-001S  | Mn (257.610 nm)    | 0.4999 (ppm)  | 0.50  | 0.4999 (ppm)    | 161751.1140  |
| 11/1/2017 18:47:09 | R1710054-001S  | Mo (202.032 nm)    | 0.4846 (ppm)  | 0.15  | 0.4846 (ppm)    | 5201.5026    |
| 11/1/2017 18:47:09 | R1710054-001S  | Na (588.995 nm)    | 66.9971 (ppm) | 0.95  | 66.9971 (ppm)   | 3068304.2717 |
| 11/1/2017 18:47:09 | R1710054-001S  | Ni (230.299 nm)    | 0.5031 (ppm)  | 0.45  | 0.5031 (ppm)    | 3465.3115    |
| 11/1/2017 18:47:09 | R1710054-001S  | Pb (220.353 nm)    | 0.5055 (ppm)  | 0.53  | 0.5055 (ppm)    | 1133.9333    |
| 11/1/2017 18:47:09 | R1710054-001S  | Sb (217.582 nm)    | 0.5100 (ppm)  | 0.92  | 0.5100 (ppm)    | 731.7312     |
| 11/1/2017 18:47:09 | R1710054-001S  | Se (196.026 nm)    | 1.0683 (ppm)  | 1.28  | 1.0683 (ppm)    | 938.7228     |
| 11/1/2017 18:47:09 | R1710054-001S  | Sn (189.925 nm)    | 5.0615 (ppm)  | 0.46  | 5.0615 (ppm)    | 6449.3220    |
| 11/1/2017 18:47:09 | R1710054-001S  | Sr (216.596 nm)    | 2.4110 (ppm)  | 0.51  | 2.4110 (ppm)    | 35964.8104   |
| 11/1/2017 18:47:09 | R1710054-001S  | Ti (336.122 nm)    | 0.5006 (ppm)  | 0.61  | 0.5006 (ppm)    | 109355.6236  |
| 11/1/2017 18:47:09 | R1710054-001S  | Tl (351.923 nm)    | 1.9558 (ppm)  | 0.51  | 1.9558 (ppm)    | 5567.2202    |
| 11/1/2017 18:47:09 | R1710054-001S  | V (292.401 nm)     | 0.5088 (ppm)  | 0.40  | 0.5088 (ppm)    | 18425.9695   |
| 11/1/2017 18:47:09 | R1710054-001S  | Y (360.074 nm)     | 0.95 (Ratio)  | 0.85  | 0.95 (Ratio)    | 894014.07    |
| 11/1/2017 18:47:09 | R1710054-001S  | Y_R (360.074 nm)   | 0.96 (Ratio)  | 0.86  | 0.96 (Ratio)    | 894823.25    |
| 11/1/2017 18:47:09 | R1710054-001S  | Zn (213.857 nm)    | 0.5066 (ppm)  | 0.37  | 0.5066 (ppm)    | 14688.9556   |
| 11/1/2017 18:50:28 | R1710054-001SD | Ag (328.068 nm)    | 0.0508 (ppm)  | 0.48  | 0.0508 (ppm)    | 3603.4225    |
| 11/1/2017 18:50:28 | R1710054-001SD | Al (394.401 nm)    | 1.9925 (ppm)  | 0.65  | 1.9925 (ppm)    | 26690.1939   |
| 11/1/2017 18:50:28 | R1710054-001SD | As (188.980 nm)    | 0.0407 (ppm)  | 8.93  | 0.0407 (ppm)    | 34.7688      |
| 11/1/2017 18:50:28 | R1710054-001SD | B (249.772 nm)     | 1.0330 (ppm)  | 0.48  | 1.0330 (ppm)    | 29692.6572   |
| 11/1/2017 18:50:28 | R1710054-001SD | Ba (230.424 nm)    | 2.1297 (ppm)  | 0.71  | 2.1297 (ppm)    | 74542.4182   |
| 11/1/2017 18:50:28 | R1710054-001SD | Be (313.107 nm)    | 0.0513 (ppm)  | 0.53  | 0.0513 (ppm)    | 77251.6525   |
| 11/1/2017 18:50:28 | R1710054-001SD | Ca (227.547 nm)    | 38.1327 (ppm) | 0.72  | 38.1327 (ppm)   | 2245.6122    |
| 11/1/2017 18:50:28 | R1710054-001SD | Cd (214.439 nm)    | 0.0510 (ppm)  | 0.30  | 0.0510 (ppm)    | 1172.0280    |
| 11/1/2017 18:50:28 | R1710054-001SD | Co (230.786 nm)    | 0.5091 (ppm)  | 0.38  | 0.5091 (ppm)    | 5238.8086    |
| 11/1/2017 18:50:28 | R1710054-001SD | Cr (267.716 nm)    | 0.1997 (ppm)  | 0.56  | 0.1997 (ppm)    | 10416.8218   |
| 11/1/2017 18:50:28 | R1710054-001SD | Cu (327.395 nm)    | 0.2500 (ppm)  | 0.68  | 0.2500 (ppm)    | 15720.8467   |
| 11/1/2017 18:50:28 | R1710054-001SD | Fe (234.350 nm)    | 1.0437 (ppm)  | 0.44  | 1.0437 (ppm)    | 12187.1746   |
| 11/1/2017 18:50:28 | R1710054-001SD | K (766.491 nm)     | 24.6003 (ppm) | 0.76  | 24.6003 (ppm)   | 76012.6334   |
| 11/1/2017 18:50:28 | R1710054-001SD | Mg (279.078 nm)    | 21.5498 (ppm) | 0.47  | 21.5498 (ppm)   | 43475.8533   |
| 11/1/2017 18:50:28 | R1710054-001SD | Mn (257.610 nm)    | 0.5004 (ppm)  | 0.41  | 0.5004 (ppm)    | 161929.7862  |
| 11/1/2017 18:50:28 | R1710054-001SD | Mo (202.032 nm)    | 0.4852 (ppm)  | 0.54  | 0.4852 (ppm)    | 5208.5815    |
| 11/1/2017 18:50:28 | R1710054-001SD | Na (588.995 nm)    | 66.3859 (ppm) | 0.81  | 66.3859 (ppm)   | 3040258.7508 |
| 11/1/2017 18:50:28 | R1710054-001SD | Ni (230.299 nm)    | 0.5034 (ppm)  | 0.44  | 0.5034 (ppm)    | 3467.3000    |
| 11/1/2017 18:50:28 | R1710054-001SD | Pb (220.353 nm)    | 0.5070 (ppm)  | 0.21  | 0.5070 (ppm)    | 1137.3578    |
| 11/1/2017 18:50:28 | R1710054-001SD | Sb (217.582 nm)    | 0.5124 (ppm)  | 0.88  | 0.5124 (ppm)    | 735.0784     |
| 11/1/2017 18:50:28 | R1710054-001SD | Se (196.026 nm)    | 1.0644 (ppm)  | 0.68  | 1.0644 (ppm)    | 935.2960     |
| 11/1/2017 18:50:28 | R1710054-001SD | Sn (189.925 nm)    | 5.0707 (ppm)  | 0.63  | 5.0707 (ppm)    | 6461.0904    |



| Date Time          | Label          | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|----------------|--------------------|-----------------|----------|-----------------|--------------|
| 11/1/2017 18:50:28 | R1710054-001SD | Sr (216.596 nm)    | 2.3996 (ppm)    | 0.40     | 2.3996 (ppm)    | 35794.3186   |
| 11/1/2017 18:50:28 | R1710054-001SD | Ti (336.122 nm)    | 0.5016 (ppm)    | 0.59     | 0.5016 (ppm)    | 109581.3117  |
| 11/1/2017 18:50:28 | R1710054-001SD | Ti (351.923 nm)    | 1.9602 (ppm)    | 0.63     | 1.9602 (ppm)    | 5579.7521    |
| 11/1/2017 18:50:28 | R1710054-001SD | V (292.401 nm)     | 0.5093 (ppm)    | 0.46     | 0.5093 (ppm)    | 18445.0167   |
| 11/1/2017 18:50:28 | R1710054-001SD | Y (360.074 nm)     | 0.95 (Ratio)    | 0.91     | 0.95 (Ratio)    | 891585.49    |
| 11/1/2017 18:50:28 | R1710054-001SD | Y_R (360.074 nm)   | 0.95 (Ratio)    | 0.91     | 0.95 (Ratio)    | 892397.50    |
| 11/1/2017 18:50:28 | R1710054-001SD | Zn (213.857 nm)    | 0.5064 (ppm)    | 0.48     | 0.5064 (ppm)    | 14682.2262   |
| 11/1/2017 18:53:47 | R1710054-001A  | Ag (328.068 nm)    | 0.0485 (ppm)    | 0.55     | 0.0485 (ppm)    | 3437.0203    |
| 11/1/2017 18:53:47 | R1710054-001A  | Al (394.401 nm)    | 1.9378 (ppm)    | 0.72     | 1.9378 (ppm)    | 25958.9849   |
| 11/1/2017 18:53:47 | R1710054-001A  | As (188.980 nm)    | 0.0397 (ppm)    | 12.90    | 0.0397 (ppm)    | 33.8890      |
| 11/1/2017 18:53:47 | R1710054-001A  | B (249.772 nm)     | 1.1722 (ppm)    | 0.53     | 1.1722 (ppm)    | 33681.6079   |
| 11/1/2017 18:53:47 | R1710054-001A  | Ba (230.424 nm)    | 2.0409 (ppm)    | 0.55     | 2.0409 (ppm)    | 71434.7696   |
| 11/1/2017 18:53:47 | R1710054-001A  | Be (313.107 nm)    | 0.0492 (ppm)    | 0.57     | 0.0492 (ppm)    | 74090.7263   |
| 11/1/2017 18:53:47 | R1710054-001A  | Ca (227.547 nm)    | 37.3768 (ppm)   | 0.79     | 37.3768 (ppm)   | 2201.2198    |
| 11/1/2017 18:53:47 | R1710054-001A  | Cd (214.439 nm)    | 0.0486 (ppm)    | 0.74     | 0.0486 (ppm)    | 1117.4901    |
| 11/1/2017 18:53:47 | R1710054-001A  | Co (230.786 nm)    | 0.4885 (ppm)    | 0.52     | 0.4885 (ppm)    | 5026.7703    |
| 11/1/2017 18:53:47 | R1710054-001A  | Cr (267.716 nm)    | 0.1919 (ppm)    | 0.42     | 0.1919 (ppm)    | 10009.4548   |
| 11/1/2017 18:53:47 | R1710054-001A  | Cu (327.395 nm)    | 0.2394 (ppm)    | 1.00     | 0.2394 (ppm)    | 15057.9679   |
| 11/1/2017 18:53:47 | R1710054-001A  | Fe (234.350 nm)    | 1.0015 (ppm)    | 0.43     | 1.0015 (ppm)    | 11707.5044   |
| 11/1/2017 18:53:47 | R1710054-001A  | K (766.491 nm)     | 23.6731 (ppm)   | 0.84     | 23.6731 (ppm)   | 73149.8785   |
| 11/1/2017 18:53:47 | R1710054-001A  | Mg (279.078 nm)    | 21.1368 (ppm)   | 0.50     | 21.1368 (ppm)   | 42642.4489   |
| 11/1/2017 18:53:47 | R1710054-001A  | Mn (257.610 nm)    | 0.4803 (ppm)    | 0.46     | 0.4803 (ppm)    | 155417.6966  |
| 11/1/2017 18:53:47 | R1710054-001A  | Mo (202.032 nm)    | 0.4678 (ppm)    | 0.43     | 0.4678 (ppm)    | 5021.9936    |
| 11/1/2017 18:53:47 | R1710054-001A  | Na (588.995 nm)    | 64.9143 u (ppm) | 0.87     | 64.9143 (ppm)   | 2927230.7786 |
| 11/1/2017 18:53:47 | R1710054-001A  | Ni (230.299 nm)    | 0.4824 (ppm)    | 0.41     | 0.4824 (ppm)    | 3321.1151    |
| 11/1/2017 18:53:47 | R1710054-001A  | Pb (220.353 nm)    | 0.4854 (ppm)    | 0.08     | 0.4854 (ppm)    | 1089.1334    |
| 11/1/2017 18:53:47 | R1710054-001A  | Sb (217.582 nm)    | 0.4901 (ppm)    | 0.70     | 0.4901 (ppm)    | 703.2600     |
| 11/1/2017 18:53:47 | R1710054-001A  | Se (196.026 nm)    | 1.0887 (ppm)    | 0.50     | 1.0887 (ppm)    | 956.5102     |
| 11/1/2017 18:53:47 | R1710054-001A  | Sn (189.925 nm)    | 4.9056 (ppm)    | 0.75     | 4.9056 (ppm)    | 6250.7531    |
| 11/1/2017 18:53:47 | R1710054-001A  | Sr (216.596 nm)    | 2.3904 (ppm)    | 0.44     | 2.3904 (ppm)    | 35657.4489   |
| 11/1/2017 18:53:47 | R1710054-001A  | Ti (336.122 nm)    | 0.4830 (ppm)    | 0.56     | 0.4830 (ppm)    | 105492.6792  |
| 11/1/2017 18:53:47 | R1710054-001A  | Ti (351.923 nm)    | 1.8779 (ppm)    | 0.85     | 1.8779 (ppm)    | 5346.1371    |
| 11/1/2017 18:53:47 | R1710054-001A  | V (292.401 nm)     | 0.4883 (ppm)    | 0.57     | 0.4883 (ppm)    | 17686.6495   |
| 11/1/2017 18:53:47 | R1710054-001A  | Y (360.074 nm)     | 0.95 (Ratio)    | 0.94     | 0.95 (Ratio)    | 890690.24    |
| 11/1/2017 18:53:47 | R1710054-001A  | Y_R (360.074 nm)   | 0.95 (Ratio)    | 0.94     | 0.95 (Ratio)    | 891497.50    |
| 11/1/2017 18:53:47 | R1710054-001A  | Zn (213.857 nm)    | 0.4874 (ppm)    | 0.72     | 0.4874 (ppm)    | 14131.7951   |
| 11/1/2017 18:57:08 | R1710054-001L  | Ag (328.068 nm)    | 0.0001 (ppm)    | > 100.00 | 0.0001 (ppm)    | -121.2546    |
| 11/1/2017 18:57:08 | R1710054-001L  | Al (394.401 nm)    | 0.0049 (ppm)    | 1.87     | 0.0049 (ppm)    | 149.0679     |
| 11/1/2017 18:57:08 | R1710054-001L  | As (188.980 nm)    | 0.0026 u (ppm)  | > 100.00 | 0.0026 (ppm)    | -0.5250      |
| 11/1/2017 18:57:08 | R1710054-001L  | B (249.772 nm)     | 0.0067 (ppm)    | 6.58     | 0.0067 (ppm)    | 283.6326     |
| 11/1/2017 18:57:08 | R1710054-001L  | Ba (230.424 nm)    | 0.0136 (ppm)    | 0.53     | 0.0136 (ppm)    | 482.9610     |
| 11/1/2017 18:57:08 | R1710054-001L  | Be (313.107 nm)    | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | -514.2193    |
| 11/1/2017 18:57:08 | R1710054-001L  | Ca (227.547 nm)    | 6.3700 (ppm)    | 0.73     | 6.3700 (ppm)    | 380.2625     |
| 11/1/2017 18:57:08 | R1710054-001L  | Cd (214.439 nm)    | 0.0002 (ppm)    | 48.77    | 0.0002 (ppm)    | 16.1296      |
| 11/1/2017 18:57:08 | R1710054-001L  | Co (230.786 nm)    | -0.0003 u (ppm) | 28.22    | -0.0003 (ppm)   | -4.6021      |
| 11/1/2017 18:57:08 | R1710054-001L  | Cr (267.716 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | -5.9227      |
| 11/1/2017 18:57:08 | R1710054-001L  | Cu (327.395 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | 21.5570      |
| 11/1/2017 18:57:08 | R1710054-001L  | Fe (234.350 nm)    | 0.0093 (ppm)    | 2.20     | 0.0093 (ppm)    | 180.5277     |
| 11/1/2017 18:57:08 | R1710054-001L  | K (766.491 nm)     | 0.7141 (ppm)    | 1.21     | 0.7141 (ppm)    | 2262.4426    |
| 11/1/2017 18:57:08 | R1710054-001L  | Mg (279.078 nm)    | 3.6136 (ppm)    | 0.26     | 3.6136 (ppm)    | 7284.4447    |
| 11/1/2017 18:57:08 | R1710054-001L  | Mn (257.610 nm)    | 0.0005 (ppm)    | 5.32     | 0.0005 (ppm)    | 183.3624     |

| Date Time          | Label         | Element Label (nm) | Conc             | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|---------------|--------------------|------------------|----------|-----------------|--------------|
| 11/1/2017 18:57:08 | R1710054-001L | Mo (202.032 nm)    | 0.0004 (ppm)     | 6.04     | 0.0004 (ppm)    | 21.4500      |
| 11/1/2017 18:57:08 | R1710054-001L | Na (588.995 nm)    | 8.8089 (ppm)     | 0.60     | 8.8089 (ppm)    | 398232.7710  |
| 11/1/2017 18:57:08 | R1710054-001L | Ni (230.299 nm)    | 0.0002 (ppm)     | 99.61    | 0.0002 (ppm)    | -24.9869     |
| 11/1/2017 18:57:08 | R1710054-001L | Pb (220.353 nm)    | -0.0005 u (ppm)  | > 100.00 | -0.0005 (ppm)   | 4.5701       |
| 11/1/2017 18:57:08 | R1710054-001L | Sb (217.582 nm)    | -0.0014 u (ppm)  | > 100.00 | -0.0014 (ppm)   | 2.1318       |
| 11/1/2017 18:57:08 | R1710054-001L | Se (196.026 nm)    | 0.0013 u (ppm)   | > 100.00 | 0.0013 (ppm)    | 6.6263       |
| 11/1/2017 18:57:08 | R1710054-001L | Sn (189.925 nm)    | -0.0005 u (ppm)  | > 100.00 | -0.0005 (ppm)   | -0.8208      |
| 11/1/2017 18:57:08 | R1710054-001L | Sr (216.596 nm)    | 0.0730 (ppm)     | 0.33     | 0.0730 (ppm)    | 1088.4868    |
| 11/1/2017 18:57:08 | R1710054-001L | Ti (336.122 nm)    | 0.0001 (ppm)     | 9.73     | 0.0001 (ppm)    | -390.1726    |
| 11/1/2017 18:57:08 | R1710054-001L | Tl (351.923 nm)    | 0.0003 u (ppm)   | > 100.00 | 0.0003 (ppm)    | 15.4279      |
| 11/1/2017 18:57:08 | R1710054-001L | V (292.401 nm)     | -0.0001 u (ppm)  | > 100.00 | -0.0001 (ppm)   | 107.3561     |
| 11/1/2017 18:57:08 | R1710054-001L | Y (360.074 nm)     | 0.99 (Ratio)     | 0.79     | 0.99 (Ratio)    | 928248.70    |
| 11/1/2017 18:57:08 | R1710054-001L | Y_R (360.074 nm)   | 0.99 (Ratio)     | 0.79     | 0.99 (Ratio)    | 928988.02    |
| 11/1/2017 18:57:08 | R1710054-001L | Zn (213.857 nm)    | 0.0012 (ppm)     | 10.34    | 0.0012 (ppm)    | 2.8176       |
| 11/1/2017 19:00:27 | R1710054-002  | Ag (328.068 nm)    | 0.0000 (ppm)     | > 100.00 | 0.0000 (ppm)    | -126.9064    |
| 11/1/2017 19:00:27 | R1710054-002  | Al (394.401 nm)    | 0.0345 (ppm)     | 0.47     | 0.0345 (ppm)    | 544.2172     |
| 11/1/2017 19:00:27 | R1710054-002  | As (188.980 nm)    | 0.0001 u (ppm)   | > 100.00 | 0.0001 (ppm)    | -2.7787      |
| 11/1/2017 19:00:27 | R1710054-002  | B (249.772 nm)     | 0.0624 (ppm)     | 0.88     | 0.0624 (ppm)    | 1880.1898    |
| 11/1/2017 19:00:27 | R1710054-002  | Ba (230.424 nm)    | 0.0362 (ppm)     | 1.20     | 0.0362 (ppm)    | 1274.9000    |
| 11/1/2017 19:00:27 | R1710054-002  | Be (313.107 nm)    | 0.0000 (ppm)     | 21.63    | 0.0000 (ppm)    | -527.1020    |
| 11/1/2017 19:00:27 | R1710054-002  | Ca (227.547 nm)    | 256.7572 o (ppm) | 0.27     | 256.7572 (ppm)  | 15084.9185   |
| 11/1/2017 19:00:27 | R1710054-002  | Cd (214.439 nm)    | 0.0000 u (ppm)   | > 100.00 | 0.0000 (ppm)    | 12.8630      |
| 11/1/2017 19:00:27 | R1710054-002  | Co (230.786 nm)    | -0.0003 u (ppm)  | 29.20    | -0.0003 (ppm)   | -4.6856      |
| 11/1/2017 19:00:27 | R1710054-002  | Cr (267.716 nm)    | -0.0003 u (ppm)  | 24.64    | -0.0003 (ppm)   | -16.9690     |
| 11/1/2017 19:00:27 | R1710054-002  | Cu (327.395 nm)    | 0.0003 (ppm)     | 15.08    | 0.0003 (ppm)    | 43.2700      |
| 11/1/2017 19:00:27 | R1710054-002  | Fe (234.350 nm)    | 0.0019 (ppm)     | 19.89    | 0.0019 (ppm)    | 95.4093      |
| 11/1/2017 19:00:27 | R1710054-002  | K (766.491 nm)     | 2.5805 (ppm)     | 0.41     | 2.5805 (ppm)    | 8025.1012    |
| 11/1/2017 19:00:27 | R1710054-002  | Mg (279.078 nm)    | 36.2285 (ppm)    | 0.40     | 36.2285 (ppm)   | 73094.1568   |
| 11/1/2017 19:00:27 | R1710054-002  | Mn (257.610 nm)    | 0.0008 (ppm)     | 1.57     | 0.0008 (ppm)    | 300.2241     |
| 11/1/2017 19:00:27 | R1710054-002  | Mo (202.032 nm)    | 0.0002 (ppm)     | 97.91    | 0.0002 (ppm)    | 19.0720      |
| 11/1/2017 19:00:27 | R1710054-002  | Na (588.995 nm)    | 62.3249 o (ppm)  | 0.38     | 62.3249 (ppm)   | 2853910.3607 |
| 11/1/2017 19:00:27 | R1710054-002  | Ni (230.299 nm)    | -0.0007 u (ppm)  | > 100.00 | -0.0007 (ppm)   | -30.6284     |
| 11/1/2017 19:00:27 | R1710054-002  | Pb (220.353 nm)    | -0.0030 u (ppm)  | 49.10    | -0.0030 (ppm)   | -1.0296      |
| 11/1/2017 19:00:27 | R1710054-002  | Sb (217.582 nm)    | -0.0014 u (ppm)  | > 100.00 | -0.0014 (ppm)   | 2.1074       |
| 11/1/2017 19:00:27 | R1710054-002  | Se (196.026 nm)    | -0.0009 u (ppm)  | > 100.00 | -0.0009 (ppm)   | 4.7331       |
| 11/1/2017 19:00:27 | R1710054-002  | Sn (189.925 nm)    | 0.0000 u (ppm)   | > 100.00 | 0.0000 (ppm)    | -0.1669      |
| 11/1/2017 19:00:27 | R1710054-002  | Sr (216.596 nm)    | 3.2457 (ppm)     | 1.07     | 3.2457 (ppm)    | 48415.2310   |
| 11/1/2017 19:00:27 | R1710054-002  | Ti (336.122 nm)    | 0.0018 (ppm)     | 3.24     | 0.0018 (ppm)    | -27.9136     |
| 11/1/2017 19:00:27 | R1710054-002  | Tl (351.923 nm)    | 0.0019 (ppm)     | 98.97    | 0.0019 (ppm)    | 19.9077      |
| 11/1/2017 19:00:27 | R1710054-002  | V (292.401 nm)     | 0.0002 (ppm)     | 81.19    | 0.0002 (ppm)    | 117.9231     |
| 11/1/2017 19:00:27 | R1710054-002  | Y (360.074 nm)     | 0.92 (Ratio)     | 0.83     | 0.92 (Ratio)    | 865439.51    |
| 11/1/2017 19:00:27 | R1710054-002  | Y_R (360.074 nm)   | 0.93 (Ratio)     | 0.83     | 0.93 (Ratio)    | 866426.89    |
| 11/1/2017 19:00:27 | R1710054-002  | Zn (213.857 nm)    | 0.0036 (ppm)     | 1.74     | 0.0036 (ppm)    | 74.8978      |
| 11/1/2017 19:03:47 | R1710054-004  | Ag (328.068 nm)    | 0.0001 (ppm)     | 53.10    | 0.0001 (ppm)    | -116.3079    |
| 11/1/2017 19:03:47 | R1710054-004  | Al (394.401 nm)    | 0.1948 (ppm)     | 0.74     | 0.1948 (ppm)    | 2685.0993    |
| 11/1/2017 19:03:47 | R1710054-004  | As (188.980 nm)    | 0.0012 u (ppm)   | > 100.00 | 0.0012 (ppm)    | -1.8196      |
| 11/1/2017 19:03:47 | R1710054-004  | B (249.772 nm)     | 0.0508 (ppm)     | 0.40     | 0.0508 (ppm)    | 1546.3769    |
| 11/1/2017 19:03:47 | R1710054-004  | Ba (230.424 nm)    | 0.2040 (ppm)     | 0.41     | 0.2040 (ppm)    | 7146.8045    |
| 11/1/2017 19:03:47 | R1710054-004  | Be (313.107 nm)    | 0.0000 (ppm)     | 49.76    | 0.0000 (ppm)    | -525.8622    |
| 11/1/2017 19:03:47 | R1710054-004  | Ca (227.547 nm)    | 177.4784 o (ppm) | 0.63     | 177.4784 (ppm)  | 10429.0603   |
| 11/1/2017 19:03:47 | R1710054-004  | Cd (214.439 nm)    | 0.0000 u (ppm)   | > 100.00 | 0.0000 (ppm)    | 13.2994      |

| Date Time          | Label            | Element Label (nm) | Conc             | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|------------------|--------------------|------------------|----------|-----------------|--------------|
| 11/1/2017 19:03:47 | R1710054-004     | Co (230.786 nm)    | 0.0035 (ppm)     | 0.48     | 0.0035 (ppm)    | 34.9405      |
| 11/1/2017 19:03:47 | R1710054-004     | Cr (267.716 nm)    | -0.0002 u (ppm)  | 44.31    | -0.0002 (ppm)   | -12.2758     |
| 11/1/2017 19:03:47 | R1710054-004     | Cu (327.395 nm)    | 0.0024 (ppm)     | 3.92     | 0.0024 (ppm)    | 169.3413     |
| 11/1/2017 19:03:47 | R1710054-004     | Fe (234.350 nm)    | 0.2049 (ppm)     | 0.31     | 0.2049 (ppm)    | 2453.6259    |
| 11/1/2017 19:03:47 | R1710054-004     | K (766.491 nm)     | 4.9871 (ppm)     | 0.70     | 4.9871 (ppm)    | 15455.5254   |
| 11/1/2017 19:03:47 | R1710054-004     | Mg (279.078 nm)    | 28.0849 (ppm)    | 0.44     | 28.0849 (ppm)   | 56662.2339   |
| 11/1/2017 19:03:47 | R1710054-004     | Mn (257.610 nm)    | 0.7549 (ppm)     | 0.46     | 0.7549 (ppm)    | 244259.2643  |
| 11/1/2017 19:03:47 | R1710054-004     | Mo (202.032 nm)    | -0.0004 u (ppm)  | 45.45    | -0.0004 (ppm)   | 12.0704      |
| 11/1/2017 19:03:47 | R1710054-004     | Na (588.995 nm)    | 43.4226 (ppm)    | 0.78     | 43.4226 (ppm)   | 1986545.2110 |
| 11/1/2017 19:03:47 | R1710054-004     | Ni (230.299 nm)    | 0.0067 (ppm)     | 11.31    | 0.0067 (ppm)    | 20.5500      |
| 11/1/2017 19:03:47 | R1710054-004     | Pb (220.353 nm)    | -0.0006 u (ppm)  | > 100.00 | -0.0006 (ppm)   | 4.2651       |
| 11/1/2017 19:03:47 | R1710054-004     | Sb (217.582 nm)    | -0.0003 u (ppm)  | > 100.00 | -0.0003 (ppm)   | 3.7439       |
| 11/1/2017 19:03:47 | R1710054-004     | Se (196.026 nm)    | -0.0029 u (ppm)  | 20.95    | -0.0029 (ppm)   | 2.9623       |
| 11/1/2017 19:03:47 | R1710054-004     | Sn (189.925 nm)    | -0.0006 u (ppm)  | > 100.00 | -0.0006 (ppm)   | -0.9030      |
| 11/1/2017 19:03:47 | R1710054-004     | Sr (216.596 nm)    | 9.4203 o (ppm)   | 0.94     | 9.4203 (ppm)    | 140524.0286  |
| 11/1/2017 19:03:47 | R1710054-004     | Ti (336.122 nm)    | 0.0053 (ppm)     | 4.58     | 0.0053 (ppm)    | 738.7964     |
| 11/1/2017 19:03:47 | R1710054-004     | Tl (351.923 nm)    | -0.0028 u (ppm)  | > 100.00 | -0.0028 (ppm)   | 6.6122       |
| 11/1/2017 19:03:47 | R1710054-004     | V (292.401 nm)     | 0.0006 (ppm)     | 45.15    | 0.0006 (ppm)    | 132.5673     |
| 11/1/2017 19:03:47 | R1710054-004     | Y (360.074 nm)     | 0.93 (Ratio)     | 0.83     | 0.93 (Ratio)    | 874111.05    |
| 11/1/2017 19:03:47 | R1710054-004     | Y_R (360.074 nm)   | 0.93 (Ratio)     | 0.84     | 0.93 (Ratio)    | 875064.59    |
| 11/1/2017 19:03:47 | R1710054-004     | Zn (213.857 nm)    | 0.0041 (ppm)     | 1.02     | 0.0041 (ppm)    | 87.4131      |
| 11/1/2017 19:07:06 | R1710054-006     | Ag (328.068 nm)    | 0.0002 (ppm)     | 62.25    | 0.0002 (ppm)    | -113.7685    |
| 11/1/2017 19:07:06 | R1710054-006     | Al (394.401 nm)    | 0.1645 (ppm)     | 0.58     | 0.1645 (ppm)    | 2279.7612    |
| 11/1/2017 19:07:06 | R1710054-006     | As (188.980 nm)    | 0.0013 u (ppm)   | > 100.00 | 0.0013 (ppm)    | -1.6968      |
| 11/1/2017 19:07:06 | R1710054-006     | B (249.772 nm)     | 0.1519 (ppm)     | 0.47     | 0.1519 (ppm)    | 4443.4649    |
| 11/1/2017 19:07:06 | R1710054-006     | Ba (230.424 nm)    | 0.3256 (ppm)     | 0.29     | 0.3256 (ppm)    | 11403.2836   |
| 11/1/2017 19:07:06 | R1710054-006     | Be (313.107 nm)    | 0.0000 (ppm)     | 42.67    | 0.0000 (ppm)    | -535.9231    |
| 11/1/2017 19:07:06 | R1710054-006     | Ca (227.547 nm)    | 248.8238 o (ppm) | 0.69     | 248.8238 (ppm)  | 14619.0085   |
| 11/1/2017 19:07:06 | R1710054-006     | Cd (214.439 nm)    | 0.0001 (ppm)     | > 100.00 | 0.0001 (ppm)    | 14.2171      |
| 11/1/2017 19:07:06 | R1710054-006     | Co (230.786 nm)    | 0.0023 (ppm)     | 6.03     | 0.0023 (ppm)    | 22.2856      |
| 11/1/2017 19:07:06 | R1710054-006     | Cr (267.716 nm)    | -0.0001 u (ppm)  | 69.80    | -0.0001 (ppm)   | -7.4772      |
| 11/1/2017 19:07:06 | R1710054-006     | Cu (327.395 nm)    | 0.0006 (ppm)     | 14.74    | 0.0006 (ppm)    | 58.4063      |
| 11/1/2017 19:07:06 | R1710054-006     | Fe (234.350 nm)    | 3.5727 (ppm)     | 0.45     | 3.5727 (ppm)    | 41577.6833   |
| 11/1/2017 19:07:06 | R1710054-006     | K (766.491 nm)     | 8.1805 (ppm)     | 0.82     | 8.1805 (ppm)    | 25315.3297   |
| 11/1/2017 19:07:06 | R1710054-006     | Mg (279.078 nm)    | 49.1257 (ppm)    | 0.49     | 49.1257 (ppm)   | 99117.9103   |
| 11/1/2017 19:07:06 | R1710054-006     | Mn (257.610 nm)    | 0.3046 (ppm)     | 0.48     | 0.3046 (ppm)    | 98574.4668   |
| 11/1/2017 19:07:06 | R1710054-006     | Mo (202.032 nm)    | 0.0011 (ppm)     | 25.27    | 0.0011 (ppm)    | 28.3124      |
| 11/1/2017 19:07:06 | R1710054-006     | Na (588.995 nm)    | 124.3594 o (ppm) | 0.82     | 124.3594 (ppm)  | 5700476.7655 |
| 11/1/2017 19:07:06 | R1710054-006     | Ni (230.299 nm)    | 0.0121 (ppm)     | 15.35    | 0.0121 (ppm)    | 57.7698      |
| 11/1/2017 19:07:06 | R1710054-006     | Pb (220.353 nm)    | -0.0022 u (ppm)  | 37.76    | -0.0022 (ppm)   | 0.6306       |
| 11/1/2017 19:07:06 | R1710054-006     | Sb (217.582 nm)    | -0.0033 u (ppm)  | 67.29    | -0.0033 (ppm)   | -0.5370      |
| 11/1/2017 19:07:06 | R1710054-006     | Se (196.026 nm)    | -0.0022 u (ppm)  | > 100.00 | -0.0022 (ppm)   | 3.6088       |
| 11/1/2017 19:07:06 | R1710054-006     | Sn (189.925 nm)    | -0.0017 u (ppm)  | 67.64    | -0.0017 (ppm)   | -2.2884      |
| 11/1/2017 19:07:06 | R1710054-006     | Sr (216.596 nm)    | 24.4481 o (ppm)  | 0.71     | 24.4481 (ppm)   | 364697.6970  |
| 11/1/2017 19:07:06 | R1710054-006     | Ti (336.122 nm)    | 0.0040 (ppm)     | 2.95     | 0.0040 (ppm)    | 451.4384     |
| 11/1/2017 19:07:06 | R1710054-006     | Tl (351.923 nm)    | 0.0028 (ppm)     | 94.42    | 0.0028 (ppm)    | 22.6328      |
| 11/1/2017 19:07:06 | R1710054-006     | V (292.401 nm)     | 0.0006 (ppm)     | 15.65    | 0.0006 (ppm)    | 130.4254     |
| 11/1/2017 19:07:06 | R1710054-006     | Y (360.074 nm)     | 0.90 (Ratio)     | 0.78     | 0.90 (Ratio)    | 843402.35    |
| 11/1/2017 19:07:06 | R1710054-006     | Y_R (360.074 nm)   | 0.90 (Ratio)     | 0.78     | 0.90 (Ratio)    | 844440.96    |
| 11/1/2017 19:07:06 | R1710054-006     | Zn (213.857 nm)    | 0.0037 (ppm)     | 1.16     | 0.0037 (ppm)    | 77.4734      |
| 11/1/2017 19:10:25 | R1710054-008 10X | Ag (328.068 nm)    | 0.0000 u (ppm)   | > 100.00 | 0.0000 (ppm)    | -123.1936    |

| Date Time          | Label            | Element Label (nm) | Conc             | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|------------------|--------------------|------------------|----------|-----------------|--------------|
| 11/1/2017 19:10:25 | R1710054-008 10X | Al (394.401 nm)    | 0.0518 (ppm)     | 1.12     | 0.0518 (ppm)    | 774.7233     |
| 11/1/2017 19:10:25 | R1710054-008 10X | As (188.980 nm)    | 0.0000 u (ppm)   | > 100.00 | 0.0000 (ppm)    | -2.9316      |
| 11/1/2017 19:10:25 | R1710054-008 10X | B (249.772 nm)     | 0.0114 (ppm)     | 0.51     | 0.0114 (ppm)    | 418.1479     |
| 11/1/2017 19:10:25 | R1710054-008 10X | Ba (230.424 nm)    | 0.0101 (ppm)     | 0.61     | 0.0101 (ppm)    | 362.8586     |
| 11/1/2017 19:10:25 | R1710054-008 10X | Be (313.107 nm)    | 0.0000 (ppm)     | 57.47    | 0.0000 (ppm)    | -519.5149    |
| 11/1/2017 19:10:25 | R1710054-008 10X | Cs (227.547 nm)    | 26.6723 (ppm)    | 0.67     | 26.6723 (ppm)   | 1572.5701    |
| 11/1/2017 19:10:25 | R1710054-008 10X | Cd (214.439 nm)    | 0.0001 u (ppm)   | > 100.00 | 0.0001 (ppm)    | 14.2860      |
| 11/1/2017 19:10:25 | R1710054-008 10X | Co (230.786 nm)    | -0.0003 u (ppm)  | 20.10    | -0.0003 (ppm)   | -4.1776      |
| 11/1/2017 19:10:25 | R1710054-008 10X | Cr (267.716 nm)    | -0.0001 u (ppm)  | > 100.00 | -0.0001 (ppm)   | -3.2734      |
| 11/1/2017 19:10:25 | R1710054-008 10X | Cu (327.395 nm)    | 0.0003 (ppm)     | 22.26    | 0.0003 (ppm)    | 38.8517      |
| 11/1/2017 19:10:25 | R1710054-008 10X | Fe (234.350 nm)    | 0.0347 (ppm)     | 1.05     | 0.0347 (ppm)    | 476.1532     |
| 11/1/2017 19:10:25 | R1710054-008 10X | K (766.491 nm)     | 1.8715 (ppm)     | 0.83     | 1.8715 (ppm)    | 5835.9239    |
| 11/1/2017 19:10:25 | R1710054-008 10X | Mg (279.078 nm)    | 7.8323 (ppm)     | 0.41     | 7.8323 (ppm)    | 15796.8964   |
| 11/1/2017 19:10:25 | R1710054-008 10X | Mn (257.610 nm)    | 0.0051 (ppm)     | 0.23     | 0.0051 (ppm)    | 1666.9181    |
| 11/1/2017 19:10:25 | R1710054-008 10X | Mo (202.032 nm)    | -0.0003 u (ppm)  | > 100.00 | -0.0003 (ppm)   | 13.8931      |
| 11/1/2017 19:10:25 | R1710054-008 10X | Na (588.995 nm)    | 8.4244 (ppm)     | 0.71     | 8.4244 (ppm)    | 38059.10576  |
| 11/1/2017 19:10:25 | R1710054-008 10X | Ni (230.299 nm)    | 0.0001 u (ppm)   | > 100.00 | 0.0001 (ppm)    | -25.4571     |
| 11/1/2017 19:10:25 | R1710054-008 10X | Pb (220.353 nm)    | -0.0021 u (ppm)  | 44.35    | -0.0021 (ppm)   | 0.8874       |
| 11/1/2017 19:10:25 | R1710054-008 10X | Sb (217.582 nm)    | -0.0040 u (ppm)  | 52.00    | -0.0040 (ppm)   | -1.5712      |
| 11/1/2017 19:10:25 | R1710054-008 10X | Se (196.026 nm)    | -0.0003 u (ppm)  | > 100.00 | -0.0003 (ppm)   | 5.2216       |
| 11/1/2017 19:10:25 | R1710054-008 10X | Sn (189.925 nm)    | -0.0018 u (ppm)  | 77.64    | -0.0018 (ppm)   | -2.4575      |
| 11/1/2017 19:10:25 | R1710054-008 10X | Sr (216.596 nm)    | 2.8502 (ppm)     | 0.28     | 2.8502 (ppm)    | 42515.7651   |
| 11/1/2017 19:10:25 | R1710054-008 10X | Ti (336.122 nm)    | 0.0013 (ppm)     | 5.13     | 0.0013 (ppm)    | -128.4066    |
| 11/1/2017 19:10:25 | R1710054-008 10X | Tl (351.923 nm)    | -0.0027 u (ppm)  | 85.58    | -0.0027 (ppm)   | 7.0109       |
| 11/1/2017 19:10:25 | R1710054-008 10X | V (292.401 nm)     | 0.0001 (ppm)     | 55.48    | 0.0001 (ppm)    | 114.6914     |
| 11/1/2017 19:10:25 | R1710054-008 10X | Y (360.074 nm)     | 0.98 (Ratio)     | 0.93     | 0.98 (Ratio)    | 917261.49    |
| 11/1/2017 19:10:25 | R1710054-008 10X | Y_R (360.074 nm)   | 0.98 (Ratio)     | 0.93     | 0.98 (Ratio)    | 918195.72    |
| 11/1/2017 19:10:25 | R1710054-008 10X | Zn (213.857 nm)    | 0.0034 (ppm)     | 1.58     | 0.0034 (ppm)    | 66.8399      |
| 11/1/2017 19:13:44 | R1710054-008     | Ag (328.068 nm)    | 0.0001 (ppm)     | > 100.00 | 0.0001 (ppm)    | -121.8487    |
| 11/1/2017 19:13:44 | R1710054-008     | Al (394.401 nm)    | 0.4839 (ppm)     | 1.42     | 0.4839 (ppm)    | 6544.7037    |
| 11/1/2017 19:13:44 | R1710054-008     | As (188.980 nm)    | -0.0003 u (ppm)  | > 100.00 | -0.0003 (ppm)   | -3.1840      |
| 11/1/2017 19:13:44 | R1710054-008     | B (249.772 nm)     | 0.1355 (ppm)     | 0.71     | 0.1355 (ppm)    | 3974.0304    |
| 11/1/2017 19:13:44 | R1710054-008     | Ba (230.424 nm)    | 0.0994 (ppm)     | 0.96     | 0.0994 (ppm)    | 3487.2169    |
| 11/1/2017 19:13:44 | R1710054-008     | Be (313.107 nm)    | 0.0000 (ppm)     | 69.37    | 0.0000 (ppm)    | -521.2918    |
| 11/1/2017 19:13:44 | R1710054-008     | Ca (227.547 nm)    | 295.1784 o (ppm) | 0.69     | 295.1784 (ppm)  | 17341.3018   |
| 11/1/2017 19:13:44 | R1710054-008     | Cd (214.439 nm)    | -0.0001 u (ppm)  | 81.64    | -0.0001 (ppm)   | 10.4044      |
| 11/1/2017 19:13:44 | R1710054-008     | Co (230.786 nm)    | 0.0005 u (ppm)   | > 100.00 | 0.0005 (ppm)    | 4.3328       |
| 11/1/2017 19:13:44 | R1710054-008     | Cr (267.716 nm)    | 0.0004 (ppm)     | 10.21    | 0.0004 (ppm)    | 21.5463      |
| 11/1/2017 19:13:44 | R1710054-008     | Cu (327.395 nm)    | 0.0022 (ppm)     | 9.80     | 0.0022 (ppm)    | 161.1483     |
| 11/1/2017 19:13:44 | R1710054-008     | Fe (234.350 nm)    | 0.3591 (ppm)     | 1.23     | 0.3591 (ppm)    | 4244.9191    |
| 11/1/2017 19:13:44 | R1710054-008     | K (766.491 nm)     | 21.7555 (ppm)    | 0.59     | 21.7555 (ppm)   | 87228.9811   |
| 11/1/2017 19:13:44 | R1710054-008     | Mg (279.078 nm)    | 81.3221 o (ppm)  | 0.84     | 81.3221 (ppm)   | 164083.3178  |
| 11/1/2017 19:13:44 | R1710054-008     | Mn (257.610 nm)    | 0.0487 (ppm)     | 0.85     | 0.0487 (ppm)    | 15781.2830   |
| 11/1/2017 19:13:44 | R1710054-008     | Mo (202.032 nm)    | 0.0020 (ppm)     | 6.60     | 0.0020 (ppm)    | 38.0570      |
| 11/1/2017 19:13:44 | R1710054-008     | Na (588.995 nm)    | 87.9348 o (ppm)  | 0.79     | 87.9348 (ppm)   | 4029066.2280 |
| 11/1/2017 19:13:44 | R1710054-008     | Ni (230.299 nm)    | -0.0007 u (ppm)  | > 100.00 | -0.0007 (ppm)   | -30.9087     |
| 11/1/2017 19:13:44 | R1710054-008     | Pb (220.353 nm)    | -0.0007 u (ppm)  | > 100.00 | -0.0007 (ppm)   | 4.1472       |
| 11/1/2017 19:13:44 | R1710054-008     | Sb (217.582 nm)    | -0.0010 u (ppm)  | > 100.00 | -0.0010 (ppm)   | 2.6378       |
| 11/1/2017 19:13:44 | R1710054-008     | Se (196.026 nm)    | -0.0067 u (ppm)  | 64.44    | -0.0067 (ppm)   | -0.3100      |
| 11/1/2017 19:13:44 | R1710054-008     | Sn (189.925 nm)    | -0.0008 u (ppm)  | > 100.00 | -0.0008 (ppm)   | -1.1724      |
| 11/1/2017 19:13:44 | R1710054-008     | Sr (216.596 nm)    | 26.8605 o (ppm)  | 1.10     | 26.8605 (ppm)   | 400685.1002  |

| Date Time          | Label                               | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|-------------------------------------|--------------------|-----------------|----------|-----------------|--------------|
| 11/1/2017 19:13:44 | R1710054-008                        | Ti (336.122 nm)    | 0.0130 (ppm)    | 2.79     | 0.0130 (ppm)    | 2426.1267    |
| 11/1/2017 19:13:44 | R1710054-008                        | Ti (351.923 nm)    | 0.0078 (ppm)    | 39.33    | 0.0078 (ppm)    | 36.8100      |
| 11/1/2017 19:13:44 | R1710054-008                        | V (292.401 nm)     | 0.0009 (ppm)    | 13.78    | 0.0009 (ppm)    | 144.0251     |
| 11/1/2017 19:13:44 | R1710054-008                        | Y (360.074 nm)     | 0.90 (Ratio)    | 1.21     | 0.90 (Ratio)    | 842519.48    |
| 11/1/2017 19:13:44 | R1710054-008                        | Y_R (360.074 nm)   | 0.90 (Ratio)    | 1.22     | 0.90 (Ratio)    | 843559.00    |
| 11/1/2017 19:13:44 | R1710054-008                        | Zn (213.857 nm)    | 0.0038 (ppm)    | 3.37     | 0.0038 (ppm)    | 80.2736      |
| 11/1/2017 19:17:03 | Continuing Calibration Verification | Ag (328.068 nm)    | 0.4935 (ppm)    | 0.53     | 0.4935 (ppm)    | 36130.6419   |
| 11/1/2017 19:17:03 | Continuing Calibration Verification | Al (394.401 nm)    | 9.5972 (ppm)    | 0.63     | 9.5972 (ppm)    | 128239.1668  |
| 11/1/2017 19:17:03 | Continuing Calibration Verification | As (188.980 nm)    | 0.9657 (ppm)    | 0.99     | 0.9657 (ppm)    | 890.8885     |
| 11/1/2017 19:17:03 | Continuing Calibration Verification | B (249.772 nm)     | 2.4294 (ppm)    | 0.52     | 2.4294 (ppm)    | 69709.7450   |
| 11/1/2017 19:17:03 | Continuing Calibration Verification | Ba (230.424 nm)    | 10.3812 (ppm)   | 0.47     | 10.3812 (ppm)   | 363323.5601  |
| 11/1/2017 19:17:03 | Continuing Calibration Verification | Be (313.107 nm)    | 0.2554 (ppm)    | 0.39     | 0.2554 (ppm)    | 386840.8158  |
| 11/1/2017 19:17:03 | Continuing Calibration Verification | Ca (227.547 nm)    | 24.3830 (ppm)   | 0.68     | 24.3830 (ppm)   | 1438.1255    |
| 11/1/2017 19:17:03 | Continuing Calibration Verification | Cd (214.439 nm)    | 0.5014 (ppm)    | 0.30     | 0.5014 (ppm)    | 11415.5100   |
| 11/1/2017 19:17:03 | Continuing Calibration Verification | Co (230.786 nm)    | 2.6106 (ppm)    | 0.41     | 2.6106 (ppm)    | 26867.3715   |
| 11/1/2017 19:17:03 | Continuing Calibration Verification | Cr (267.716 nm)    | 0.5093 (ppm)    | 0.39     | 0.5093 (ppm)    | 26563.1211   |
| 11/1/2017 19:17:03 | Continuing Calibration Verification | Cu (327.395 nm)    | 1.2140 (ppm)    | 0.17     | 1.2140 (ppm)    | 76272.6517   |
| 11/1/2017 19:17:03 | Continuing Calibration Verification | Fe (234.350 nm)    | 4.8913 (ppm)    | 0.40     | 4.8913 (ppm)    | 56895.0665   |
| 11/1/2017 19:17:03 | Continuing Calibration Verification | K (766.491 nm)     | 24.8987 (ppm)   | 0.74     | 24.8987 (ppm)   | 76933.7694   |
| 11/1/2017 19:17:03 | Continuing Calibration Verification | Mg (279.078 nm)    | 25.1841 (ppm)   | 0.39     | 25.1841 (ppm)   | 50808.9701   |
| 11/1/2017 19:17:03 | Continuing Calibration Verification | Mn (257.610 nm)    | 0.7596 (ppm)    | 0.40     | 0.7596 (ppm)    | 245784.9829  |
| 11/1/2017 19:17:03 | Continuing Calibration Verification | Mo (202.032 nm)    | 2.4140 (ppm)    | 0.35     | 2.4140 (ppm)    | 25846.2311   |
| 11/1/2017 19:17:03 | Continuing Calibration Verification | Na (588.995 nm)    | 24.9793 (ppm)   | 1.04     | 24.9793 (ppm)   | 1140242.4943 |
| 11/1/2017 19:17:03 | Continuing Calibration Verification | Ni (230.299 nm)    | 2.0500 (ppm)    | 0.47     | 2.0500 (ppm)    | 14199.0539   |
| 11/1/2017 19:17:03 | Continuing Calibration Verification | Pb (220.353 nm)    | 0.5026 (ppm)    | 0.38     | 0.5026 (ppm)    | 1127.4726    |
| 11/1/2017 19:17:03 | Continuing Calibration Verification | Sb (217.582 nm)    | 4.9330 (ppm)    | 0.69     | 4.9330 (ppm)    | 7041.4991    |
| 11/1/2017 19:17:03 | Continuing Calibration Verification | Se (196.026 nm)    | 0.4847 (ppm)    | 1.42     | 0.4847 (ppm)    | 428.9380     |
| 11/1/2017 19:17:03 | Continuing Calibration Verification | Sr (189.925 nm)    | 5.0925 (ppm)    | 0.53     | 5.0925 (ppm)    | 6488.9245    |
| 11/1/2017 19:17:03 | Continuing Calibration Verification | Sr (216.596 nm)    | 2.5387 (ppm)    | 0.31     | 2.5387 (ppm)    | 37869.3022   |
| 11/1/2017 19:17:03 | Continuing Calibration Verification | Ti (336.122 nm)    | 2.5162 (ppm)    | 0.65     | 2.5162 (ppm)    | 551394.6722  |
| 11/1/2017 19:17:03 | Continuing Calibration Verification | Ti (351.923 nm)    | 0.9961 (ppm)    | 0.27     | 0.9961 (ppm)    | 2842.7416    |
| 11/1/2017 19:17:03 | Continuing Calibration Verification | V (292.401 nm)     | 2.5464 (ppm)    | 0.38     | 2.5464 (ppm)    | 91773.4378   |
| 11/1/2017 19:17:03 | Continuing Calibration Verification | Y (360.074 nm)     | 0.95 (Ratio)    | 1.00     | 0.95 (Ratio)    | 885376.22    |
| 11/1/2017 19:17:03 | Continuing Calibration Verification | Y_R (360.074 nm)   | 0.95 (Ratio)    | 1.00     | 0.95 (Ratio)    | 886294.53    |
| 11/1/2017 19:17:03 | Continuing Calibration Verification | Zn (213.857 nm)    | 1.0085 (ppm)    | 0.45     | 1.0085 (ppm)    | 29271.4450   |
| 11/1/2017 19:20:22 | Continuing Calibration Blank        | Ag (328.068 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | -126.0967    |
| 11/1/2017 19:20:22 | Continuing Calibration Blank        | Al (394.401 nm)    | -0.0005 u (ppm) | 60.69    | -0.0005 (ppm)   | 76.6720      |
| 11/1/2017 19:20:22 | Continuing Calibration Blank        | As (188.980 nm)    | 0.0044 (ppm)    | 36.21    | 0.0044 (ppm)    | 1.1307       |
| 11/1/2017 19:20:22 | Continuing Calibration Blank        | B (249.772 nm)     | 0.0009 (ppm)    | 84.48    | 0.0009 (ppm)    | 115.5704     |
| 11/1/2017 19:20:22 | Continuing Calibration Blank        | Ba (230.424 nm)    | 0.0001 u (ppm)  | > 100.00 | 0.0001 (ppm)    | 10.3546      |
| 11/1/2017 19:20:22 | Continuing Calibration Blank        | Be (313.107 nm)    | 0.0000 (ppm)    | 28.66    | 0.0000 (ppm)    | -495.0360    |
| 11/1/2017 19:20:22 | Continuing Calibration Blank        | Ca (227.547 nm)    | 0.0031 u (ppm)  | > 100.00 | 0.0031 (ppm)    | 6.3533       |
| 11/1/2017 19:20:22 | Continuing Calibration Blank        | Cd (214.439 nm)    | 0.0001 (ppm)    | 48.53    | 0.0001 (ppm)    | 15.6339      |
| 11/1/2017 19:20:22 | Continuing Calibration Blank        | Co (230.786 nm)    | -0.0003 u (ppm) | 73.33    | -0.0003 (ppm)   | -4.0314      |
| 11/1/2017 19:20:22 | Continuing Calibration Blank        | Cr (267.716 nm)    | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | 0.6248       |
| 11/1/2017 19:20:22 | Continuing Calibration Blank        | Cu (327.395 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | 20.3280      |
| 11/1/2017 19:20:22 | Continuing Calibration Blank        | Fe (234.350 nm)    | 0.0042 (ppm)    | 10.47    | 0.0042 (ppm)    | 121.0340     |
| 11/1/2017 19:20:22 | Continuing Calibration Blank        | K (766.491 nm)     | 0.0135 (ppm)    | > 100.00 | 0.0135 (ppm)    | 99.1416      |
| 11/1/2017 19:20:22 | Continuing Calibration Blank        | Mg (279.078 nm)    | 0.0033 (ppm)    | 60.51    | 0.0033 (ppm)    | -0.4690      |
| 11/1/2017 19:20:22 | Continuing Calibration Blank        | Mn (257.610 nm)    | 0.0000 u (ppm)  | 57.83    | 0.0000 (ppm)    | 22.2731      |
| 11/1/2017 19:20:22 | Continuing Calibration Blank        | Mo (202.032 nm)    | 0.0017 (ppm)    | 6.30     | 0.0017 (ppm)    | 34.7525      |

| Date Time          | Label                        | Element Label (nm) | Conc             | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|------------------------------|--------------------|------------------|----------|-----------------|--------------|
| 11/1/2017 19:20:22 | Continuing Calibration Blank | Na (588.995 nm)    | 0.0013 (ppm)     | 20.50    | 0.0013 (ppm)    | -5917.2568   |
| 11/1/2017 19:20:22 | Continuing Calibration Blank | Ni (230.299 nm)    | 0.0003 u (ppm)   | > 100.00 | 0.0003 (ppm)    | -23.7976     |
| 11/1/2017 19:20:22 | Continuing Calibration Blank | Pb (220.353 nm)    | 0.0002 u (ppm)   | > 100.00 | 0.0002 (ppm)    | 6.1154       |
| 11/1/2017 19:20:22 | Continuing Calibration Blank | Sb (217.582 nm)    | -0.0019 u (ppm)  | 76.82    | -0.0019 (ppm)   | 1.3942       |
| 11/1/2017 19:20:22 | Continuing Calibration Blank | Se (196.026 nm)    | 0.0010 u (ppm)   | > 100.00 | 0.0010 (ppm)    | 6.3545       |
| 11/1/2017 19:20:22 | Continuing Calibration Blank | Sn (189.925 nm)    | 0.0002 u (ppm)   | > 100.00 | 0.0002 (ppm)    | 0.0817       |
| 11/1/2017 19:20:22 | Continuing Calibration Blank | Sr (216.596 nm)    | -0.0001 u (ppm)  | 42.67    | -0.0001 (ppm)   | -2.5673      |
| 11/1/2017 19:20:22 | Continuing Calibration Blank | Ti (336.122 nm)    | 0.0006 (ppm)     | 6.87     | 0.0006 (ppm)    | -292.9302    |
| 11/1/2017 19:20:22 | Continuing Calibration Blank | Tl (351.923 nm)    | -0.0024 u (ppm)  | > 100.00 | -0.0024 (ppm)   | 7.7251       |
| 11/1/2017 19:20:22 | Continuing Calibration Blank | V (292.401 nm)     | -0.0001 u (ppm)  | > 100.00 | -0.0001 (ppm)   | 107.8417     |
| 11/1/2017 19:20:22 | Continuing Calibration Blank | Y (360.074 nm)     | 0.99 (Ratio)     | 0.91     | 0.99 (Ratio)    | 927214.75    |
| 11/1/2017 19:20:22 | Continuing Calibration Blank | Y_R (360.074 nm)   | 0.99 (Ratio)     | 0.91     | 0.99 (Ratio)    | 928015.63    |
| 11/1/2017 19:20:22 | Continuing Calibration Blank | Zn (213.857 nm)    | -0.0001 u (ppm)  | > 100.00 | -0.0001 (ppm)   | -32.7588     |
| 11/1/2017 19:23:41 | R1710054-010                 | Ag (328.068 nm)    | 0.0002 (ppm)     | 56.15    | 0.0002 (ppm)    | -113.7160    |
| 11/1/2017 19:23:41 | R1710054-010                 | Al (394.401 nm)    | 0.1868 (ppm)     | 0.95     | 0.1868 (ppm)    | 2577.3200    |
| 11/1/2017 19:23:41 | R1710054-010                 | As (188.980 nm)    | -0.0003 u (ppm)  | > 100.00 | -0.0003 (ppm)   | -3.1440      |
| 11/1/2017 19:23:41 | R1710054-010                 | B (249.772 nm)     | 0.0844 (ppm)     | 0.35     | 0.0844 (ppm)    | 2510.7376    |
| 11/1/2017 19:23:41 | R1710054-010                 | Ba (230.424 nm)    | 0.2961 (ppm)     | 1.31     | 0.2961 (ppm)    | 10369.4710   |
| 11/1/2017 19:23:41 | R1710054-010                 | Be (313.107 nm)    | 0.0000 (ppm)     | 86.99    | 0.0000 (ppm)    | -520.0105    |
| 11/1/2017 19:23:41 | R1710054-010                 | Ca (227.547 nm)    | 176.4004 u (ppm) | 0.62     | 176.4004 (ppm)  | 10365.7530   |
| 11/1/2017 19:23:41 | R1710054-010                 | Cd (214.439 nm)    | 0.0000 u (ppm)   | > 100.00 | 0.0000 (ppm)    | 12.9046      |
| 11/1/2017 19:23:41 | R1710054-010                 | Co (230.786 nm)    | 0.0028 (ppm)     | 18.80    | 0.0028 (ppm)    | 27.4874      |
| 11/1/2017 19:23:41 | R1710054-010                 | Cr (267.716 nm)    | 0.0004 (ppm)     | 21.91    | 0.0004 (ppm)    | 18.3009      |
| 11/1/2017 19:23:41 | R1710054-010                 | Cu (327.395 nm)    | 0.0058 (ppm)     | 2.38     | 0.0058 (ppm)    | 383.1275     |
| 11/1/2017 19:23:41 | R1710054-010                 | Fe (234.350 nm)    | 0.2924 (ppm)     | 0.55     | 0.2924 (ppm)    | 3469.9657    |
| 11/1/2017 19:23:41 | R1710054-010                 | K (766.491 nm)     | 6.7586 (ppm)     | 0.71     | 6.7586 (ppm)    | 20925.1018   |
| 11/1/2017 19:23:41 | R1710054-010                 | Mg (279.078 nm)    | 31.4619 (ppm)    | 0.68     | 31.4619 (ppm)   | 63476.2368   |
| 11/1/2017 19:23:41 | R1710054-010                 | Mn (257.610 nm)    | 0.1024 (ppm)     | 0.56     | 0.1024 (ppm)    | 33172.2244   |
| 11/1/2017 19:23:41 | R1710054-010                 | Mo (202.032 nm)    | 0.0008 (ppm)     | 38.31    | 0.0008 (ppm)    | 24.9618      |
| 11/1/2017 19:23:41 | R1710054-010                 | Na (588.995 nm)    | 69.8042 u (ppm)  | 0.72     | 69.8042 (ppm)   | 3197114.4131 |
| 11/1/2017 19:23:41 | R1710054-010                 | Ni (230.299 nm)    | 0.0074 (ppm)     | 8.26     | 0.0074 (ppm)    | 25.5663      |
| 11/1/2017 19:23:41 | R1710054-010                 | Pb (220.353 nm)    | -0.0017 u (ppm)  | 25.52    | -0.0017 (ppm)   | 1.7687       |
| 11/1/2017 19:23:41 | R1710054-010                 | Sb (217.582 nm)    | -0.0025 u (ppm)  | 42.47    | -0.0025 (ppm)   | 0.4962       |
| 11/1/2017 19:23:41 | R1710054-010                 | Se (196.026 nm)    | -0.0018 u (ppm)  | > 100.00 | -0.0018 (ppm)   | 3.9701       |
| 11/1/2017 19:23:41 | R1710054-010                 | Sn (189.925 nm)    | -0.0024 u (ppm)  | 62.24    | -0.0024 (ppm)   | -3.2043      |
| 11/1/2017 19:23:41 | R1710054-010                 | Sr (216.596 nm)    | 18.6308 u (ppm)  | 0.90     | 18.6308 (ppm)   | 277920.2863  |
| 11/1/2017 19:23:41 | R1710054-010                 | Ti (336.122 nm)    | 0.0044 (ppm)     | 3.12     | 0.0044 (ppm)    | 542.3185     |
| 11/1/2017 19:23:41 | R1710054-010                 | Tl (351.923 nm)    | 0.0021 u (ppm)   | > 100.00 | 0.0021 (ppm)    | 20.5018      |
| 11/1/2017 19:23:41 | R1710054-010                 | V (292.401 nm)     | 0.0006 (ppm)     | 21.68    | 0.0006 (ppm)    | 131.1301     |
| 11/1/2017 19:23:41 | R1710054-010                 | Y (360.074 nm)     | 0.92 (Ratio)     | 1.05     | 0.92 (Ratio)    | 865728.93    |
| 11/1/2017 19:23:41 | R1710054-010                 | Y_R (360.074 nm)   | 0.93 (Ratio)     | 1.04     | 0.93 (Ratio)    | 866719.65    |
| 11/1/2017 19:23:41 | R1710054-010                 | Zn (213.857 nm)    | 0.0059 (ppm)     | 1.46     | 0.0059 (ppm)    | 139.9173     |
| 11/1/2017 19:27:00 | R1710054-012 10X             | Ag (328.068 nm)    | 0.0000 u (ppm)   | > 100.00 | 0.0000 (ppm)    | -124.9818    |
| 11/1/2017 19:27:00 | R1710054-012 10X             | Al (394.401 nm)    | 0.2920 (ppm)     | 0.78     | 0.2920 (ppm)    | 3982.8701    |
| 11/1/2017 19:27:00 | R1710054-012 10X             | As (188.980 nm)    | 0.0016 u (ppm)   | > 100.00 | 0.0016 (ppm)    | -1.3943      |
| 11/1/2017 19:27:00 | R1710054-012 10X             | B (249.772 nm)     | 0.0117 (ppm)     | 0.54     | 0.0117 (ppm)    | 427.2442     |
| 11/1/2017 19:27:00 | R1710054-012 10X             | Ba (230.424 nm)    | 0.0083 (ppm)     | 2.13     | 0.0083 (ppm)    | 296.8085     |
| 11/1/2017 19:27:00 | R1710054-012 10X             | Be (313.107 nm)    | 0.0000 (ppm)     | > 100.00 | 0.0000 (ppm)    | -502.2346    |
| 11/1/2017 19:27:00 | R1710054-012 10X             | Ca (227.547 nm)    | 35.7473 (ppm)    | 0.93     | 35.7473 (ppm)   | 2105.5267    |
| 11/1/2017 19:27:00 | R1710054-012 10X             | Cd (214.439 nm)    | 0.0001 (ppm)     | 46.52    | 0.0001 (ppm)    | 15.3740      |
| 11/1/2017 19:27:00 | R1710054-012 10X             | Co (230.786 nm)    | -0.0003 u (ppm)  | 32.01    | -0.0003 (ppm)   | -4.8005      |

| Date Time          | Label            | Element Label (nm) | Conc             | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|------------------|--------------------|------------------|----------|-----------------|--------------|
| 11/1/2017 19:27:00 | R1710054-012 10X | Cr (267.716 nm)    | 0.0004 (ppm)     | 9.35     | 0.0004 (ppm)    | 22.7970      |
| 11/1/2017 19:27:00 | R1710054-012 10X | Cu (327.395 nm)    | 0.0013 (ppm)     | 12.45    | 0.0013 (ppm)    | 103.9410     |
| 11/1/2017 19:27:00 | R1710054-012 10X | Fe (234.350 nm)    | 0.1888 (ppm)     | 0.26     | 0.1888 (ppm)    | 2265.7133    |
| 11/1/2017 19:27:00 | R1710054-012 10X | K (766.491 nm)     | 4.7119 (ppm)     | 0.65     | 4.7119 (ppm)    | 14605.8443   |
| 11/1/2017 19:27:00 | R1710054-012 10X | Mg (279.078 nm)    | 8.3483 (ppm)     | 0.45     | 8.3483 (ppm)    | 16837.9301   |
| 11/1/2017 19:27:00 | R1710054-012 10X | Mn (257.610 nm)    | 0.0040 (ppm)     | 0.73     | 0.0040 (ppm)    | 1336.5394    |
| 11/1/2017 19:27:00 | R1710054-012 10X | Mo (202.032 nm)    | 0.0001 u (ppm)   | > 100.00 | 0.0001 (ppm)    | 17.5499      |
| 11/1/2017 19:27:00 | R1710054-012 10X | Na (588.995 nm)    | 2.3284 (ppm)     | 0.92     | 2.3284 (ppm)    | 100862.0672  |
| 11/1/2017 19:27:00 | R1710054-012 10X | Ni (230.299 nm)    | -0.0005 u (ppm)  | > 100.00 | -0.0005 (ppm)   | -29.2113     |
| 11/1/2017 19:27:00 | R1710054-012 10X | Pb (220.353 nm)    | -0.0010 u (ppm)  | > 100.00 | -0.0010 (ppm)   | 3.5103       |
| 11/1/2017 19:27:00 | R1710054-012 10X | Sb (217.582 nm)    | -0.0023 u (ppm)  | 15.18    | -0.0023 (ppm)   | 0.8785       |
| 11/1/2017 19:27:00 | R1710054-012 10X | Se (196.026 nm)    | 0.0017 u (ppm)   | > 100.00 | 0.0017 (ppm)    | 7.0426       |
| 11/1/2017 19:27:00 | R1710054-012 10X | Sn (189.925 nm)    | -0.0016 u (ppm)  | 62.36    | -0.0016 (ppm)   | -2.1858      |
| 11/1/2017 19:27:00 | R1710054-012 10X | Sr (216.596 nm)    | 1.9071 (ppm)     | 0.84     | 1.9071 (ppm)    | 28447.3871   |
| 11/1/2017 19:27:00 | R1710054-012 10X | Ti (336.122 nm)    | 0.0109 (ppm)     | 4.05     | 0.0109 (ppm)    | 1962.7858    |
| 11/1/2017 19:27:00 | R1710054-012 10X | Ti (351.923 nm)    | -0.0001 u (ppm)  | > 100.00 | -0.0001 (ppm)   | 14.2930      |
| 11/1/2017 19:27:00 | R1710054-012 10X | V (292.401 nm)     | 0.0007 (ppm)     | 32.27    | 0.0007 (ppm)    | 136.1082     |
| 11/1/2017 19:27:00 | R1710054-012 10X | Y (360.074 nm)     | 0.97 (Ratio)     | 0.81     | 0.97 (Ratio)    | 906214.89    |
| 11/1/2017 19:27:00 | R1710054-012 10X | Y_R (360.074 nm)   | 0.97 (Ratio)     | 0.80     | 0.97 (Ratio)    | 906969.62    |
| 11/1/2017 19:27:00 | R1710054-012 10X | Zn (213.857 nm)    | 0.0040 (ppm)     | 1.40     | 0.0040 (ppm)    | 84.7623      |
| 11/1/2017 19:30:19 | R1710054-012     | Ag (328.068 nm)    | 0.0002 (ppm)     | 39.13    | 0.0002 (ppm)    | -109.7804    |
| 11/1/2017 19:30:19 | R1710054-012     | Al (394.401 nm)    | 3.0138 (ppm)     | 0.88     | 3.0138 (ppm)    | 40327.7086   |
| 11/1/2017 19:30:19 | R1710054-012     | As (188.980 nm)    | 0.0043 (ppm)     | > 100.00 | 0.0043 (ppm)    | 1.0629       |
| 11/1/2017 19:30:19 | R1710054-012     | B (249.772 nm)     | 0.1351 (ppm)     | 0.58     | 0.1351 (ppm)    | 3962.9646    |
| 11/1/2017 19:30:19 | R1710054-012     | Ba (230.424 nm)    | 0.0792 (ppm)     | 1.41     | 0.0792 (ppm)    | 2780.1388    |
| 11/1/2017 19:30:19 | R1710054-012     | Be (313.107 nm)    | 0.0001 (ppm)     | 9.91     | 0.0001 (ppm)    | -378.5748    |
| 11/1/2017 19:30:19 | R1710054-012     | Ca (227.547 nm)    | 397.1499 u (ppm) | 0.33     | 397.1499 (ppm)  | 23329.8519   |
| 11/1/2017 19:30:19 | R1710054-012     | Cd (214.439 nm)    | 0.0000 (ppm)     | > 100.00 | 0.0000 (ppm)    | 11.9833      |
| 11/1/2017 19:30:19 | R1710054-012     | Co (230.786 nm)    | 0.0003 u (ppm)   | > 100.00 | 0.0003 (ppm)    | 1.9819       |
| 11/1/2017 19:30:19 | R1710054-012     | Cr (267.716 nm)    | 0.0055 (ppm)     | 4.62     | 0.0055 (ppm)    | 288.4111     |
| 11/1/2017 19:30:19 | R1710054-012     | Cu (327.395 nm)    | 0.0143 (ppm)     | 1.70     | 0.0143 (ppm)    | 921.3504     |
| 11/1/2017 19:30:19 | R1710054-012     | Fe (234.350 nm)    | 1.8037 (ppm)     | 1.01     | 1.8037 (ppm)    | 21026.5907   |
| 11/1/2017 19:30:19 | R1710054-012     | K (766.491 nm)     | 53.8311 (ppm)    | 0.17     | 53.8311 (ppm)   | 166264.4307  |
| 11/1/2017 19:30:19 | R1710054-012     | Mg (279.078 nm)    | 86.0928 u (ppm)  | 0.90     | 86.0928 (ppm)   | 173709.4024  |
| 11/1/2017 19:30:19 | R1710054-012     | Mn (257.610 nm)    | 0.0386 (ppm)     | 0.76     | 0.0386 (ppm)    | 12508.5796   |
| 11/1/2017 19:30:19 | R1710054-012     | Mo (202.032 nm)    | 0.0032 (ppm)     | 13.21    | 0.0032 (ppm)    | 51.1081      |
| 11/1/2017 19:30:19 | R1710054-012     | Na (588.995 nm)    | 25.3317 (ppm)    | 0.14     | 25.3317 (ppm)   | 1156410.2645 |
| 11/1/2017 19:30:19 | R1710054-012     | Ni (230.299 nm)    | -0.0089 u (ppm)  | 11.32    | -0.0089 (ppm)   | -94.4684     |
| 11/1/2017 19:30:19 | R1710054-012     | Pb (220.353 nm)    | -0.0006 u (ppm)  | > 100.00 | -0.0006 (ppm)   | 4.2687       |
| 11/1/2017 19:30:19 | R1710054-012     | Sb (217.582 nm)    | -0.0032 u (ppm)  | 90.79    | -0.0032 (ppm)   | -0.3938      |
| 11/1/2017 19:30:19 | R1710054-012     | Se (196.026 nm)    | -0.0042 u (ppm)  | 69.60    | -0.0042 (ppm)   | 1.8158       |
| 11/1/2017 19:30:19 | R1710054-012     | Sn (189.925 nm)    | -0.0022 u (ppm)  | > 100.00 | -0.0022 (ppm)   | -2.9176      |
| 11/1/2017 19:30:19 | R1710054-012     | Sr (216.596 nm)    | 17.9982 u (ppm)  | 0.34     | 17.9982 (ppm)   | 268482.9420  |
| 11/1/2017 19:30:19 | R1710054-012     | Ti (336.122 nm)    | 0.0749 (ppm)     | 3.97     | 0.0749 (ppm)    | 16008.5043   |
| 11/1/2017 19:30:19 | R1710054-012     | Ti (351.923 nm)    | 0.0059 (ppm)     | 34.64    | 0.0059 (ppm)    | 31.2381      |
| 11/1/2017 19:30:19 | R1710054-012     | V (292.401 nm)     | 0.0051 (ppm)     | 6.24     | 0.0051 (ppm)    | 294.4473     |
| 11/1/2017 19:30:19 | R1710054-012     | Y (360.074 nm)     | 0.90 (Ratio)     | 1.14     | 0.90 (Ratio)    | 846158.80    |
| 11/1/2017 19:30:19 | R1710054-012     | Y_R (360.074 nm)   | 0.90 (Ratio)     | 1.13     | 0.90 (Ratio)    | 847061.63    |
| 11/1/2017 19:30:19 | R1710054-012     | Zn (213.857 nm)    | 0.0093 (ppm)     | 1.65     | 0.0093 (ppm)    | 240.2370     |
| 11/1/2017 19:33:38 | R1710113-001 10X | Ag (328.068 nm)    | 0.0000 (ppm)     | > 100.00 | 0.0000 (ppm)    | -123.9262    |
| 11/1/2017 19:33:38 | R1710113-001 10X | Al (394.401 nm)    | 0.1103 (ppm)     | 0.56     | 0.1103 (ppm)    | 1556.2150    |

| Date Time          | Label            | Element Label (nm) | Conc             | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|------------------|--------------------|------------------|----------|-----------------|--------------|
| 11/1/2017 19:33:38 | R1710113-001 10X | As (188.980 nm)    | -0.0008 u (ppm)  | > 100.00 | -0.0008 (ppm)   | -3.6650      |
| 11/1/2017 19:33:38 | R1710113-001 10X | B (249.772 nm)     | 0.0262 (ppm)     | 0.55     | 0.0262 (ppm)    | 840.5456     |
| 11/1/2017 19:33:38 | R1710113-001 10X | Ba (230.424 nm)    | 0.0023 (ppm)     | 3.38     | 0.0023 (ppm)    | 88.4494      |
| 11/1/2017 19:33:38 | R1710113-001 10X | Be (313.107 nm)    | 0.0000 (ppm)     | > 100.00 | 0.0000 (ppm)    | -507.1928    |
| 11/1/2017 19:33:38 | R1710113-001 10X | Ca (227.547 nm)    | 39.1896 (ppm)    | 0.63     | 39.1896 (ppm)   | 2307.6825    |
| 11/1/2017 19:33:38 | R1710113-001 10X | Cd (214.439 nm)    | 0.0001 (ppm)     | 41.07    | 0.0001 (ppm)    | 15.1158      |
| 11/1/2017 19:33:38 | R1710113-001 10X | Co (230.786 nm)    | 0.0004 (ppm)     | 68.93    | 0.0004 (ppm)    | 2.9293       |
| 11/1/2017 19:33:38 | R1710113-001 10X | Cr (267.716 nm)    | -0.0001 u (ppm)  | 61.13    | -0.0001 (ppm)   | -7.5432      |
| 11/1/2017 19:33:38 | R1710113-001 10X | Cu (327.395 nm)    | 0.0007 (ppm)     | 18.80    | 0.0007 (ppm)    | 63.2390      |
| 11/1/2017 19:33:38 | R1710113-001 10X | Fe (234.350 nm)    | 0.4071 (ppm)     | 0.40     | 0.4071 (ppm)    | 4801.7953    |
| 11/1/2017 19:33:38 | R1710113-001 10X | K (766.491 nm)     | 1.6554 (ppm)     | 1.14     | 1.6554 (ppm)    | 5168.6928    |
| 11/1/2017 19:33:38 | R1710113-001 10X | Mg (279.078 nm)    | 7.2256 (ppm)     | 0.47     | 7.2256 (ppm)    | 14572.5657   |
| 11/1/2017 19:33:38 | R1710113-001 10X | Mn (257.610 nm)    | 0.2945 (ppm)     | 0.37     | 0.2945 (ppm)    | 95309.6258   |
| 11/1/2017 19:33:38 | R1710113-001 10X | Mo (202.032 nm)    | -0.0003 u (ppm)  | 19.34    | -0.0003 (ppm)   | 13.4374      |
| 11/1/2017 19:33:38 | R1710113-001 10X | Na (588.995 nm)    | 3.3311 (ppm)     | 0.56     | 3.3311 (ppm)    | 146873.4049  |
| 11/1/2017 19:33:38 | R1710113-001 10X | Ni (230.299 nm)    | -0.0005 u (ppm)  | 23.47    | -0.0005 (ppm)   | -29.2532     |
| 11/1/2017 19:33:38 | R1710113-001 10X | Pb (220.353 nm)    | -0.0002 u (ppm)  | 51.84    | -0.0002 (ppm)   | 5.1061       |
| 11/1/2017 19:33:38 | R1710113-001 10X | Sb (217.582 nm)    | -0.0009 u (ppm)  | > 100.00 | -0.0009 (ppm)   | 2.8385       |
| 11/1/2017 19:33:38 | R1710113-001 10X | Se (196.026 nm)    | -0.0014 u (ppm)  | > 100.00 | -0.0014 (ppm)   | 4.3271       |
| 11/1/2017 19:33:38 | R1710113-001 10X | Sn (189.925 nm)    | -0.0003 u (ppm)  | > 100.00 | -0.0003 (ppm)   | -0.5612      |
| 11/1/2017 19:33:38 | R1710113-001 10X | Sr (216.596 nm)    | 0.1017 (ppm)     | 0.31     | 0.1017 (ppm)    | 1515.9523    |
| 11/1/2017 19:33:38 | R1710113-001 10X | Ti (336.122 nm)    | 0.0029 (ppm)     | 1.58     | 0.0029 (ppm)    | 219.3852     |
| 11/1/2017 19:33:38 | R1710113-001 10X | Tl (351.923 nm)    | -0.0021 u (ppm)  | 9.92     | -0.0021 (ppm)   | 8.5265       |
| 11/1/2017 19:33:38 | R1710113-001 10X | V (292.401 nm)     | 0.0002 u (ppm)   | > 100.00 | 0.0002 (ppm)    | 116.0746     |
| 11/1/2017 19:33:38 | R1710113-001 10X | Y (360.074 nm)     | 0.98 (Ratio)     | 0.58     | 0.98 (Ratio)    | 914679.16    |
| 11/1/2017 19:33:38 | R1710113-001 10X | Y_R (360.074 nm)   | 0.98 (Ratio)     | 0.57     | 0.98 (Ratio)    | 915392.51    |
| 11/1/2017 19:33:38 | R1710113-001 10X | Zn (213.857 nm)    | 0.0023 (ppm)     | 3.36     | 0.0023 (ppm)    | 35.6331      |
| 11/1/2017 19:36:57 | R1710113-001     | Ag (328.068 nm)    | 0.0001 (ppm)     | 21.96    | 0.0001 (ppm)    | -118.2412    |
| 11/1/2017 19:36:57 | R1710113-001     | Al (394.401 nm)    | 1.1106 (ppm)     | 0.95     | 1.1106 (ppm)    | 14913.7870   |
| 11/1/2017 19:36:57 | R1710113-001     | As (188.980 nm)    | 0.0040 (ppm)     | 54.58    | 0.0040 (ppm)    | 0.7930       |
| 11/1/2017 19:36:57 | R1710113-001     | B (249.772 nm)     | 0.2935 (ppm)     | 0.66     | 0.2935 (ppm)    | 8500.8039    |
| 11/1/2017 19:36:57 | R1710113-001     | Ba (230.424 nm)    | 0.0220 (ppm)     | 0.62     | 0.0220 (ppm)    | 777.7920     |
| 11/1/2017 19:36:57 | R1710113-001     | Be (313.107 nm)    | 0.0000 (ppm)     | 59.24    | 0.0000 (ppm)    | -477.5983    |
| 11/1/2017 19:36:57 | R1710113-001     | Ca (227.547 nm)    | 430.3212 o (ppm) | 0.69     | 430.3212 (ppm)  | 25277.9244   |
| 11/1/2017 19:36:57 | R1710113-001     | Cd (214.439 nm)    | 0.0002 (ppm)     | 63.41    | 0.0002 (ppm)    | 16.2903      |
| 11/1/2017 19:36:57 | R1710113-001     | Co (230.786 nm)    | 0.0071 (ppm)     | 4.22     | 0.0071 (ppm)    | 71.8293      |
| 11/1/2017 19:36:57 | R1710113-001     | Cr (267.716 nm)    | 0.0000 u (ppm)   | > 100.00 | 0.0000 (ppm)    | -2.7844      |
| 11/1/2017 19:36:57 | R1710113-001     | Cu (327.395 nm)    | 0.0070 (ppm)     | 0.55     | 0.0070 (ppm)    | 459.3683     |
| 11/1/2017 19:36:57 | R1710113-001     | Fe (234.350 nm)    | 3.9167 (ppm)     | 0.94     | 3.9167 (ppm)    | 45572.8862   |
| 11/1/2017 19:36:57 | R1710113-001     | K (766.491 nm)     | 18.9878 (ppm)    | 0.67     | 18.9878 (ppm)   | 58683.5836   |
| 11/1/2017 19:36:57 | R1710113-001     | Mg (279.078 nm)    | 73.8497 o (ppm)  | 0.97     | 73.8497 (ppm)   | 149005.6319  |
| 11/1/2017 19:36:57 | R1710113-001     | Mn (257.610 nm)    | 2.7925 o (ppm)   | 0.86     | 2.7925 (ppm)    | 903477.2140  |
| 11/1/2017 19:36:57 | R1710113-001     | Mo (202.032 nm)    | 0.0016 (ppm)     | 10.69    | 0.0016 (ppm)    | 34.2537      |
| 11/1/2017 19:36:57 | R1710113-001     | Na (588.995 nm)    | 35.6235 (ppm)    | 0.61     | 35.6235 (ppm)   | 1628668.0863 |
| 11/1/2017 19:36:57 | R1710113-001     | Ni (230.299 nm)    | -0.0106 u (ppm)  | 4.11     | -0.0106 (ppm)   | -99.6292     |
| 11/1/2017 19:36:57 | R1710113-001     | Pb (220.353 nm)    | -0.0012 u (ppm)  | 82.36    | -0.0012 (ppm)   | 2.8589       |
| 11/1/2017 19:36:57 | R1710113-001     | Sb (217.582 nm)    | -0.0023 u (ppm)  | 81.43    | -0.0023 (ppm)   | 0.8620       |
| 11/1/2017 19:36:57 | R1710113-001     | Se (196.026 nm)    | 0.0025 u (ppm)   | > 100.00 | 0.0025 (ppm)    | 7.7231       |
| 11/1/2017 19:36:57 | R1710113-001     | Sn (189.925 nm)    | -0.0006 u (ppm)  | > 100.00 | -0.0006 (ppm)   | -0.8749      |
| 11/1/2017 19:36:57 | R1710113-001     | Sr (216.596 nm)    | 0.9463 (ppm)     | 1.73     | 0.9463 (ppm)    | 14114.6826   |
| 11/1/2017 19:36:57 | R1710113-001     | Ti (336.122 nm)    | 0.0303 (ppm)     | 3.12     | 0.0303 (ppm)    | 6223.5741    |



| Date Time          | Label             | Element Label (nm) | Conc             | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|-------------------|--------------------|------------------|----------|-----------------|--------------|
| 11/1/2017 19:36:57 | R1710113-001      | Tl (351.923 nm)    | 0.0112 (ppm) 7   | 37.32    | 0.0112 (ppm)    | 46.3552      |
| 11/1/2017 19:36:57 | R1710113-001      | V (292.401 nm)     | 0.0025 (ppm)     | 5.23     | 0.0025 (ppm)    | 201.3333     |
| 11/1/2017 19:36:57 | R1710113-001      | Y (360.074 nm)     | 0.91 (Ratio)     | 1.08     | 0.91 (Ratio)    | 852475.78    |
| 11/1/2017 19:36:57 | R1710113-001      | Y_R (360.074 nm)   | 0.91 (Ratio)     | 1.08     | 0.91 (Ratio)    | 853255.55    |
| 11/1/2017 19:36:57 | R1710113-001      | Zn (213.857 nm)    | 0.0175 (ppm)     | 0.77     | 0.0175 (ppm)    | 478.3943     |
| 11/1/2017 19:40:16 | R1710113-002 100X | Ag (328.068 nm)    | 0.0001 (ppm)     | 39.49    | 0.0001 (ppm)    | -121.2995    |
| 11/1/2017 19:40:16 | R1710113-002 100X | Al (394.401 nm)    | 2.2913 (ppm)     | 0.53     | 2.2913 (ppm)    | 30680.5709   |
| 11/1/2017 19:40:16 | R1710113-002 100X | As (188.980 nm)    | 0.0026 (ppm)     | 21.89    | 0.0026 (ppm)    | -0.4856      |
| 11/1/2017 19:40:16 | R1710113-002 100X | B (249.772 nm)     | 0.0156 (ppm)     | 0.32     | 0.0156 (ppm)    | 538.9798     |
| 11/1/2017 19:40:16 | R1710113-002 100X | Ba (230.424 nm)    | 0.0002 (ppm)     | 39.51    | 0.0002 (ppm)    | 15.8815      |
| 11/1/2017 19:40:16 | R1710113-002 100X | Be (313.107 nm)    | 0.0002 (ppm)     | 2.19     | 0.0002 (ppm)    | -225.1228    |
| 11/1/2017 19:40:16 | R1710113-002 100X | Ca (227.547 nm)    | 4.4183 (ppm)     | 1.36     | 4.4183 (ppm)    | 265.6489     |
| 11/1/2017 19:40:16 | R1710113-002 100X | Cd (214.439 nm)    | 0.0004 (ppm)     | 23.17    | 0.0004 (ppm)    | 20.9773      |
| 11/1/2017 19:40:16 | R1710113-002 100X | Co (230.786 nm)    | 0.0000 u (ppm)   | > 100.00 | 0.0000 (ppm)    | -1.3844      |
| 11/1/2017 19:40:16 | R1710113-002 100X | Cr (267.716 nm)    | 0.0002 (ppm)     | 37.26    | 0.0002 (ppm)    | 11.0657      |
| 11/1/2017 19:40:16 | R1710113-002 100X | Cu (327.395 nm)    | 0.0002 (ppm)     | 74.86    | 0.0002 (ppm)    | 32.3047      |
| 11/1/2017 19:40:16 | R1710113-002 100X | Fe (234.350 nm)    | 14.7560 o (ppm)  | 0.36     | 14.7560 (ppm)   | 171494.2446  |
| 11/1/2017 19:40:16 | R1710113-002 100X | K (766.491 nm)     | 1.4155 (ppm)     | 0.86     | 1.4155 (ppm)    | 4427.8097    |
| 11/1/2017 19:40:16 | R1710113-002 100X | Mg (279.078 nm)    | 6.6527 (ppm)     | 0.36     | 6.6527 (ppm)    | 13416.7172   |
| 11/1/2017 19:40:16 | R1710113-002 100X | Mn (257.610 nm)    | 0.2354 (ppm)     | 0.44     | 0.2354 (ppm)    | 76189.9796   |
| 11/1/2017 19:40:16 | R1710113-002 100X | Mo (202.032 nm)    | -0.0005 u (ppm)  | 72.23    | -0.0005 (ppm)   | 11.7341      |
| 11/1/2017 19:40:16 | R1710113-002 100X | Na (588.995 nm)    | 1.2337 (ppm)     | 0.99     | 1.2337 (ppm)    | 50633.0117   |
| 11/1/2017 19:40:16 | R1710113-002 100X | Ni (230.299 nm)    | 0.0006 (ppm)     | 79.80    | 0.0006 (ppm)    | -21.8826     |
| 11/1/2017 19:40:16 | R1710113-002 100X | Pb (220.353 nm)    | 0.0003 u (ppm)   | > 100.00 | 0.0003 (ppm)    | 6.3156       |
| 11/1/2017 19:40:16 | R1710113-002 100X | Sb (217.582 nm)    | -0.0030 u (ppm)  | > 100.00 | -0.0030 (ppm)   | -0.1665      |
| 11/1/2017 19:40:16 | R1710113-002 100X | Se (196.026 nm)    | -0.0011 u (ppm)  | > 100.00 | -0.0011 (ppm)   | 4.5222       |
| 11/1/2017 19:40:16 | R1710113-002 100X | Sn (189.925 nm)    | -0.0007 u (ppm)  | > 100.00 | -0.0007 (ppm)   | -1.0955      |
| 11/1/2017 19:40:16 | R1710113-002 100X | Sr (216.596 nm)    | 0.0148 (ppm)     | 0.49     | 0.0148 (ppm)    | 218.9437     |
| 11/1/2017 19:40:16 | R1710113-002 100X | Ti (336.122 nm)    | 0.0004 (ppm)     | 43.67    | 0.0004 (ppm)    | -327.0273    |
| 11/1/2017 19:40:16 | R1710113-002 100X | Tl (351.923 nm)    | -0.0006 u (ppm)  | > 100.00 | -0.0006 (ppm)   | 12.8153      |
| 11/1/2017 19:40:16 | R1710113-002 100X | V (292.401 nm)     | 0.0010 (ppm)     | 13.83    | 0.0010 (ppm)    | 145.3899     |
| 11/1/2017 19:40:16 | R1710113-002 100X | Y (360.074 nm)     | 0.99 (Ratio)     | 0.91     | 0.99 (Ratio)    | 923618.82    |
| 11/1/2017 19:40:16 | R1710113-002 100X | Y_R (360.074 nm)   | 0.99 (Ratio)     | 0.91     | 0.99 (Ratio)    | 924031.01    |
| 11/1/2017 19:40:16 | R1710113-002 100X | Zn (213.857 nm)    | 0.0042 (ppm)     | 2.18     | 0.0042 (ppm)    | 92.1186      |
| 11/1/2017 19:43:35 | R1710113-002 10X  | Ag (328.068 nm)    | 0.0000 u (ppm)   | > 100.00 | 0.0000 (ppm)    | -127.3366    |
| 11/1/2017 19:43:35 | R1710113-002 10X  | Al (394.401 nm)    | 23.4414 o (ppm)  | 0.18     | 23.4414 (ppm)   | 313107.1894  |
| 11/1/2017 19:43:35 | R1710113-002 10X  | As (188.980 nm)    | 0.0018 (ppm)     | 73.63    | 0.0018 (ppm)    | -1.2562      |
| 11/1/2017 19:43:35 | R1710113-002 10X  | B (249.772 nm)     | 0.1570 (ppm)     | 0.32     | 0.1570 (ppm)    | 4589.5386    |
| 11/1/2017 19:43:35 | R1710113-002 10X  | Ba (230.424 nm)    | 0.0031 (ppm)     | 1.28     | 0.0031 (ppm)    | 115.4852     |
| 11/1/2017 19:43:35 | R1710113-002 10X  | Be (313.107 nm)    | 0.0018 (ppm)     | 0.21     | 0.0018 (ppm)    | 2154.8750    |
| 11/1/2017 19:43:35 | R1710113-002 10X  | Ca (227.547 nm)    | 43.7135 (ppm)    | 0.31     | 43.7135 (ppm)   | 2573.3613    |
| 11/1/2017 19:43:35 | R1710113-002 10X  | Cd (214.439 nm)    | 0.0013 (ppm)     | 6.17     | 0.0013 (ppm)    | 43.1141      |
| 11/1/2017 19:43:35 | R1710113-002 10X  | Co (230.786 nm)    | 0.0024 (ppm)     | 10.63    | 0.0024 (ppm)    | 23.7414      |
| 11/1/2017 19:43:35 | R1710113-002 10X  | Cr (267.716 nm)    | 0.0015 (ppm)     | 2.44     | 0.0015 (ppm)    | 77.6211      |
| 11/1/2017 19:43:35 | R1710113-002 10X  | Cu (327.395 nm)    | 0.0002 (ppm)     | 43.49    | 0.0002 (ppm)    | 32.0466      |
| 11/1/2017 19:43:35 | R1710113-002 10X  | Fe (234.350 nm)    | 126.0783 o (ppm) | 0.08     | 126.0783 (ppm)  | 1464736.1005 |
| 11/1/2017 19:43:35 | R1710113-002 10X  | K (766.491 nm)     | 14.2551 (ppm)    | 0.09     | 14.2551 (ppm)   | 44071.0938   |
| 11/1/2017 19:43:35 | R1710113-002 10X  | Mg (279.078 nm)    | 63.0772 o (ppm)  | 0.20     | 63.0772 (ppm)   | 127269.0982  |
| 11/1/2017 19:43:35 | R1710113-002 10X  | Mn (257.610 nm)    | 2.1072 o (ppm)   | 0.17     | 2.1072 (ppm)    | 681791.0109  |
| 11/1/2017 19:43:35 | R1710113-002 10X  | Mo (202.032 nm)    | -0.0004 u (ppm)  | 52.87    | -0.0004 (ppm)   | 12.1202      |
| 11/1/2017 19:43:35 | R1710113-002 10X  | Na (588.995 nm)    | 11.7071 (ppm)    | 0.31     | 11.7071 (ppm)   | 531222.8000  |

2nd analysis  
Report 10X

003

OK 11/1/17

| Date Time          | Label            | Element Label (nm) | Conc             | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|------------------|--------------------|------------------|----------|-----------------|--------------|
| 11/1/2017 19:43:35 | R1710113-002 10X | Ni (230.299 nm)    | 0.0052 (ppm)     | 10.72    | 0.0052 (ppm)    | 9.7667       |
| 11/1/2017 19:43:35 | R1710113-002 10X | Pb (220.353 nm)    | 0.0004 u (ppm)   | > 100.00 | 0.0004 (ppm)    | 6.4360       |
| 11/1/2017 19:43:35 | R1710113-002 10X | Sb (217.582 nm)    | -0.0067 u (ppm)  | 14.69    | -0.0067 (ppm)   | -5.3780      |
| 11/1/2017 19:43:35 | R1710113-002 10X | Se (196.026 nm)    | 0.0005 u (ppm)   | > 100.00 | 0.0005 (ppm)    | 5.9904       |
| 11/1/2017 19:43:35 | R1710113-002 10X | Sn (189.925 nm)    | 0.0006 u (ppm)   | > 100.00 | 0.0006 (ppm)    | 0.5582       |
| 11/1/2017 19:43:35 | R1710113-002 10X | Sr (216.596 nm)    | 0.1340 (ppm)     | 0.34     | 0.1340 (ppm)    | 1997.2802    |
| 11/1/2017 19:43:35 | R1710113-002 10X | Ti (336.122 nm)    | 0.0056 (ppm)     | 1.37     | 0.0056 (ppm)    | 814.5078     |
| 11/1/2017 19:43:35 | R1710113-002 10X | Tl (351.923 nm)    | -0.0072 u (ppm)  | 43.68    | -0.0072 (ppm)   | -5.8564      |
| 11/1/2017 19:43:35 | R1710113-002 10X | V (292.401 nm)     | 0.0083 (ppm)     | 1.52     | 0.0083 (ppm)    | 409.7077     |
| 11/1/2017 19:43:35 | R1710113-002 10X | Y (360.074 nm)     | 0.95 (Ratio)     | 0.93     | 0.95 (Ratio)    | 893891.72    |
| 11/1/2017 19:43:35 | R1710113-002 10X | Y_R (360.074 nm)   | 0.96 (Ratio)     | 0.94     | 0.96 (Ratio)    | 894547.03    |
| 11/1/2017 19:43:35 | R1710113-002 10X | Zn (213.857 nm)    | 0.0244 (ppm)     | 0.70     | 0.0244 (ppm)    | 678.2356     |
| 11/1/2017 19:46:55 | R1710113-002 2X  | Ag (328.068 nm)    | 0.0001 (ppm)     | > 100.00 | 0.0001 (ppm)    | -121.5187    |
| 11/1/2017 19:46:55 | R1710113-002 2X  | Al (394.401 nm)    | 119.5695 o (ppm) | 0.43     | 119.5695 (ppm)  | 1596749.4403 |
| 11/1/2017 19:46:55 | R1710113-002 2X  | As (188.980 nm)    | 0.0040 u (ppm)   | > 100.00 | 0.0040 (ppm)    | 0.8001       |
| 11/1/2017 19:46:55 | R1710113-002 2X  | B (249.772 nm)     | 0.7241 (ppm)     | 0.20     | 0.7241 (ppm)    | 20839.8955   |
| 11/1/2017 19:46:55 | R1710113-002 2X  | Ba (230.424 nm)    | 0.0140 (ppm)     | 0.91     | 0.0140 (ppm)    | 497.0856     |
| 11/1/2017 19:46:55 | R1710113-002 2X  | Be (313.107 nm)    | 0.0079 (ppm)     | 0.11     | 0.0079 (ppm)    | 11508.5647   |
| 11/1/2017 19:46:55 | R1710113-002 2X  | Ca (227.547 nm)    | 220.6221 o (ppm) | 0.47     | 220.6221 (ppm)  | 12962.7867   |
| 11/1/2017 19:46:55 | R1710113-002 2X  | Cd (214.439 nm)    | 0.0061 (ppm)     | 1.01     | 0.0061 (ppm)    | 151.3969     |
| 11/1/2017 19:46:55 | R1710113-002 2X  | Co (230.786 nm)    | 0.0121 (ppm)     | 5.00     | 0.0121 (ppm)    | 123.2357     |
| 11/1/2017 19:46:55 | R1710113-002 2X  | Cr (267.716 nm)    | 0.0073 (ppm)     | 1.39     | 0.0073 (ppm)    | 378.9022     |
| 11/1/2017 19:46:55 | R1710113-002 2X  | Cu (327.395 nm)    | 0.0009 (ppm)     | 19.17    | 0.0009 (ppm)    | 75.9439      |
| 11/1/2017 19:46:55 | R1710113-002 2X  | Fe (234.350 nm)    | 428.8052 o (ppm) | 0.09     | 428.8052 (ppm)  | 4981542.7618 |
| 11/1/2017 19:46:55 | R1710113-002 2X  | K (766.491 nm)     | 71.7920 o (ppm)  | 0.35     | 71.7920 (ppm)   | 221720.1190  |
| 11/1/2017 19:46:55 | R1710113-002 2X  | Mg (279.078 nm)    | 288.8756 o (ppm) | 0.16     | 288.8756 (ppm)  | 582881.0855  |
| 11/1/2017 19:46:55 | R1710113-002 2X  | Mn (257.610 nm)    | 9.0590 o (ppm)   | 0.03     | 9.0590 (ppm)    | 2930895.2377 |
| 11/1/2017 19:46:55 | R1710113-002 2X  | Mo (202.032 nm)    | -0.0001 u (ppm)  | > 100.00 | -0.0001 (ppm)   | 15.6005      |
| 11/1/2017 19:46:55 | R1710113-002 2X  | Na (588.995 nm)    | 57.0132 o (ppm)  | 0.66     | 57.0132 (ppm)   | 2610174.0766 |
| 11/1/2017 19:46:55 | R1710113-002 2X  | Ni (230.299 nm)    | 0.0196 (ppm)     | 11.78    | 0.0196 (ppm)    | 109.6249     |
| 11/1/2017 19:46:55 | R1710113-002 2X  | Pb (220.353 nm)    | 0.0063 (ppm)     | 28.85    | 0.0063 (ppm)    | 19.6757      |
| 11/1/2017 19:46:55 | R1710113-002 2X  | Sb (217.582 nm)    | -0.0175 u (ppm)  | 33.03    | -0.0175 (ppm)   | -20.7709     |
| 11/1/2017 19:46:55 | R1710113-002 2X  | Se (196.026 nm)    | 0.0068 (ppm)     | 81.38    | 0.0068 (ppm)    | 11.4349      |
| 11/1/2017 19:46:55 | R1710113-002 2X  | Sn (189.925 nm)    | 0.0038 u (ppm)   | > 100.00 | 0.0038 (ppm)    | 4.7082       |
| 11/1/2017 19:46:55 | R1710113-002 2X  | Sr (216.596 nm)    | 0.5814 (ppm)     | 0.18     | 0.5814 (ppm)    | 8671.1568    |
| 11/1/2017 19:46:55 | R1710113-002 2X  | Ti (336.122 nm)    | 0.0271 (ppm)     | 3.58     | 0.0271 (ppm)    | 5527.6409    |
| 11/1/2017 19:46:55 | R1710113-002 2X  | Tl (351.923 nm)    | -0.0270 u (ppm)  | 7.77     | -0.0270 (ppm)   | -61.9305     |
| 11/1/2017 19:46:55 | R1710113-002 2X  | V (292.401 nm)     | 0.0391 (ppm)     | 0.64     | 0.0391 (ppm)    | 1516.5528    |
| 11/1/2017 19:46:55 | R1710113-002 2X  | Y (360.074 nm)     | 0.94 (Ratio)     | 0.52     | 0.94 (Ratio)    | 882147.44    |
| 11/1/2017 19:46:55 | R1710113-002 2X  | Y_R (360.074 nm)   | 0.94 (Ratio)     | 0.52     | 0.94 (Ratio)    | 882892.85    |
| 11/1/2017 19:46:55 | R1710113-002 2X  | Zn (213.857 nm)    | 0.1154 (ppm)     | 0.52     | 0.1154 (ppm)    | 3321.3620    |
| 11/1/2017 19:50:14 | R1710113-002     | Ag (328.068 nm)    | 0.0002 (ppm)     | 94.21    | 0.0002 (ppm)    | -112.6849    |
| 11/1/2017 19:50:14 | R1710113-002     | Al (394.401 nm)    | 225.9599 o (ppm) | 0.64     | 225.9599 (ppm)  | 3017429.7443 |
| 11/1/2017 19:50:14 | R1710113-002     | As (188.980 nm)    | 0.0010 u (ppm)   | > 100.00 | 0.0010 (ppm)    | -2.0134      |
| 11/1/2017 19:50:14 | R1710113-002     | B (249.772 nm)     | 1.2943 (ppm)     | 0.42     | 1.2943 (ppm)    | 37181.9334   |
| 11/1/2017 19:50:14 | R1710113-002     | Ba (230.424 nm)    | 0.0240 (ppm)     | 2.30     | 0.0240 (ppm)    | 846.3197     |
| 11/1/2017 19:50:14 | R1710113-002     | Be (313.107 nm)    | 0.0140 (ppm)     | 0.63     | 0.0140 (ppm)    | 20763.8725   |
| 11/1/2017 19:50:14 | R1710113-002     | Ca (227.547 nm)    | 418.3976 o (ppm) | 0.82     | 418.3976 (ppm)  | 24577.6754   |
| 11/1/2017 19:50:14 | R1710113-002     | Cd (214.439 nm)    | 0.0111 (ppm)     | 1.21     | 0.0111 (ppm)    | 265.2334     |
| 11/1/2017 19:50:14 | R1710113-002     | Co (230.786 nm)    | 0.0222 (ppm)     | 4.75     | 0.0222 (ppm)    | 227.6747     |
| 11/1/2017 19:50:14 | R1710113-002     | Cr (267.716 nm)    | 0.0129 (ppm)     | 1.29     | 0.0129 (ppm)    | 671.2079     |

OK 11/1/17

| Date Time          | Label                               | Element Label (nm) | Conc             | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|-------------------------------------|--------------------|------------------|----------|-----------------|--------------|
| 11/1/2017 19:50:14 | R1710113-002 003                    | Cu (327.395 nm)    | 0.0016 (ppm)     | 11.60    | 0.0016 (ppm)    | 124.6388     |
| 11/1/2017 19:50:14 | R1710113-002                        | Fe (234.350 nm)    | 578.7329 o (ppm) | 0.58     | 578.7329 (ppm)  | 6723267.6786 |
| 11/1/2017 19:50:14 | R1710113-002                        | K (766.491 nm)     | 135.5928 o (ppm) | 0.51     | 135.5928 (ppm)  | 418709.0019  |
| 11/1/2017 19:50:14 | R1710113-002                        | Mg (279.078 nm)    | 502.9522 o (ppm) | 0.53     | 502.9522 (ppm)  | 1014841.0345 |
| 11/1/2017 19:50:14 | R1710113-002                        | Mn (257.610 nm)    | 15.3322 o (ppm)  | 0.68     | 15.3322 (ppm)   | 4960449.8967 |
| 11/1/2017 19:50:14 | R1710113-002                        | Mo (202.032 nm)    | 0.0005 (ppm)     | 88.62    | 0.0005 (ppm)    | 21.7213      |
| 11/1/2017 19:50:14 | R1710113-002                        | Na (588.995 nm)    | 104.2667 o (ppm) | 0.83     | 104.2667 (ppm)  | 4778487.1985 |
| 11/1/2017 19:50:14 | R1710113-002                        | Ni (230.299 nm)    | 0.0325 (ppm)     | 15.59    | 0.0325 (ppm)    | 199.4915     |
| 11/1/2017 19:50:14 | R1710113-002 0050U                  | Pb (220.353 nm)    | 0.0097 (ppm)     | 48.40    | 0.0097 (ppm)    | 27.3473      |
| 11/1/2017 19:50:14 | R1710113-002                        | Sb (217.582 nm)    | -0.0424 u (ppm)  | 17.92    | -0.0424 (ppm)   | -56.2973     |
| 11/1/2017 19:50:14 | R1710113-002                        | Se (196.026 nm)    | 0.0215 (ppm)     | 8.53     | 0.0215 (ppm)    | 24.2695      |
| 11/1/2017 19:50:14 | R1710113-002                        | Sn (189.925 nm)    | 0.0029 u (ppm)   | > 100.00 | 0.0029 (ppm)    | 3.4801       |
| 11/1/2017 19:50:14 | R1710113-002                        | Sr (216.596 nm)    | 1.0129 (ppm)     | 0.56     | 1.0129 (ppm)    | 15109.0142   |
| 11/1/2017 19:50:14 | R1710113-002                        | Ti (336.122 nm)    | 0.0464 (ppm)     | 2.40     | 0.0464 (ppm)    | 9749.3605    |
| 11/1/2017 19:50:14 | R1710113-002                        | Tl (351.923 nm)    | -0.0441 u (ppm)  | 12.35    | -0.0441 (ppm)   | -110.6167    |
| 11/1/2017 19:50:14 | R1710113-002                        | V (292.401 nm)     | 0.0706 (ppm)     | 0.49     | 0.0706 (ppm)    | 2653.0249    |
| 11/1/2017 19:50:14 | R1710113-002                        | Y (360.074 nm)     | 0.97 (Ratio)     | 1.01     | 0.97 (Ratio)    | 910688.43    |
| 11/1/2017 19:50:14 | R1710113-002                        | Y_R (360.074 nm)   | 0.97 (Ratio)     | 1.02     | 0.97 (Ratio)    | 911398.45    |
| 11/1/2017 19:50:14 | R1710113-002                        | Zn (213.857 nm)    | 0.2093 (ppm)     | 0.64     | 0.2093 (ppm)    | 6050.1473    |
| 11/1/2017 19:53:33 | R1710113-003 100X 002               | Ag (328.068 nm)    | 0.0001 (ppm)     | 49.23    | 0.0001 (ppm)    | -121.8748    |
| 11/1/2017 19:53:33 | R1710113-003 100X                   | Al (394.401 nm)    | 2.1453 (ppm)     | 0.72     | 2.1453 (ppm)    | 28730.4782   |
| 11/1/2017 19:53:33 | R1710113-003 100X                   | As (188.980 nm)    | 0.0004 u (ppm)   | > 100.00 | 0.0004 (ppm)    | -2.4859      |
| 11/1/2017 19:53:33 | R1710113-003 100X                   | B (249.772 nm)     | 0.0147 (ppm)     | 1.32     | 0.0147 (ppm)    | 511.3297     |
| 11/1/2017 19:53:33 | R1710113-003 100X                   | Ba (230.424 nm)    | 0.0009 (ppm)     | 11.25    | 0.0009 (ppm)    | 40.9885      |
| 11/1/2017 19:53:33 | R1710113-003 100X                   | Be (313.107 nm)    | 0.0002 (ppm)     | 1.87     | 0.0002 (ppm)    | -266.3804    |
| 11/1/2017 19:53:33 | R1710113-003 100X                   | Ca (227.547 nm)    | 4.1605 (ppm)     | 0.66     | 4.1605 (ppm)    | 250.5040     |
| 11/1/2017 19:53:33 | R1710113-003 100X                   | Cd (214.439 nm)    | 0.0002 (ppm)     | 21.56    | 0.0002 (ppm)    | 16.9038      |
| 11/1/2017 19:53:33 | R1710113-003 100X                   | Co (230.786 nm)    | 0.0000 u (ppm)   | > 100.00 | 0.0000 (ppm)    | -1.6161      |
| 11/1/2017 19:53:33 | R1710113-003 100X                   | Cr (267.716 nm)    | 0.0003 (ppm)     | 21.00    | 0.0003 (ppm)    | 12.6576      |
| 11/1/2017 19:53:33 | R1710113-003 100X                   | Cu (327.395 nm)    | 0.0001 (ppm)     | 98.69    | 0.0001 (ppm)    | 28.0075      |
| 11/1/2017 19:53:33 | R1710113-003 100X                   | Fe (234.350 nm)    | 12.7965 o (ppm)  | 0.58     | 12.7965 (ppm)   | 148731.3175  |
| 11/1/2017 19:53:33 | R1710113-003 100X                   | K (766.491 nm)     | 1.3852 (ppm)     | 2.67     | 1.3852 (ppm)    | 4334.3381    |
| 11/1/2017 19:53:33 | R1710113-003 100X                   | Mg (279.078 nm)    | 5.8880 (ppm)     | 0.58     | 5.8880 (ppm)    | 11873.7464   |
| 11/1/2017 19:53:33 | R1710113-003 100X                   | Mn (257.610 nm)    | 0.2037 (ppm)     | 0.48     | 0.2037 (ppm)    | 65940.9734   |
| 11/1/2017 19:53:33 | R1710113-003 100X                   | Mo (202.032 nm)    | -0.0006 u (ppm)  | 45.81    | -0.0006 (ppm)   | 10.2717      |
| 11/1/2017 19:53:33 | R1710113-003 100X                   | Na (588.995 nm)    | 1.1104 (ppm)     | 1.01     | 1.1104 (ppm)    | 44973.1574   |
| 11/1/2017 19:53:33 | R1710113-003 100X                   | Ni (230.299 nm)    | 0.0005 u (ppm)   | > 100.00 | 0.0005 (ppm)    | -22.5428     |
| 11/1/2017 19:53:33 | R1710113-003 100X                   | Pb (220.353 nm)    | -0.0003 u (ppm)  | > 100.00 | -0.0003 (ppm)   | 4.9506       |
| 11/1/2017 19:53:33 | R1710113-003 100X                   | Sb (217.582 nm)    | -0.0022 u (ppm)  | 79.29    | -0.0022 (ppm)   | 0.9289       |
| 11/1/2017 19:53:33 | R1710113-003 100X                   | Se (196.026 nm)    | 0.0024 (ppm)     | 68.83    | 0.0024 (ppm)    | 7.6227       |
| 11/1/2017 19:53:33 | R1710113-003 100X                   | Sn (189.925 nm)    | 0.0003 u (ppm)   | > 100.00 | 0.0003 (ppm)    | 0.1867       |
| 11/1/2017 19:53:33 | R1710113-003 100X                   | Sr (216.596 nm)    | 0.0140 (ppm)     | 1.26     | 0.0140 (ppm)    | 207.7553     |
| 11/1/2017 19:53:33 | R1710113-003 100X                   | Ti (336.122 nm)    | 0.0038 (ppm)     | 11.24    | 0.0038 (ppm)    | 407.7070     |
| 11/1/2017 19:53:33 | R1710113-003 100X                   | Tl (351.923 nm)    | -0.0016 u (ppm)  | > 100.00 | -0.0016 (ppm)   | 10.0339      |
| 11/1/2017 19:53:33 | R1710113-003 100X                   | V (292.401 nm)     | 0.0010 (ppm)     | 2.01     | 0.0010 (ppm)    | 146.5470     |
| 11/1/2017 19:53:33 | R1710113-003 100X                   | Y (360.074 nm)     | 0.99 (Ratio)     | 0.87     | 0.99 (Ratio)    | 925169.96    |
| 11/1/2017 19:53:33 | R1710113-003 100X                   | Y_R (360.074 nm)   | 0.99 (Ratio)     | 0.87     | 0.99 (Ratio)    | 925583.70    |
| 11/1/2017 19:53:33 | R1710113-003 100X                   | Zn (213.857 nm)    | 0.0053 (ppm)     | 0.88     | 0.0053 (ppm)    | 124.2527     |
| 11/1/2017 19:56:52 | Continuing Calibration Verification | Ag (328.068 nm)    | 0.4953 (ppm)     | 0.33     | 0.4953 (ppm)    | 36261.3634   |
| 11/1/2017 19:56:52 | Continuing Calibration Verification | Al (394.401 nm)    | 9.6352 (ppm)     | 0.49     | 9.6352 (ppm)    | 128746.6009  |
| 11/1/2017 19:56:52 | Continuing Calibration Verification | As (188.980 nm)    | 0.9763 (ppm)     | 0.50     | 0.9763 (ppm)    | 900.6614     |

| Date Time          | Label                               | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|-------------------------------------|--------------------|-----------------|----------|-----------------|--------------|
| 11/1/2017 19:56:52 | Continuing Calibration Verification | B (249.772 nm)     | 2.4432 (ppm)    | 0.30     | 2.4432 (ppm)    | 70106.2686   |
| 11/1/2017 19:56:52 | Continuing Calibration Verification | Ba (230.424 nm)    | 10.4373 (ppm)   | 0.16     | 10.4373 (ppm)   | 365287.0851  |
| 11/1/2017 19:56:52 | Continuing Calibration Verification | Be (313.107 nm)    | 0.2569 (ppm)    | 0.51     | 0.2569 (ppm)    | 389196.7319  |
| 11/1/2017 19:56:52 | Continuing Calibration Verification | Ca (227.547 nm)    | 24.4257 (ppm)   | 0.45     | 24.4257 (ppm)   | 1440.6359    |
| 11/1/2017 19:56:52 | Continuing Calibration Verification | Cd (214.439 nm)    | 0.5049 (ppm)    | 0.15     | 0.5049 (ppm)    | 11495.0690   |
| 11/1/2017 19:56:52 | Continuing Calibration Verification | Co (230.786 nm)    | 2.6236 (ppm)    | 0.29     | 2.6236 (ppm)    | 27001.2771   |
| 11/1/2017 19:56:52 | Continuing Calibration Verification | Cr (267.716 nm)    | 0.5115 (ppm)    | 0.17     | 0.5115 (ppm)    | 26674.6678   |
| 11/1/2017 19:56:52 | Continuing Calibration Verification | Cu (327.395 nm)    | 1.2184 (ppm)    | 0.69     | 1.2184 (ppm)    | 76547.6484   |
| 11/1/2017 19:56:52 | Continuing Calibration Verification | Fe (234.350 nm)    | 4.9318 (ppm)    | 0.29     | 4.9318 (ppm)    | 57365.9345   |
| 11/1/2017 19:56:52 | Continuing Calibration Verification | K (766.491 nm)     | 24.9808 (ppm)   | 0.68     | 24.9808 (ppm)   | 77187.4647   |
| 11/1/2017 19:56:52 | Continuing Calibration Verification | Mg (279.078 nm)    | 25.3031 (ppm)   | 0.31     | 25.3031 (ppm)   | 51049.1586   |
| 11/1/2017 19:56:52 | Continuing Calibration Verification | Mn (257.610 nm)    | 0.7647 (ppm)    | 0.29     | 0.7647 (ppm)    | 247439.2749  |
| 11/1/2017 19:56:52 | Continuing Calibration Verification | Mo (202.032 nm)    | 2.4274 (ppm)    | 0.24     | 2.4274 (ppm)    | 25989.5568   |
| 11/1/2017 19:56:52 | Continuing Calibration Verification | Na (588.995 nm)    | 25.1145 (ppm)   | 0.91     | 25.1145 (ppm)   | 1146443.9010 |
| 11/1/2017 19:56:52 | Continuing Calibration Verification | Ni (230.299 nm)    | 2.0632 (ppm)    | 0.20     | 2.0632 (ppm)    | 14290.7274   |
| 11/1/2017 19:56:52 | Continuing Calibration Verification | Pb (220.353 nm)    | 0.5035 (ppm)    | 0.22     | 0.5035 (ppm)    | 1129.6172    |
| 11/1/2017 19:56:52 | Continuing Calibration Verification | Sb (217.582 nm)    | 4.9447 (ppm)    | 0.56     | 4.9447 (ppm)    | 7058.2368    |
| 11/1/2017 19:56:52 | Continuing Calibration Verification | Se (196.026 nm)    | 0.4875 (ppm)    | 0.25     | 0.4875 (ppm)    | 431.3524     |
| 11/1/2017 19:56:52 | Continuing Calibration Verification | Sn (189.925 nm)    | 5.1258 (ppm)    | 0.66     | 5.1258 (ppm)    | 6531.2939    |
| 11/1/2017 19:56:52 | Continuing Calibration Verification | Sr (216.596 nm)    | 2.5394 (ppm)    | 0.35     | 2.5394 (ppm)    | 37879.2349   |
| 11/1/2017 19:56:52 | Continuing Calibration Verification | Ti (336.122 nm)    | 2.5206 (ppm)    | 0.80     | 2.5206 (ppm)    | 552359.6567  |
| 11/1/2017 19:56:52 | Continuing Calibration Verification | Tl (351.923 nm)    | 0.9986 (ppm)    | 0.39     | 0.9986 (ppm)    | 2849.7267    |
| 11/1/2017 19:56:52 | Continuing Calibration Verification | V (292.401 nm)     | 2.5546 (ppm)    | 0.35     | 2.5546 (ppm)    | 92066.8760   |
| 11/1/2017 19:56:52 | Continuing Calibration Verification | Y (360.074 nm)     | 0.94 (Ratio)    | 0.70     | 0.94 (Ratio)    | 884293.54    |
| 11/1/2017 19:56:52 | Continuing Calibration Verification | Y_R (360.074 nm)   | 0.95 (Ratio)    | 0.70     | 0.95 (Ratio)    | 884806.70    |
| 11/1/2017 19:56:52 | Continuing Calibration Verification | Zn (213.857 nm)    | 1.0130 (ppm)    | 0.28     | 1.0130 (ppm)    | 29401.3602   |
| 11/1/2017 20:00:11 | Continuing Calibration Blank        | Ag (328.068 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | -123.3515    |
| 11/1/2017 20:00:11 | Continuing Calibration Blank        | Al (394.401 nm)    | 0.0003 (ppm)    | 74.98    | 0.0003 (ppm)    | 87.1324      |
| 11/1/2017 20:00:11 | Continuing Calibration Blank        | As (188.980 nm)    | 0.0003 u (ppm)  | > 100.00 | 0.0003 (ppm)    | -2.6007      |
| 11/1/2017 20:00:11 | Continuing Calibration Blank        | B (249.772 nm)     | 0.0008 (ppm)    | 96.43    | 0.0008 (ppm)    | 115.0974     |
| 11/1/2017 20:00:11 | Continuing Calibration Blank        | Ba (230.424 nm)    | 0.0001 (ppm)    | > 100.00 | 0.0001 (ppm)    | 11.5434      |
| 11/1/2017 20:00:11 | Continuing Calibration Blank        | Be (313.107 nm)    | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | -503.9519    |
| 11/1/2017 20:00:11 | Continuing Calibration Blank        | Ca (227.547 nm)    | -0.0070 u (ppm) | > 100.00 | -0.0070 (ppm)   | 5.7588       |
| 11/1/2017 20:00:11 | Continuing Calibration Blank        | Cd (214.439 nm)    | 0.0001 (ppm)    | 35.08    | 0.0001 (ppm)    | 15.8269      |
| 11/1/2017 20:00:11 | Continuing Calibration Blank        | Co (230.786 nm)    | -0.0002 u (ppm) | 66.65    | -0.0002 (ppm)   | -3.4246      |
| 11/1/2017 20:00:11 | Continuing Calibration Blank        | Cr (267.716 nm)    | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | -0.2943      |
| 11/1/2017 20:00:11 | Continuing Calibration Blank        | Cu (327.395 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | 16.0898      |
| 11/1/2017 20:00:11 | Continuing Calibration Blank        | Fe (234.350 nm)    | 0.0051 (ppm)    | 6.24     | 0.0051 (ppm)    | 131.5252     |
| 11/1/2017 20:00:11 | Continuing Calibration Blank        | K (766.491 nm)     | 0.0371 (ppm)    | 27.69    | 0.0371 (ppm)    | 171.9209     |
| 11/1/2017 20:00:11 | Continuing Calibration Blank        | Mg (279.078 nm)    | 0.0025 (ppm)    | 69.22    | 0.0025 (ppm)    | -1.9746      |
| 11/1/2017 20:00:11 | Continuing Calibration Blank        | Mn (257.610 nm)    | 0.0000 (ppm)    | 43.74    | 0.0000 (ppm)    | 23.6017      |
| 11/1/2017 20:00:11 | Continuing Calibration Blank        | Mo (202.032 nm)    | 0.0016 (ppm)    | 11.44    | 0.0016 (ppm)    | 34.2125      |
| 11/1/2017 20:00:11 | Continuing Calibration Blank        | Na (588.995 nm)    | -0.0010 u (ppm) | 33.67    | -0.0010 (ppm)   | -6023.3060   |
| 11/1/2017 20:00:11 | Continuing Calibration Blank        | Ni (230.299 nm)    | 0.0004 (ppm)    | 8.97     | 0.0004 (ppm)    | -23.4655     |
| 11/1/2017 20:00:11 | Continuing Calibration Blank        | Pb (220.353 nm)    | 0.0002 u (ppm)  | > 100.00 | 0.0002 (ppm)    | 6.1639       |
| 11/1/2017 20:00:11 | Continuing Calibration Blank        | Sb (217.582 nm)    | -0.0009 u (ppm) | 90.10    | -0.0009 (ppm)   | 2.7895       |
| 11/1/2017 20:00:11 | Continuing Calibration Blank        | Se (196.026 nm)    | 0.0002 u (ppm)  | > 100.00 | 0.0002 (ppm)    | 5.7330       |
| 11/1/2017 20:00:11 | Continuing Calibration Blank        | Sn (189.925 nm)    | -0.0003 u (ppm) | > 100.00 | -0.0003 (ppm)   | -0.5533      |
| 11/1/2017 20:00:11 | Continuing Calibration Blank        | Sr (216.596 nm)    | 0.0001 (ppm)    | > 100.00 | 0.0001 (ppm)    | 0.6034       |
| 11/1/2017 20:00:11 | Continuing Calibration Blank        | Ti (336.122 nm)    | 0.0006 (ppm)    | 1.56     | 0.0006 (ppm)    | -297.3072    |
| 11/1/2017 20:00:11 | Continuing Calibration Blank        | Tl (351.923 nm)    | -0.0044 u (ppm) | 66.00    | -0.0044 (ppm)   | 2.0897       |

| Date Time          | Label                        | Element Label (nm) | Conc             | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|------------------------------|--------------------|------------------|----------|-----------------|--------------|
| 11/1/2017 20:00:11 | Continuing Calibration Blank | V (292.401 nm)     | 0.0000 u (ppm)   | > 100.00 | 0.0000 (ppm)    | 110.7742     |
| 11/1/2017 20:00:11 | Continuing Calibration Blank | Y (360.074 nm)     | 0.99 (Ratio)     | 0.91     | 0.99 (Ratio)    | 923348.22    |
| 11/1/2017 20:00:11 | Continuing Calibration Blank | Y_R (360.074 nm)   | 0.99 (Ratio)     | 0.91     | 0.99 (Ratio)    | 923673.64    |
| 11/1/2017 20:00:11 | Continuing Calibration Blank | Zn (213.857 nm)    | 0.0000 (ppm)     | > 100.00 | 0.0000 (ppm)    | -31.1745     |
| 11/1/2017 20:03:29 | R1710113-003 10X             | Ag (328.068 nm)    | 0.0001 (ppm)     | 49.52    | 0.0001 (ppm)    | -119.4278    |
| 11/1/2017 20:03:29 | R1710113-003 10X             | Al (394.401 nm)    | 21.9676 (ppm)    | 0.11     | 21.9676 (ppm)   | 293426.8966  |
| 11/1/2017 20:03:29 | R1710113-003 10X             | As (188.980 nm)    | 0.0041 (ppm)     | 34.45    | 0.0041 (ppm)    | 0.8888       |
| 11/1/2017 20:03:29 | R1710113-003 10X             | B (249.772 nm)     | 0.1442 (ppm)     | 0.39     | 0.1442 (ppm)    | 4222.9894    |
| 11/1/2017 20:03:29 | R1710113-003 10X             | Ba (230.424 nm)    | 0.0092 (ppm)     | 0.47     | 0.0092 (ppm)    | 328.2660     |
| 11/1/2017 20:03:29 | R1710113-003 10X             | Be (313.107 nm)    | 0.0015 (ppm)     | 0.02     | 0.0015 (ppm)    | 1835.2865    |
| 11/1/2017 20:03:29 | R1710113-003 10X             | Ca (227.547 nm)    | 41.4344 (ppm)    | 0.51     | 41.4344 (ppm)   | 2439.5131    |
| 11/1/2017 20:03:29 | R1710113-003 10X             | Cd (214.439 nm)    | 0.0012 (ppm)     | 3.94     | 0.0012 (ppm)    | 39.4247      |
| 11/1/2017 20:03:29 | R1710113-003 10X             | Co (230.786 nm)    | 0.0028 (ppm)     | 17.33    | 0.0028 (ppm)    | 27.0185      |
| 11/1/2017 20:03:29 | R1710113-003 10X             | Cr (267.716 nm)    | 0.0027 (ppm)     | 2.14     | 0.0027 (ppm)    | 141.8145     |
| 11/1/2017 20:03:29 | R1710113-003 10X             | Cu (327.395 nm)    | 0.0012 (ppm)     | 22.26    | 0.0012 (ppm)    | 96.2727      |
| 11/1/2017 20:03:29 | R1710113-003 10X             | Fe (234.350 nm)    | 110.3242 o (ppm) | 0.31     | 110.3242 (ppm)  | 1281718.9133 |
| 11/1/2017 20:03:29 | R1710113-003 10X             | K (766.491 nm)     | 13.1095 (ppm)    | 0.20     | 13.1095 (ppm)   | 40533.7810   |
| 11/1/2017 20:03:29 | R1710113-003 10X             | Mg (279.078 nm)    | 55.8819 o (ppm)  | 0.32     | 55.8819 (ppm)   | 112750.4475  |
| 11/1/2017 20:03:29 | R1710113-003 10X             | Mn (257.610 nm)    | 1.8354 o (ppm)   | 0.35     | 1.8354 (ppm)    | 593838.0780  |
| 11/1/2017 20:03:29 | R1710113-003 10X             | Mo (202.032 nm)    | 0.0001 (ppm)     | > 100.00 | 0.0001 (ppm)    | 18.3494      |
| 11/1/2017 20:03:29 | R1710113-003 10X             | Na (588.995 nm)    | 10.4926 (ppm)    | 0.10     | 10.4926 (ppm)   | 475492.4562  |
| 11/1/2017 20:03:29 | R1710113-003 10X             | Ni (230.299 nm)    | 0.0049 (ppm)     | 17.48    | 0.0049 (ppm)    | 7.6887       |
| 11/1/2017 20:03:29 | R1710113-003 10X             | Pb (220.353 nm)    | 0.0020 (ppm)     | 72.99    | 0.0020 (ppm)    | 10.0497      |
| 11/1/2017 20:03:29 | R1710113-003 10X             | Sb (217.582 nm)    | -0.0059 u (ppm)  | 16.70    | -0.0059 (ppm)   | -4.2342      |
| 11/1/2017 20:03:29 | R1710113-003 10X             | Se (196.026 nm)    | 0.0021 (ppm)     | 62.79    | 0.0021 (ppm)    | 7.3453       |
| 11/1/2017 20:03:29 | R1710113-003 10X             | Sn (189.925 nm)    | -0.0011 u (ppm)  | > 100.00 | -0.0011 (ppm)   | -1.5402      |
| 11/1/2017 20:03:29 | R1710113-003 10X             | Sr (216.596 nm)    | 0.1278 (ppm)     | 0.15     | 0.1278 (ppm)    | 1905.7100    |
| 11/1/2017 20:03:29 | R1710113-003 10X             | Ti (336.122 nm)    | 0.0392 (ppm)     | 1.55     | 0.0392 (ppm)    | 8180.4868    |
| 11/1/2017 20:03:29 | R1710113-003 10X             | Tl (351.923 nm)    | -0.0092 u (ppm)  | 19.96    | -0.0092 (ppm)   | -11.5566     |
| 11/1/2017 20:03:29 | R1710113-003 10X             | V (292.401 nm)     | 0.0100 (ppm)     | 1.70     | 0.0100 (ppm)    | 468.5752     |
| 11/1/2017 20:03:29 | R1710113-003 10X             | Y (360.074 nm)     | 0.96 (Ratio)     | 0.89     | 0.96 (Ratio)    | 896417.93    |
| 11/1/2017 20:03:29 | R1710113-003 10X             | Y_R (360.074 nm)   | 0.96 (Ratio)     | 0.89     | 0.96 (Ratio)    | 896916.43    |
| 11/1/2017 20:03:29 | R1710113-003 10X             | Zn (213.857 nm)    | 0.0338 (ppm)     | 0.95     | 0.0338 (ppm)    | 949.9434     |
| 11/1/2017 20:06:48 | R1710113-003 2X              | Ag (328.068 nm)    | 0.0001 (ppm)     | 91.83    | 0.0001 (ppm)    | -121.5629    |
| 11/1/2017 20:06:48 | R1710113-003 2X              | Al (394.401 nm)    | 112.8444 o (ppm) | 0.37     | 112.8444 (ppm)  | 1506946.4168 |
| 11/1/2017 20:06:48 | R1710113-003 2X              | As (188.980 nm)    | 0.0048 (ppm)     | 29.68    | 0.0048 (ppm)    | 1.5209       |
| 11/1/2017 20:06:48 | R1710113-003 2X              | B (249.772 nm)     | 0.6695 (ppm)     | 0.17     | 0.6695 (ppm)    | 19277.5962   |
| 11/1/2017 20:06:48 | R1710113-003 2X              | Ba (230.424 nm)    | 0.0407 (ppm)     | 0.82     | 0.0407 (ppm)    | 1431.0998    |
| 11/1/2017 20:06:48 | R1710113-003 2X              | Be (313.107 nm)    | 0.0070 (ppm)     | 0.17     | 0.0070 (ppm)    | 10106.1858   |
| 11/1/2017 20:06:48 | R1710113-003 2X              | Ca (227.547 nm)    | 209.7740 o (ppm) | 0.36     | 209.7740 (ppm)  | 12325.7063   |
| 11/1/2017 20:06:48 | R1710113-003 2X              | Cd (214.439 nm)    | 0.0050 (ppm)     | 9.30     | 0.0050 (ppm)    | 125.5628     |
| 11/1/2017 20:06:48 | R1710113-003 2X              | Co (230.786 nm)    | 0.0140 (ppm)     | 9.24     | 0.0140 (ppm)    | 142.2777     |
| 11/1/2017 20:06:48 | R1710113-003 2X              | Cr (267.716 nm)    | 0.0126 (ppm)     | 2.23     | 0.0126 (ppm)    | 656.6387     |
| 11/1/2017 20:06:48 | R1710113-003 2X              | Cu (327.395 nm)    | 0.0055 (ppm)     | 2.48     | 0.0055 (ppm)    | 365.2709     |
| 11/1/2017 20:06:48 | R1710113-003 2X              | Fe (234.350 nm)    | 393.3079 o (ppm) | 0.32     | 393.3079 (ppm)  | 4569168.0243 |
| 11/1/2017 20:06:48 | R1710113-003 2X              | K (766.491 nm)     | 66.2205 o (ppm)  | 0.36     | 66.2205 (ppm)   | 204517.6229  |
| 11/1/2017 20:06:48 | R1710113-003 2X              | Mg (279.078 nm)    | 259.0582 o (ppm) | 0.37     | 259.0582 (ppm)  | 522715.9166  |
| 11/1/2017 20:06:48 | R1710113-003 2X              | Mn (257.610 nm)    | 7.9807 o (ppm)   | 0.21     | 7.9807 (ppm)    | 2582021.4238 |
| 11/1/2017 20:06:48 | R1710113-003 2X              | Mo (202.032 nm)    | 0.0010 (ppm)     | 16.82    | 0.0010 (ppm)    | 27.4718      |
| 11/1/2017 20:06:48 | R1710113-003 2X              | Na (588.995 nm)    | 51.4179 (ppm)    | 0.26     | 51.4179 (ppm)   | 2353421.6488 |
| 11/1/2017 20:06:48 | R1710113-003 2X              | Ni (230.299 nm)    | 0.0177 (ppm)     | 4.90     | 0.0177 (ppm)    | 96.5891      |

OK 11/14/17

| Date Time          | Label             | Element Label (nm) | Conc             | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|-------------------|--------------------|------------------|----------|-----------------|--------------|
| 11/1/2017 20:06:48 | R1710113-003 2X   | Pb (220.353 nm)    | 0.0104 (ppm)     | 12.35    | 0.0104 (ppm)    | 28.8962      |
| 11/1/2017 20:06:48 | R1710113-003 2X   | Sb (217.582 nm)    | -0.0169 u (ppm)  | 12.20    | -0.0169 (ppm)   | -19.9358     |
| 11/1/2017 20:06:48 | R1710113-003 2X   | Se (196.026 nm)    | 0.0090 (ppm)     | 64.62    | 0.0090 (ppm)    | 13.4017      |
| 11/1/2017 20:06:48 | R1710113-003 2X   | Sn (189.925 nm)    | 0.0033 (ppm)     | 79.87    | 0.0033 (ppm)    | 4.0073       |
| 11/1/2017 20:06:48 | R1710113-003 2X   | Sr (216.596 nm)    | 0.5625 (ppm)     | 0.09     | 0.5625 (ppm)    | 8390.2765    |
| 11/1/2017 20:06:48 | R1710113-003 2X   | Ti (336.122 nm)    | 0.1729 (ppm)     | 1.38     | 0.1729 (ppm)    | 37502.2974   |
| 11/1/2017 20:06:48 | R1710113-003 2X   | Ti (351.923 nm)    | -0.0216 u (ppm)  | 7.91     | -0.0216 (ppm)   | -46.7780     |
| 11/1/2017 20:06:48 | R1710113-003 2X   | V (292.401 nm)     | 0.0455 (ppm)     | 0.68     | 0.0455 (ppm)    | 1746.2743    |
| 11/1/2017 20:06:48 | R1710113-003 2X   | Y (360.074 nm)     | 0.94 (Ratio)     | 0.78     | 0.94 (Ratio)    | 878993.98    |
| 11/1/2017 20:06:48 | R1710113-003 2X   | Y_R (360.074 nm)   | 0.94 (Ratio)     | 0.78     | 0.94 (Ratio)    | 879612.00    |
| 11/1/2017 20:06:48 | R1710113-003 2X   | Zn (213.857 nm)    | 0.1585 (ppm)     | 0.43     | 0.1585 (ppm)    | 4574.3084    |
| 11/1/2017 20:10:07 | R1710113-003      | Ag (328.068 nm)    | 0.0001 (ppm)     | > 100.00 | 0.0001 (ppm)    | -119.0291    |
| 11/1/2017 20:10:07 | R1710113-003      | Al (394.401 nm)    | 217.2177 o (ppm) | 0.49     | 217.2177 (ppm)  | 2900691.0578 |
| 11/1/2017 20:10:07 | R1710113-003      | As (188.980 nm)    | 0.0063 (ppm)     | 90.56    | 0.0063 (ppm)    | 2.9705       |
| 11/1/2017 20:10:07 | R1710113-003      | B (249.772 nm)     | 1.2129 (ppm)     | 0.25     | 1.2129 (ppm)    | 34850.2103   |
| 11/1/2017 20:10:07 | R1710113-003      | Ba (230.424 nm)    | 0.0714 (ppm)     | 1.68     | 0.0714 (ppm)    | 2506.3939    |
| 11/1/2017 20:10:07 | R1710113-003      | Be (313.107 nm)    | 0.0126 (ppm)     | 0.44     | 0.0126 (ppm)    | 18569.1157   |
| 11/1/2017 20:10:07 | R1710113-003      | Ca (227.547 nm)    | 407.6304 o (ppm) | 0.49     | 407.6304 (ppm)  | 23945.3423   |
| 11/1/2017 20:10:07 | R1710113-003      | Cd (214.439 nm)    | 0.0103 (ppm)     | 0.93     | 0.0103 (ppm)    | 246.3798     |
| 11/1/2017 20:10:07 | R1710113-003      | Co (230.786 nm)    | 0.0234 (ppm)     | 3.34     | 0.0234 (ppm)    | 239.8438     |
| 11/1/2017 20:10:07 | R1710113-003      | Cr (267.716 nm)    | 0.0230 (ppm)     | 1.67     | 0.0230 (ppm)    | 1197.4714    |
| 11/1/2017 20:10:07 | R1710113-003      | Cu (327.395 nm)    | 0.0108 (ppm)     | 1.17     | 0.0108 (ppm)    | 699.9100     |
| 11/1/2017 20:10:07 | R1710113-003      | Fe (234.350 nm)    | 546.3450 o (ppm) | 0.26     | 546.3450 (ppm)  | 6347014.3549 |
| 11/1/2017 20:10:07 | R1710113-003      | K (766.491 nm)     | 127.9568 o (ppm) | 0.55     | 127.9568 (ppm)  | 395132.5889  |
| 11/1/2017 20:10:07 | R1710113-003      | Mg (279.078 nm)    | 458.7389 o (ppm) | 0.51     | 458.7389 (ppm)  | 925628.1296  |
| 11/1/2017 20:10:07 | R1710113-003      | Mn (257.610 nm)    | 13.8017 o (ppm)  | 0.43     | 13.8017 (ppm)   | 4465294.0652 |
| 11/1/2017 20:10:07 | R1710113-003      | Mo (202.032 nm)    | 0.0010 (ppm)     | 83.75    | 0.0010 (ppm)    | 27.4136      |
| 11/1/2017 20:10:07 | R1710113-003      | Na (588.995 nm)    | 96.3509 o (ppm)  | 0.64     | 96.3509 (ppm)   | 4415253.4778 |
| 11/1/2017 20:10:07 | R1710113-003      | Ni (230.299 nm)    | 0.0292 (ppm)     | 5.58     | 0.0292 (ppm)    | 176.8102     |
| 11/1/2017 20:10:07 | R1710113-003      | Pb (220.353 nm)    | 0.0236 (ppm)     | 5.25     | 0.0236 (ppm)    | 58.2897      |
| 11/1/2017 20:10:07 | R1710113-003      | Sb (217.582 nm)    | -0.0315 u (ppm)  | 7.88     | -0.0315 (ppm)   | -40.8223     |
| 11/1/2017 20:10:07 | R1710113-003      | Se (196.026 nm)    | 0.0156 (ppm)     | 76.79    | 0.0156 (ppm)    | 19.1164      |
| 11/1/2017 20:10:07 | R1710113-003      | Sn (189.925 nm)    | 0.0028 (ppm)     | 72.84    | 0.0028 (ppm)    | 3.4161       |
| 11/1/2017 20:10:07 | R1710113-003      | Sr (216.596 nm)    | 0.9918 (ppm)     | 0.38     | 0.9918 (ppm)    | 14793.7921   |
| 11/1/2017 20:10:07 | R1710113-003      | Ti (336.122 nm)    | 0.3119 (ppm)     | 1.04     | 0.3119 (ppm)    | 67983.8905   |
| 11/1/2017 20:10:07 | R1710113-003      | Ti (351.923 nm)    | -0.0374 u (ppm)  | 10.45    | -0.0374 (ppm)   | -91.6602     |
| 11/1/2017 20:10:07 | R1710113-003      | V (292.401 nm)     | 0.0830 (ppm)     | 0.29     | 0.0830 (ppm)    | 3096.1291    |
| 11/1/2017 20:10:07 | R1710113-003      | Y (360.074 nm)     | 0.96 (Ratio)     | 0.85     | 0.96 (Ratio)    | 903015.73    |
| 11/1/2017 20:10:07 | R1710113-003      | Y_R (360.074 nm)   | 0.97 (Ratio)     | 0.84     | 0.97 (Ratio)    | 903626.97    |
| 11/1/2017 20:10:07 | R1710113-003      | Zn (213.857 nm)    | 0.2929 (ppm)     | 0.18     | 0.2929 (ppm)    | 8479.1449    |
| 11/1/2017 20:13:26 | R1710113-004 100X | Ag (328.068 nm)    | 0.0000 u (ppm)   | > 100.00 | 0.0000 (ppm)    | -126.5575    |
| 11/1/2017 20:13:26 | R1710113-004 100X | Al (394.401 nm)    | 2.1655 (ppm)     | 0.76     | 2.1655 (ppm)    | 28999.8148   |
| 11/1/2017 20:13:26 | R1710113-004 100X | As (188.980 nm)    | 0.0030 (ppm)     | 24.45    | 0.0030 (ppm)    | -0.1538      |
| 11/1/2017 20:13:26 | R1710113-004 100X | B (249.772 nm)     | 0.0147 (ppm)     | 2.40     | 0.0147 (ppm)    | 513.0801     |
| 11/1/2017 20:13:26 | R1710113-004 100X | Ba (230.424 nm)    | 0.0011 (ppm)     | 7.44     | 0.0011 (ppm)    | 44.8515      |
| 11/1/2017 20:13:26 | R1710113-004 100X | Be (313.107 nm)    | 0.0002 (ppm)     | 7.11     | 0.0002 (ppm)    | -277.6653    |
| 11/1/2017 20:13:26 | R1710113-004 100X | Ca (227.547 nm)    | 4.0997 (ppm)     | 0.87     | 4.0997 (ppm)    | 246.9335     |
| 11/1/2017 20:13:26 | R1710113-004 100X | Cd (214.439 nm)    | 0.0001 u (ppm)   | > 100.00 | 0.0001 (ppm)    | 15.1999      |
| 11/1/2017 20:13:26 | R1710113-004 100X | Co (230.786 nm)    | 0.0001 u (ppm)   | > 100.00 | 0.0001 (ppm)    | -0.0630      |
| 11/1/2017 20:13:26 | R1710113-004 100X | Cr (267.716 nm)    | 0.0003 (ppm)     | 10.29    | 0.0003 (ppm)    | 17.5949      |
| 11/1/2017 20:13:26 | R1710113-004 100X | Cu (327.395 nm)    | 0.0001 (ppm)     | > 100.00 | 0.0001 (ppm)    | 26.6422      |

| Date Time          | Label             | Element Label (nm) | Conc             | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|-------------------|--------------------|------------------|----------|-----------------|--------------|
| 11/1/2017 20:13:26 | R1710113-004 100X | Fe (234.350 nm)    | 12.6459 o (ppm)  | 0.63     | 12.6459 (ppm)   | 146980.8308  |
| 11/1/2017 20:13:26 | R1710113-004 100X | K (766.491 nm)     | 1.3894 (ppm)     | 1.99     | 1.3894 (ppm)    | 4347.3533    |
| 11/1/2017 20:13:26 | R1710113-004 100X | Mg (279.078 nm)    | 5.8112 (ppm)     | 0.71     | 5.8112 (ppm)    | 11718.6586   |
| 11/1/2017 20:13:26 | R1710113-004 100X | Mn (257.610 nm)    | 0.2014 (ppm)     | 0.61     | 0.2014 (ppm)    | 65176.0141   |
| 11/1/2017 20:13:26 | R1710113-004 100X | Mo (202.032 nm)    | -0.0003 u (ppm)  | > 100.00 | -0.0003 (ppm)   | 13.9667      |
| 11/1/2017 20:13:26 | R1710113-004 100X | Na (588.995 nm)    | 1.0868 (ppm)     | 0.92     | 1.0868 (ppm)    | 43888.7560   |
| 11/1/2017 20:13:26 | R1710113-004 100X | Ni (230.299 nm)    | 0.0004 u (ppm)   | > 100.00 | 0.0004 (ppm)    | -22.9466     |
| 11/1/2017 20:13:26 | R1710113-004 100X | Pb (220.353 nm)    | 0.0002 u (ppm)   | > 100.00 | 0.0002 (ppm)    | 5.9709       |
| 11/1/2017 20:13:26 | R1710113-004 100X | Sb (217.582 nm)    | -0.0039 u (ppm)  | 4.69     | -0.0039 (ppm)   | -1.3683      |
| 11/1/2017 20:13:26 | R1710113-004 100X | Se (196.026 nm)    | -0.0017 u (ppm)  | > 100.00 | -0.0017 (ppm)   | 4.0527       |
| 11/1/2017 20:13:26 | R1710113-004 100X | Sn (189.925 nm)    | 0.0000 u (ppm)   | > 100.00 | 0.0000 (ppm)    | -0.1442      |
| 11/1/2017 20:13:26 | R1710113-004 100X | Sr (216.596 nm)    | 0.0138 (ppm)     | 1.93     | 0.0138 (ppm)    | 204.1662     |
| 11/1/2017 20:13:26 | R1710113-004 100X | Ti (336.122 nm)    | 0.0073 (ppm)     | 6.31     | 0.0073 (ppm)    | 1174.3168    |
| 11/1/2017 20:13:26 | R1710113-004 100X | Tl (351.923 nm)    | -0.0009 u (ppm)  | > 100.00 | -0.0009 (ppm)   | 12.1115      |
| 11/1/2017 20:13:26 | R1710113-004 100X | V (292.401 nm)     | 0.0010 (ppm)     | 13.99    | 0.0010 (ppm)    | 144.9202     |
| 11/1/2017 20:13:26 | R1710113-004 100X | Y (360.074 nm)     | 0.99 (Ratio)     | 0.95     | 0.99 (Ratio)    | 928827.44    |
| 11/1/2017 20:13:26 | R1710113-004 100X | Y_R (360.074 nm)   | 0.99 (Ratio)     | 0.95     | 0.99 (Ratio)    | 928965.03    |
| 11/1/2017 20:13:26 | R1710113-004 100X | Zn (213.857 nm)    | 0.0062 (ppm)     | 0.42     | 0.0062 (ppm)    | 149.1934     |
| 11/1/2017 20:16:45 | R1710113-004 10X  | Ag (328.068 nm)    | 0.0001 (ppm)     | > 100.00 | 0.0001 (ppm)    | -121.5393    |
| 11/1/2017 20:16:45 | R1710113-004 10X  | Al (394.401 nm)    | 22.5265 o (ppm)  | 0.50     | 22.5265 (ppm)   | 300889.2937  |
| 11/1/2017 20:16:45 | R1710113-004 10X  | As (188.980 nm)    | 0.0000 u (ppm)   | > 100.00 | 0.0000 (ppm)    | -2.9362      |
| 11/1/2017 20:16:45 | R1710113-004 10X  | B (249.772 nm)     | 0.1432 (ppm)     | 0.30     | 0.1432 (ppm)    | 4195.2573    |
| 11/1/2017 20:16:45 | R1710113-004 10X  | Ba (230.424 nm)    | 0.0108 (ppm)     | 1.57     | 0.0108 (ppm)    | 384.6134     |
| 11/1/2017 20:16:45 | R1710113-004 10X  | Be (313.107 nm)    | 0.0016 (ppm)     | 0.21     | 0.0016 (ppm)    | 1847.1852    |
| 11/1/2017 20:16:45 | R1710113-004 10X  | Ca (227.547 nm)    | 41.4954 (ppm)    | 0.46     | 41.4954 (ppm)   | 2443.0975    |
| 11/1/2017 20:16:45 | R1710113-004 10X  | Cd (214.439 nm)    | 0.0011 (ppm)     | 8.01     | 0.0011 (ppm)    | 36.5467      |
| 11/1/2017 20:16:45 | R1710113-004 10X  | Co (230.786 nm)    | 0.0024 (ppm)     | 6.75     | 0.0024 (ppm)    | 23.0372      |
| 11/1/2017 20:16:45 | R1710113-004 10X  | Cr (267.716 nm)    | 0.0031 (ppm)     | 1.05     | 0.0031 (ppm)    | 162.0838     |
| 11/1/2017 20:16:45 | R1710113-004 10X  | Cu (327.395 nm)    | 0.0012 (ppm)     | 15.11    | 0.0012 (ppm)    | 99.4955      |
| 11/1/2017 20:16:45 | R1710113-004 10X  | Fe (234.350 nm)    | 110.5280 o (ppm) | 0.41     | 110.5280 (ppm)  | 1284086.6746 |
| 11/1/2017 20:16:45 | R1710113-004 10X  | K (766.491 nm)     | 13.2583 (ppm)    | 0.57     | 13.2583 (ppm)   | 40993.3557   |
| 11/1/2017 20:16:45 | R1710113-004 10X  | Mg (279.078 nm)    | 55.9462 o (ppm)  | 0.34     | 55.9462 (ppm)   | 112880.1795  |
| 11/1/2017 20:16:45 | R1710113-004 10X  | Mn (257.610 nm)    | 1.8327 o (ppm)   | 0.24     | 1.8327 (ppm)    | 592960.1198  |
| 11/1/2017 20:16:45 | R1710113-004 10X  | Mo (202.032 nm)    | -0.0004 u (ppm)  | 46.96    | -0.0004 (ppm)   | 12.4845      |
| 11/1/2017 20:16:45 | R1710113-004 10X  | Na (588.995 nm)    | 10.5651 (ppm)    | 0.65     | 10.5651 (ppm)   | 478821.3735  |
| 11/1/2017 20:16:45 | R1710113-004 10X  | Ni (230.299 nm)    | 0.0032 (ppm)     | 25.73    | 0.0032 (ppm)    | -3.6269      |
| 11/1/2017 20:16:45 | R1710113-004 10X  | Pb (220.353 nm)    | 0.0011 u (ppm)   | > 100.00 | 0.0011 (ppm)    | 8.1793       |
| 11/1/2017 20:16:45 | R1710113-004 10X  | Sb (217.582 nm)    | -0.0044 u (ppm)  | 63.19    | -0.0044 (ppm)   | -2.2047      |
| 11/1/2017 20:16:45 | R1710113-004 10X  | Se (196.026 nm)    | 0.0029 (ppm)     | 80.15    | 0.0029 (ppm)    | 8.0797       |
| 11/1/2017 20:16:45 | R1710113-004 10X  | Sn (189.925 nm)    | -0.0003 u (ppm)  | > 100.00 | -0.0003 (ppm)   | -0.4826      |
| 11/1/2017 20:16:45 | R1710113-004 10X  | Sr (216.596 nm)    | 0.1281 (ppm)     | 0.20     | 0.1281 (ppm)    | 1910.1679    |
| 11/1/2017 20:16:45 | R1710113-004 10X  | Ti (336.122 nm)    | 0.0582 (ppm)     | 2.75     | 0.0582 (ppm)    | 12346.6240   |
| 11/1/2017 20:16:45 | R1710113-004 10X  | Tl (351.923 nm)    | -0.0063 u (ppm)  | 29.63    | -0.0063 (ppm)   | -3.2984      |
| 11/1/2017 20:16:45 | R1710113-004 10X  | V (292.401 nm)     | 0.0102 (ppm)     | 1.48     | 0.0102 (ppm)    | 478.9625     |
| 11/1/2017 20:16:45 | R1710113-004 10X  | Y (360.074 nm)     | 0.96 (Ratio)     | 0.90     | 0.96 (Ratio)    | 901443.82    |
| 11/1/2017 20:16:45 | R1710113-004 10X  | Y_R (360.074 nm)   | 0.96 (Ratio)     | 0.90     | 0.96 (Ratio)    | 901740.20    |
| 11/1/2017 20:16:45 | R1710113-004 10X  | Zn (213.857 nm)    | 0.0350 (ppm)     | 0.97     | 0.0350 (ppm)    | 985.0488     |
| 11/1/2017 20:20:05 | R1710113-004 2X   | Ag (328.068 nm)    | 0.0002 (ppm)     | 43.18    | 0.0002 (ppm)    | -107.5637    |
| 11/1/2017 20:20:05 | R1710113-004 2X   | Al (394.401 nm)    | 115.1566 o (ppm) | 0.78     | 115.1566 (ppm)  | 1537821.6930 |
| 11/1/2017 20:20:05 | R1710113-004 2X   | As (188.980 nm)    | 0.0014 u (ppm)   | > 100.00 | 0.0014 (ppm)    | -1.6387      |
| 11/1/2017 20:20:05 | R1710113-004 2X   | B (249.772 nm)     | 0.6664 (ppm)     | 0.59     | 0.6664 (ppm)    | 19188.5075   |

| Date Time          | Label             | Element Label (nm) | Conc             | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|-------------------|--------------------|------------------|----------|-----------------|--------------|
| 11/1/2017 20:20:05 | R1710113-004 2X   | Ba (230.424 nm)    | 0.0447 (ppm)     | 1.62     | 0.0447 (ppm)    | 1571.7060    |
| 11/1/2017 20:20:05 | R1710113-004 2X   | Be (313.107 nm)    | 0.0071 (ppm)     | 0.79     | 0.0071 (ppm)    | 10207.3490   |
| 11/1/2017 20:20:05 | R1710113-004 2X   | Ca (227.547 nm)    | 210.3061 o (ppm) | 0.72     | 210.3061 (ppm)  | 12356.9539   |
| 11/1/2017 20:20:05 | R1710113-004 2X   | Cd (214.439 nm)    | 0.0050 (ppm)     | 6.86     | 0.0050 (ppm)    | 125.7096     |
| 11/1/2017 20:20:05 | R1710113-004 2X   | Co (230.786 nm)    | 0.0124 (ppm)     | 1.46     | 0.0124 (ppm)    | 126.3297     |
| 11/1/2017 20:20:05 | R1710113-004 2X   | Cr (267.716 nm)    | 0.0135 (ppm)     | 0.97     | 0.0135 (ppm)    | 700.9982     |
| 11/1/2017 20:20:05 | R1710113-004 2X   | Cu (327.395 nm)    | 0.0058 (ppm)     | 2.15     | 0.0058 (ppm)    | 388.8514     |
| 11/1/2017 20:20:05 | R1710113-004 2X   | Fe (234.350 nm)    | 392.5987 o (ppm) | 0.45     | 392.5987 (ppm)  | 4560928.7168 |
| 11/1/2017 20:20:05 | R1710113-004 2X   | K (766.491 nm)     | 66.7465 o (ppm)  | 0.97     | 66.7465 (ppm)   | 206141.5848  |
| 11/1/2017 20:20:05 | R1710113-004 2X   | Mg (279.078 nm)    | 258.7732 o (ppm) | 0.38     | 258.7732 (ppm)  | 522140.8414  |
| 11/1/2017 20:20:05 | R1710113-004 2X   | Mn (257.610 nm)    | 7.9735 o (ppm)   | 0.44     | 7.9735 (ppm)    | 2579694.4633 |
| 11/1/2017 20:20:05 | R1710113-004 2X   | Mo (202.032 nm)    | 0.0002 u (ppm)   | > 100.00 | 0.0002 (ppm)    | 19.1264      |
| 11/1/2017 20:20:05 | R1710113-004 2X   | Na (588.995 nm)    | 51.7482 (ppm)    | 0.91     | 51.7482 (ppm)   | 2368580.5907 |
| 11/1/2017 20:20:05 | R1710113-004 2X   | Ni (230.299 nm)    | 0.0131 (ppm)     | 11.82    | 0.0131 (ppm)    | 64.5790      |
| 11/1/2017 20:20:05 | R1710113-004 2X   | Pb (220.353 nm)    | 0.0153 (ppm)     | 12.24    | 0.0153 (ppm)    | 39.8384      |
| 11/1/2017 20:20:05 | R1710113-004 2X   | Sb (217.582 nm)    | -0.0172 u (ppm)  | 10.23    | -0.0172 (ppm)   | -20.3961     |
| 11/1/2017 20:20:05 | R1710113-004 2X   | Se (196.026 nm)    | 0.0060 (ppm)     | 47.52    | 0.0060 (ppm)    | 10.7799      |
| 11/1/2017 20:20:05 | R1710113-004 2X   | Sn (189.925 nm)    | 0.0004 u (ppm)   | > 100.00 | 0.0004 (ppm)    | 0.4093       |
| 11/1/2017 20:20:05 | R1710113-004 2X   | Sr (216.596 nm)    | 0.5558 (ppm)     | 0.63     | 0.5558 (ppm)    | 8289.9121    |
| 11/1/2017 20:20:05 | R1710113-004 2X   | Ti (336.122 nm)    | 0.2205 (ppm)     | 2.61     | 0.2205 (ppm)    | 47932.9118   |
| 11/1/2017 20:20:05 | R1710113-004 2X   | Tl (351.923 nm)    | -0.0212 u (ppm)  | 4.94     | -0.0212 (ppm)   | -45.6981     |
| 11/1/2017 20:20:05 | R1710113-004 2X   | V (292.401 nm)     | 0.0466 (ppm)     | 1.66     | 0.0466 (ppm)    | 1787.8884    |
| 11/1/2017 20:20:05 | R1710113-004 2X   | Y (360.074 nm)     | 0.95 (Ratio)     | 0.95     | 0.95 (Ratio)    | 885704.12    |
| 11/1/2017 20:20:05 | R1710113-004 2X   | Y_R (360.074 nm)   | 0.95 (Ratio)     | 0.95     | 0.95 (Ratio)    | 886098.76    |
| 11/1/2017 20:20:05 | R1710113-004 2X   | Zn (213.857 nm)    | 0.1631 (ppm)     | 0.79     | 0.1631 (ppm)    | 4708.6321    |
| 11/1/2017 20:23:24 | R1710113-005 100X | Ag (328.068 nm)    | 0.0000 u (ppm)   | > 100.00 | 0.0000 (ppm)    | -123.0947    |
| 11/1/2017 20:23:24 | R1710113-005 100X | Al (394.401 nm)    | 1.7623 (ppm)     | 0.55     | 1.7623 (ppm)    | 23615.5516   |
| 11/1/2017 20:23:24 | R1710113-005 100X | As (188.980 nm)    | 0.0026 (ppm)     | > 100.00 | 0.0026 (ppm)    | -0.4718      |
| 11/1/2017 20:23:24 | R1710113-005 100X | B (249.772 nm)     | 0.0144 (ppm)     | 1.45     | 0.0144 (ppm)    | 502.3047     |
| 11/1/2017 20:23:24 | R1710113-005 100X | Ba (230.424 nm)    | 0.0004 (ppm)     | 15.33    | 0.0004 (ppm)    | 20.5676      |
| 11/1/2017 20:23:24 | R1710113-005 100X | Be (313.107 nm)    | 0.0001 (ppm)     | 9.09     | 0.0001 (ppm)    | -310.3913    |
| 11/1/2017 20:23:24 | R1710113-005 100X | Ca (227.547 nm)    | 4.4741 (ppm)     | 0.49     | 4.4741 (ppm)    | 268.9251     |
| 11/1/2017 20:23:24 | R1710113-005 100X | Cd (214.439 nm)    | 0.0002 (ppm)     | 75.21    | 0.0002 (ppm)    | 16.8922      |
| 11/1/2017 20:23:24 | R1710113-005 100X | Co (230.786 nm)    | 0.0000 u (ppm)   | > 100.00 | 0.0000 (ppm)    | -0.8178      |
| 11/1/2017 20:23:24 | R1710113-005 100X | Cr (267.716 nm)    | 0.0002 (ppm)     | 40.50    | 0.0002 (ppm)    | 8.8072       |
| 11/1/2017 20:23:24 | R1710113-005 100X | Cu (327.395 nm)    | 0.0001 u (ppm)   | > 100.00 | 0.0001 (ppm)    | 24.7001      |
| 11/1/2017 20:23:24 | R1710113-005 100X | Fe (234.350 nm)    | 11.9459 o (ppm)  | 0.44     | 11.9459 (ppm)   | 138849.6756  |
| 11/1/2017 20:23:24 | R1710113-005 100X | K (766.491 nm)     | 1.3695 (ppm)     | 1.59     | 1.3695 (ppm)    | 4285.8691    |
| 11/1/2017 20:23:24 | R1710113-005 100X | Mg (279.078 nm)    | 5.7059 (ppm)     | 0.49     | 5.7059 (ppm)    | 11506.1593   |
| 11/1/2017 20:23:24 | R1710113-005 100X | Mn (257.610 nm)    | 0.1933 (ppm)     | 0.37     | 0.1933 (ppm)    | 62559.3632   |
| 11/1/2017 20:23:24 | R1710113-005 100X | Mo (202.032 nm)    | -0.0006 u (ppm)  | 60.62    | -0.0006 (ppm)   | 10.3372      |
| 11/1/2017 20:23:24 | R1710113-005 100X | Na (588.995 nm)    | 1.1085 (ppm)     | 0.78     | 1.1085 (ppm)    | 44885.9336   |
| 11/1/2017 20:23:24 | R1710113-005 100X | Ni (230.299 nm)    | 0.0006 (ppm)     | 21.76    | 0.0006 (ppm)    | -21.7776     |
| 11/1/2017 20:23:24 | R1710113-005 100X | Pb (220.353 nm)    | -0.0012 u (ppm)  | 90.52    | -0.0012 (ppm)   | 2.9170       |
| 11/1/2017 20:23:24 | R1710113-005 100X | Sb (217.582 nm)    | -0.0039 u (ppm)  | 59.38    | -0.0039 (ppm)   | -1.3738      |
| 11/1/2017 20:23:24 | R1710113-005 100X | Se (196.026 nm)    | -0.0014 u (ppm)  | 71.73    | -0.0014 (ppm)   | 4.3283       |
| 11/1/2017 20:23:24 | R1710113-005 100X | Sn (189.925 nm)    | -0.0011 u (ppm)  | 61.89    | -0.0011 (ppm)   | -1.5959      |
| 11/1/2017 20:23:24 | R1710113-005 100X | Sr (216.596 nm)    | 0.0147 (ppm)     | 0.76     | 0.0147 (ppm)    | 217.9688     |
| 11/1/2017 20:23:24 | R1710113-005 100X | Ti (336.122 nm)    | 0.0002 (ppm)     | 31.98    | 0.0002 (ppm)    | -386.5788    |
| 11/1/2017 20:23:24 | R1710113-005 100X | Tl (351.923 nm)    | -0.0014 u (ppm)  | > 100.00 | -0.0014 (ppm)   | 10.5860      |
| 11/1/2017 20:23:24 | R1710113-005 100X | V (292.401 nm)     | 0.0006 (ppm)     | 27.22    | 0.0006 (ppm)    | 130.7863     |



| Date Time          | Label                               | Element Label (nm) | Conc             | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|-------------------------------------|--------------------|------------------|----------|-----------------|--------------|
| 11/1/2017 20:23:24 | R1710113-005 100X                   | Y (360.074 nm)     | 0.99 (Ratio)     | 0.91     | 0.99 (Ratio)    | 926422.57    |
| 11/1/2017 20:23:24 | R1710113-005 100X                   | Y_R (360.074 nm)   | 0.99 (Ratio)     | 0.90     | 0.99 (Ratio)    | 926570.87    |
| 11/1/2017 20:23:24 | R1710113-005 100X                   | Zn (213.857 nm)    | 0.0044 (ppm)     | 3.20     | 0.0044 (ppm)    | 96.8818      |
| 11/1/2017 20:26:43 | R1710113-005 10X                    | Ag (328.068 nm)    | 0.0000 (ppm)     | > 100.00 | 0.0000 (ppm)    | -124.0332    |
| 11/1/2017 20:26:43 | R1710113-005 10X                    | Al (394.401 nm)    | 17.8557 (ppm)    | 0.27     | 17.8557 (ppm)   | 238519.1029  |
| 11/1/2017 20:26:43 | R1710113-005 10X                    | As (188.980 nm)    | 0.0022 (ppm)     | 14.14    | 0.0022 (ppm)    | -0.8524      |
| 11/1/2017 20:26:43 | R1710113-005 10X                    | B (249.772 nm)     | 0.1418 (ppm)     | 0.72     | 0.1418 (ppm)    | 4155.4077    |
| 11/1/2017 20:26:43 | R1710113-005 10X                    | Ba (230.424 nm)    | 0.0034 (ppm)     | 1.82     | 0.0034 (ppm)    | 128.0846     |
| 11/1/2017 20:26:43 | R1710113-005 10X                    | Be (313.107 nm)    | 0.0013 (ppm)     | 1.07     | 0.0013 (ppm)    | 1508.4517    |
| 11/1/2017 20:26:43 | R1710113-005 10X                    | Ca (227.547 nm)    | 43.8825 (ppm)    | 0.18     | 43.8825 (ppm)   | 2583.2879    |
| 11/1/2017 20:26:43 | R1710113-005 10X                    | Cd (214.439 nm)    | 0.0011 (ppm)     | 18.88    | 0.0011 (ppm)    | 38.4547      |
| 11/1/2017 20:26:43 | R1710113-005 10X                    | Co (230.786 nm)    | 0.0027 (ppm)     | 9.68     | 0.0027 (ppm)    | 26.2803      |
| 11/1/2017 20:26:43 | R1710113-005 10X                    | Cr (267.716 nm)    | 0.0013 (ppm)     | 6.57     | 0.0013 (ppm)    | 66.5664      |
| 11/1/2017 20:26:43 | R1710113-005 10X                    | Cu (327.395 nm)    | 0.0000 u (ppm)   | > 100.00 | 0.0000 (ppm)    | 20.4943      |
| 11/1/2017 20:26:43 | R1710113-005 10X                    | Fe (234.350 nm)    | 102.7412 o (ppm) | 0.30     | 102.7412 (ppm)  | 1193627.2526 |
| 11/1/2017 20:26:43 | R1710113-005 10X                    | K (766.491 nm)     | 13.0886 (ppm)    | 0.52     | 13.0886 (ppm)   | 40469.5255   |
| 11/1/2017 20:26:43 | R1710113-005 10X                    | Mg (279.078 nm)    | 53.8104 (ppm)    | 0.43     | 53.8104 (ppm)   | 108570.6124  |
| 11/1/2017 20:26:43 | R1710113-005 10X                    | Mn (257.610 nm)    | 1.7330 o (ppm)   | 0.43     | 1.7330 (ppm)    | 560708.2033  |
| 11/1/2017 20:26:43 | R1710113-005 10X                    | Mo (202.032 nm)    | -0.0002 u (ppm)  | 58.66    | -0.0002 (ppm)   | 14.4059      |
| 11/1/2017 20:26:43 | R1710113-005 10X                    | Na (588.995 nm)    | 10.5343 (ppm)    | 0.28     | 10.5343 (ppm)   | 477406.2896  |
| 11/1/2017 20:26:43 | R1710113-005 10X                    | Ni (230.299 nm)    | 0.0046 (ppm)     | 13.39    | 0.0046 (ppm)    | 5.6713       |
| 11/1/2017 20:26:43 | R1710113-005 10X                    | Pb (220.353 nm)    | -0.0004 u (ppm)  | > 100.00 | -0.0004 (ppm)   | 4.7155       |
| 11/1/2017 20:26:43 | R1710113-005 10X                    | Sb (217.582 nm)    | -0.0037 u (ppm)  | 83.46    | -0.0037 (ppm)   | -1.1055      |
| 11/1/2017 20:26:43 | R1710113-005 10X                    | Se (196.026 nm)    | 0.0034 (ppm)     | 83.20    | 0.0034 (ppm)    | 8.5177       |
| 11/1/2017 20:26:43 | R1710113-005 10X                    | Sn (189.925 nm)    | 0.0006 u (ppm)   | > 100.00 | 0.0006 (ppm)    | 0.5844       |
| 11/1/2017 20:26:43 | R1710113-005 10X                    | Sr (216.596 nm)    | 0.1341 (ppm)     | 1.50     | 0.1341 (ppm)    | 1898.5999    |
| 11/1/2017 20:26:43 | R1710113-005 10X                    | Ti (336.122 nm)    | 0.0038 (ppm)     | 5.42     | 0.0038 (ppm)    | 416.1636     |
| 11/1/2017 20:26:43 | R1710113-005 10X                    | Tl (351.923 nm)    | -0.0067 u (ppm)  | 30.81    | -0.0067 (ppm)   | -4.4718      |
| 11/1/2017 20:26:43 | R1710113-005 10X                    | V (292.401 nm)     | 0.0071 (ppm)     | 0.72     | 0.0071 (ppm)    | 364.0482     |
| 11/1/2017 20:26:43 | R1710113-005 10X                    | Y (360.074 nm)     | 0.96 (Ratio)     | 0.84     | 0.96 (Ratio)    | 901813.69    |
| 11/1/2017 20:26:43 | R1710113-005 10X                    | Y_R (360.074 nm)   | 0.96 (Ratio)     | 0.83     | 0.96 (Ratio)    | 901952.15    |
| 11/1/2017 20:26:43 | R1710113-005 10X                    | Zn (213.857 nm)    | 0.0229 (ppm)     | 1.79     | 0.0229 (ppm)    | 635.0251     |
| 11/1/2017 20:30:02 | Continuing Calibration Verification | Ag (328.068 nm)    | 0.4949 (ppm)     | 0.40     | 0.4949 (ppm)    | 36227.2719   |
| 11/1/2017 20:30:02 | Continuing Calibration Verification | Al (394.401 nm)    | 9.6720 (ppm)     | 0.49     | 9.6720 (ppm)    | 129238.1053  |
| 11/1/2017 20:30:02 | Continuing Calibration Verification | As (188.980 nm)    | 0.9771 (ppm)     | 0.81     | 0.9771 (ppm)    | 901.4416     |
| 11/1/2017 20:30:02 | Continuing Calibration Verification | B (249.772 nm)     | 2.4404 (ppm)     | 0.34     | 2.4404 (ppm)    | 70023.8118   |
| 11/1/2017 20:30:02 | Continuing Calibration Verification | Ba (230.424 nm)    | 10.3811 (ppm)    | 0.48     | 10.3811 (ppm)   | 363320.3240  |
| 11/1/2017 20:30:02 | Continuing Calibration Verification | Be (313.107 nm)    | 0.2563 (ppm)     | 0.40     | 0.2563 (ppm)    | 388174.4507  |
| 11/1/2017 20:30:02 | Continuing Calibration Verification | Ca (227.547 nm)    | 24.5986 (ppm)    | 1.00     | 24.5986 (ppm)   | 1450.7883    |
| 11/1/2017 20:30:02 | Continuing Calibration Verification | Cd (214.439 nm)    | 0.5003 (ppm)     | 0.36     | 0.5003 (ppm)    | 11390.0508   |
| 11/1/2017 20:30:02 | Continuing Calibration Verification | Co (230.786 nm)    | 2.6106 (ppm)     | 0.29     | 2.6106 (ppm)    | 26867.5325   |
| 11/1/2017 20:30:02 | Continuing Calibration Verification | Cr (267.716 nm)    | 0.5075 (ppm)     | 0.43     | 0.5075 (ppm)    | 26469.8734   |
| 11/1/2017 20:30:02 | Continuing Calibration Verification | Cu (327.395 nm)    | 1.2246 (ppm)     | 0.54     | 1.2246 (ppm)    | 76937.1452   |
| 11/1/2017 20:30:02 | Continuing Calibration Verification | Fe (234.350 nm)    | 4.9071 (ppm)     | 0.54     | 4.9071 (ppm)    | 57078.5302   |
| 11/1/2017 20:30:02 | Continuing Calibration Verification | K (766.491 nm)     | 25.1936 (ppm)    | 0.64     | 25.1936 (ppm)   | 77844.5290   |
| 11/1/2017 20:30:02 | Continuing Calibration Verification | Mg (279.078 nm)    | 25.1321 (ppm)    | 0.48     | 25.1321 (ppm)   | 50704.1631   |
| 11/1/2017 20:30:02 | Continuing Calibration Verification | Mn (257.610 nm)    | 0.7612 (ppm)     | 0.35     | 0.7612 (ppm)    | 246307.5993  |
| 11/1/2017 20:30:02 | Continuing Calibration Verification | Mo (202.032 nm)    | 2.4189 (ppm)     | 0.42     | 2.4189 (ppm)    | 25898.7891   |
| 11/1/2017 20:30:02 | Continuing Calibration Verification | Na (588.995 nm)    | 25.3834 (ppm)    | 0.75     | 25.3834 (ppm)   | 1158786.0134 |
| 11/1/2017 20:30:02 | Continuing Calibration Verification | Ni (230.299 nm)    | 2.0516 (ppm)     | 0.31     | 2.0516 (ppm)    | 14210.4413   |
| 11/1/2017 20:30:02 | Continuing Calibration Verification | Pb (220.353 nm)    | 0.5028 (ppm)     | 0.36     | 0.5028 (ppm)    | 1127.9640    |

| Date Time          | Label                               | Element Label (nm) | Conc             | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|-------------------------------------|--------------------|------------------|----------|-----------------|--------------|
| 11/1/2017 20:30:02 | Continuing Calibration Verification | Sb (217.582 nm)    | 4.9458 (ppm)     | 0.64     | 4.9458 (ppm)    | 7059.7507    |
| 11/1/2017 20:30:02 | Continuing Calibration Verification | Se (196.026 nm)    | 0.4824 (ppm)     | 1.31     | 0.4824 (ppm)    | 426.8893     |
| 11/1/2017 20:30:02 | Continuing Calibration Verification | Sn (189.925 nm)    | 5.0857 (ppm)     | 0.41     | 5.0857 (ppm)    | 6480.1406    |
| 11/1/2017 20:30:02 | Continuing Calibration Verification | Sr (216.596 nm)    | 2.5256 (ppm)     | 0.33     | 2.5256 (ppm)    | 37673.7720   |
| 11/1/2017 20:30:02 | Continuing Calibration Verification | Ti (336.122 nm)    | 2.5201 (ppm)     | 0.89     | 2.5201 (ppm)    | 552247.6115  |
| 11/1/2017 20:30:02 | Continuing Calibration Verification | Tl (351.923 nm)    | 0.9994 (ppm)     | 0.65     | 0.9994 (ppm)    | 2851.8783    |
| 11/1/2017 20:30:02 | Continuing Calibration Verification | V (292.401 nm)     | 2.5450 (ppm)     | 0.35     | 2.5450 (ppm)    | 91723.1969   |
| 11/1/2017 20:30:02 | Continuing Calibration Verification | Y (360.074 nm)     | 0.95 (Ratio)     | 0.96     | 0.95 (Ratio)    | 889330.15    |
| 11/1/2017 20:30:02 | Continuing Calibration Verification | Y_R (360.074 nm)   | 0.95 (Ratio)     | 0.94     | 0.95 (Ratio)    | 889370.48    |
| 11/1/2017 20:30:02 | Continuing Calibration Verification | Zn (213.857 nm)    | 1.0074 (ppm)     | 0.51     | 1.0074 (ppm)    | 29238.6695   |
| 11/1/2017 20:33:21 | Continuing Calibration Blank        | Ag (328.068 nm)    | 0.0000 u (ppm)   | > 100.00 | 0.0000 (ppm)    | -124.5500    |
| 11/1/2017 20:33:21 | Continuing Calibration Blank        | Al (394.401 nm)    | -0.0005 u (ppm)  | 81.29    | -0.0005 (ppm)   | 77.1854      |
| 11/1/2017 20:33:21 | Continuing Calibration Blank        | As (188.980 nm)    | 0.0027 (ppm)     | 40.53    | 0.0027 (ppm)    | -0.3738      |
| 11/1/2017 20:33:21 | Continuing Calibration Blank        | B (249.772 nm)     | 0.0009 (ppm)     | 63.16    | 0.0009 (ppm)    | 116.3578     |
| 11/1/2017 20:33:21 | Continuing Calibration Blank        | Ba (230.424 nm)    | 0.0002 (ppm)     | 52.98    | 0.0002 (ppm)    | 13.9000      |
| 11/1/2017 20:33:21 | Continuing Calibration Blank        | Be (313.107 nm)    | 0.0000 (ppm)     | > 100.00 | 0.0000 (ppm)    | -502.8401    |
| 11/1/2017 20:33:21 | Continuing Calibration Blank        | Ca (227.547 nm)    | 0.0002 u (ppm)   | > 100.00 | 0.0002 (ppm)    | 6.1811       |
| 11/1/2017 20:33:21 | Continuing Calibration Blank        | Cd (214.439 nm)    | 0.0001 (ppm)     | 78.12    | 0.0001 (ppm)    | 15.6206      |
| 11/1/2017 20:33:21 | Continuing Calibration Blank        | Co (230.786 nm)    | -0.0001 u (ppm)  | > 100.00 | -0.0001 (ppm)   | -2.6432      |
| 11/1/2017 20:33:21 | Continuing Calibration Blank        | Cr (267.716 nm)    | 0.0000 (ppm)     | 67.84    | 0.0000 (ppm)    | -1.9540      |
| 11/1/2017 20:33:21 | Continuing Calibration Blank        | Cu (327.395 nm)    | -0.0001 u (ppm)  | > 100.00 | -0.0001 (ppm)   | 17.7096      |
| 11/1/2017 20:33:21 | Continuing Calibration Blank        | Fe (234.350 nm)    | 0.0050 (ppm)     | 8.79     | 0.0050 (ppm)    | 130.6481     |
| 11/1/2017 20:33:21 | Continuing Calibration Blank        | K (766.491 nm)     | 0.0363 (ppm)     | 31.36    | 0.0363 (ppm)    | 169.7110     |
| 11/1/2017 20:33:21 | Continuing Calibration Blank        | Mg (279.078 nm)    | 0.0016 (ppm)     | 26.10    | 0.0016 (ppm)    | -3.8342      |
| 11/1/2017 20:33:21 | Continuing Calibration Blank        | Mn (257.610 nm)    | 0.0000 (ppm)     | 25.89    | 0.0000 (ppm)    | 27.2399      |
| 11/1/2017 20:33:21 | Continuing Calibration Blank        | Mo (202.032 nm)    | 0.0019 (ppm)     | 16.70    | 0.0019 (ppm)    | 36.8990      |
| 11/1/2017 20:33:21 | Continuing Calibration Blank        | Na (588.995 nm)    | 0.0038 (ppm)     | 24.35    | 0.0038 (ppm)    | -5804.5031   |
| 11/1/2017 20:33:21 | Continuing Calibration Blank        | Ni (230.299 nm)    | 0.0005 (ppm)     | 53.53    | 0.0005 (ppm)    | -22.8560     |
| 11/1/2017 20:33:21 | Continuing Calibration Blank        | Pb (220.353 nm)    | 0.0006 (ppm)     | 58.39    | 0.0006 (ppm)    | 7.0048       |
| 11/1/2017 20:33:21 | Continuing Calibration Blank        | Sb (217.582 nm)    | 0.0007 u (ppm)   | > 100.00 | 0.0007 (ppm)    | 5.1849       |
| 11/1/2017 20:33:21 | Continuing Calibration Blank        | Se (196.026 nm)    | 0.0013 (ppm)     | 71.38    | 0.0013 (ppm)    | 6.6849       |
| 11/1/2017 20:33:21 | Continuing Calibration Blank        | Sn (189.925 nm)    | 0.0008 (ppm)     | > 100.00 | 0.0008 (ppm)    | 0.8223       |
| 11/1/2017 20:33:21 | Continuing Calibration Blank        | Sr (216.596 nm)    | -0.0002 u (ppm)  | 83.55    | -0.0002 (ppm)   | -4.0889      |
| 11/1/2017 20:33:21 | Continuing Calibration Blank        | Ti (336.122 nm)    | 0.0006 (ppm)     | 16.64    | 0.0006 (ppm)    | -277.8975    |
| 11/1/2017 20:33:21 | Continuing Calibration Blank        | Tl (351.923 nm)    | -0.0003 u (ppm)  | > 100.00 | -0.0003 (ppm)   | 13.7728      |
| 11/1/2017 20:33:21 | Continuing Calibration Blank        | V (292.401 nm)     | -0.0001 u (ppm)  | > 100.00 | -0.0001 (ppm)   | 108.0471     |
| 11/1/2017 20:33:21 | Continuing Calibration Blank        | Y (360.074 nm)     | 0.99 (Ratio)     | 0.93     | 0.99 (Ratio)    | 930616.82    |
| 11/1/2017 20:33:21 | Continuing Calibration Blank        | Y_R (360.074 nm)   | 0.99 (Ratio)     | 0.93     | 0.99 (Ratio)    | 930496.47    |
| 11/1/2017 20:33:21 | Continuing Calibration Blank        | Zn (213.857 nm)    | 0.0000 u (ppm)   | > 100.00 | 0.0000 (ppm)    | -31.6072     |
| 11/1/2017 20:36:40 | R1710113-005 2X                     | Ag (328.068 nm)    | 0.0002 (ppm)     | 72.29    | 0.0002 (ppm)    | -114.4481    |
| 11/1/2017 20:36:40 | R1710113-005 2X                     | Al (394.401 nm)    | 91.7662 o (ppm)  | 0.37     | 91.7662 (ppm)   | 1225478.7453 |
| 11/1/2017 20:36:40 | R1710113-005 2X                     | As (188.980 nm)    | -0.0005 u (ppm)  | > 100.00 | -0.0005 (ppm)   | -3.3292      |
| 11/1/2017 20:36:40 | R1710113-005 2X                     | B (249.772 nm)     | 0.6648 (ppm)     | 0.29     | 0.6648 (ppm)    | 19142.1701   |
| 11/1/2017 20:36:40 | R1710113-005 2X                     | Ba (230.424 nm)    | 0.0152 (ppm)     | 3.13     | 0.0152 (ppm)    | 538.2697     |
| 11/1/2017 20:36:40 | R1710113-005 2X                     | Be (313.107 nm)    | 0.0061 (ppm)     | 0.16     | 0.0061 (ppm)    | 8713.7942    |
| 11/1/2017 20:36:40 | R1710113-005 2X                     | Ca (227.547 nm)    | 221.7882 o (ppm) | 0.40     | 221.7882 (ppm)  | 13031.2686   |
| 11/1/2017 20:36:40 | R1710113-005 2X                     | Cd (214.439 nm)    | 0.0047 (ppm)     | 8.50     | 0.0047 (ppm)    | 120.2029     |
| 11/1/2017 20:36:40 | R1710113-005 2X                     | Co (230.786 nm)    | 0.0123 (ppm)     | 17.45    | 0.0123 (ppm)    | 125.4831     |
| 11/1/2017 20:36:40 | R1710113-005 2X                     | Cr (267.716 nm)    | 0.0059 (ppm)     | 0.39     | 0.0059 (ppm)    | 305.8370     |
| 11/1/2017 20:36:40 | R1710113-005 2X                     | Cu (327.395 nm)    | 0.0006 (ppm)     | 23.06    | 0.0006 (ppm)    | 58.6021      |
| 11/1/2017 20:36:40 | R1710113-005 2X                     | Fe (234.350 nm)    | 371.4239 o (ppm) | 0.20     | 371.4239 (ppm)  | 4314939.2036 |

| Date Time          | Label            | Element Label (nm) | Conc             | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|------------------|--------------------|------------------|----------|-----------------|--------------|
| 11/1/2017 20:36:40 | R1710113-005 2X  | K (766.491 nm)     | 66.1259 o (ppm)  | 0.38     | 66.1259 (ppm)   | 204225.4758  |
| 11/1/2017 20:36:40 | R1710113-005 2X  | Mg (279.078 nm)    | 250.3402 o (ppm) | 0.12     | 250.3402 (ppm)  | 505124.9393  |
| 11/1/2017 20:36:40 | R1710113-005 2X  | Mn (257.610 nm)    | 7.5298 o (ppm)   | 0.26     | 7.5298 (ppm)    | 2436141.4694 |
| 11/1/2017 20:36:40 | R1710113-005 2X  | Mo (202.032 nm)    | 0.0001 u (ppm)   | > 100.00 | 0.0001 (ppm)    | 18.0612      |
| 11/1/2017 20:36:40 | R1710113-005 2X  | Na (588.995 nm)    | 51.5121 (ppm)    | 0.48     | 51.5121 (ppm)   | 2357747.2207 |
| 11/1/2017 20:36:40 | R1710113-005 2X  | Ni (230.299 nm)    | 0.0199 (ppm)     | 2.41     | 0.0199 (ppm)    | 112.1572     |
| 11/1/2017 20:36:40 | R1710113-005 2X  | Pb (220.353 nm)    | 0.0040 (ppm)     | 71.55    | 0.0040 (ppm)    | 14.4604      |
| 11/1/2017 20:36:40 | R1710113-005 2X  | Sb (217.582 nm)    | -0.0145 u (ppm)  | 25.88    | -0.0145 (ppm)   | -16.5619     |
| 11/1/2017 20:36:40 | R1710113-005 2X  | Se (196.026 nm)    | 0.0102 (ppm)     | 17.80    | 0.0102 (ppm)    | 14.4036      |
| 11/1/2017 20:36:40 | R1710113-005 2X  | Sn (189.925 nm)    | 0.0015 (ppm)     | 19.83    | 0.0015 (ppm)    | 1.7737       |
| 11/1/2017 20:36:40 | R1710113-005 2X  | Sr (216.596 nm)    | 0.5919 (ppm)     | 0.18     | 0.5919 (ppm)    | 8827.8760    |
| 11/1/2017 20:36:40 | R1710113-005 2X  | Ti (336.122 nm)    | 0.0193 (ppm)     | 4.26     | 0.0193 (ppm)    | 3821.0068    |
| 11/1/2017 20:36:40 | R1710113-005 2X  | Tl (351.923 nm)    | -0.0190 u (ppm)  | 13.27    | -0.0190 (ppm)   | -39.4452     |
| 11/1/2017 20:36:40 | R1710113-005 2X  | V (292.401 nm)     | 0.0326 (ppm)     | 0.33     | 0.0326 (ppm)    | 1282.5255    |
| 11/1/2017 20:36:40 | R1710113-005 2X  | Y (360.074 nm)     | 0.94 (Ratio)     | 0.84     | 0.94 (Ratio)    | 878444.91    |
| 11/1/2017 20:36:40 | R1710113-005 2X  | Y_R (360.074 nm)   | 0.94 (Ratio)     | 0.83     | 0.94 (Ratio)    | 878653.83    |
| 11/1/2017 20:36:40 | R1710113-005 2X  | Zn (213.857 nm)    | 0.1039 (ppm)     | 0.70     | 0.1039 (ppm)    | 2987.2838    |
| 11/1/2017 20:40:00 | R1710113-005     | Ag (328.068 nm)    | 0.0001 (ppm)     | 35.83    | 0.0001 (ppm)    | -119.8379    |
| 11/1/2017 20:40:00 | R1710113-005     | Al (394.401 nm)    | 179.8496 o (ppm) | 0.24     | 179.8496 (ppm)  | 2401696.9607 |
| 11/1/2017 20:40:00 | R1710113-005     | As (188.980 nm)    | 0.0022 u (ppm)   | > 100.00 | 0.0022 (ppm)    | -0.8724      |
| 11/1/2017 20:40:00 | R1710113-005     | B (249.772 nm)     | 1.2307 (ppm)     | 0.18     | 1.2307 (ppm)    | 35359.5925   |
| 11/1/2017 20:40:00 | R1710113-005     | Ba (230.424 nm)    | 0.0269 (ppm)     | 1.20     | 0.0269 (ppm)    | 951.1261     |
| 11/1/2017 20:40:00 | R1710113-005     | Be (313.107 nm)    | 0.0111 (ppm)     | 0.28     | 0.0111 (ppm)    | 16391.1678   |
| 11/1/2017 20:40:00 | R1710113-005     | Ca (227.547 nm)    | 436.0245 o (ppm) | 0.31     | 436.0245 (ppm)  | 25612.8634   |
| 11/1/2017 20:40:00 | R1710113-005     | Cd (214.439 nm)    | 0.0091 (ppm)     | 3.58     | 0.0091 (ppm)    | 220.0988     |
| 11/1/2017 20:40:00 | R1710113-005     | Co (230.786 nm)    | 0.0230 (ppm)     | 2.63     | 0.0230 (ppm)    | 235.4160     |
| 11/1/2017 20:40:00 | R1710113-005     | Cr (267.716 nm)    | 0.0109 (ppm)     | 1.79     | 0.0109 (ppm)    | 569.1544     |
| 11/1/2017 20:40:00 | R1710113-005     | Cu (327.395 nm)    | 0.0012 (ppm)     | 7.64     | 0.0012 (ppm)    | 99.3824      |
| 11/1/2017 20:40:00 | R1710113-005     | Fe (234.350 nm)    | 534.4964 o (ppm) | 0.57     | 534.4964 (ppm)  | 6209368.3029 |
| 11/1/2017 20:40:00 | R1710113-005     | K (766.491 nm)     | 128.9014 o (ppm) | 0.17     | 128.9014 (ppm)  | 398049.0942  |
| 11/1/2017 20:40:00 | R1710113-005     | Mg (279.078 nm)    | 452.9277 o (ppm) | 0.01     | 452.9277 (ppm)  | 913902.4846  |
| 11/1/2017 20:40:00 | R1710113-005     | Mn (257.610 nm)    | 13.3417 o (ppm)  | 0.07     | 13.3417 (ppm)   | 4316483.0878 |
| 11/1/2017 20:40:00 | R1710113-005     | Mo (202.032 nm)    | 0.0005 u (ppm)   | > 100.00 | 0.0005 (ppm)    | 22.0551      |
| 11/1/2017 20:40:00 | R1710113-005     | Na (588.995 nm)    | 97.2961 o (ppm)  | 0.37     | 97.2961 (ppm)   | 4458626.9260 |
| 11/1/2017 20:40:00 | R1710113-005     | Ni (230.299 nm)    | 0.0336 (ppm)     | 8.73     | 0.0336 (ppm)    | 207.4251     |
| 11/1/2017 20:40:00 | R1710113-005     | Pb (220.353 nm)    | 0.0099 (ppm)     | 24.37    | 0.0099 (ppm)    | 27.7531      |
| 11/1/2017 20:40:00 | R1710113-005     | Sb (217.582 nm)    | -0.0301 u (ppm)  | 8.57     | -0.0301 (ppm)   | -38.7698     |
| 11/1/2017 20:40:00 | R1710113-005     | Se (196.026 nm)    | 0.0186 (ppm)     | 12.09    | 0.0186 (ppm)    | 21.8058      |
| 11/1/2017 20:40:00 | R1710113-005     | Sn (189.925 nm)    | 0.0013 (ppm)     | 77.68    | 0.0013 (ppm)    | 1.4673       |
| 11/1/2017 20:40:00 | R1710113-005     | Sr (216.596 nm)    | 1.0659 (ppm)     | 0.16     | 1.0659 (ppm)    | 15899.7364   |
| 11/1/2017 20:40:00 | R1710113-005     | Ti (336.122 nm)    | 0.0330 (ppm)     | 1.57     | 0.0330 (ppm)    | 6818.5613    |
| 11/1/2017 20:40:00 | R1710113-005     | Tl (351.923 nm)    | -0.0305 u (ppm)  | 12.68    | -0.0305 (ppm)   | -71.9046     |
| 11/1/2017 20:40:00 | R1710113-005     | V (292.401 nm)     | 0.0608 (ppm)     | 0.91     | 0.0608 (ppm)    | 2298.4885    |
| 11/1/2017 20:40:00 | R1710113-005     | Y (360.074 nm)     | 0.95 (Ratio)     | 0.76     | 0.95 (Ratio)    | 887203.35    |
| 11/1/2017 20:40:00 | R1710113-005     | Y_R (360.074 nm)   | 0.95 (Ratio)     | 0.76     | 0.95 (Ratio)    | 887613.91    |
| 11/1/2017 20:40:00 | R1710113-005     | Zn (213.857 nm)    | 0.1968 (ppm)     | 0.21     | 0.1968 (ppm)    | 5686.8989    |
| 11/1/2017 20:43:19 | R1710113-006 10X | Ag (328.068 nm)    | 0.0015 (ppm)     | 9.27     | 0.0015 (ppm)    | -17.5678     |
| 11/1/2017 20:43:19 | R1710113-006 10X | Al (394.401 nm)    | 18.9313 (ppm)    | 0.56     | 18.9313 (ppm)   | 252881.9920  |
| 11/1/2017 20:43:19 | R1710113-006 10X | As (188.980 nm)    | 0.0571 (ppm)     | 3.09     | 0.0571 (ppm)    | 49.9954      |
| 11/1/2017 20:43:19 | R1710113-006 10X | B (249.772 nm)     | 0.1003 (ppm)     | 0.77     | 0.1003 (ppm)    | 2964.5573    |
| 11/1/2017 20:43:19 | R1710113-006 10X | Ba (230.424 nm)    | 0.4610 (ppm)     | 0.61     | 0.4610 (ppm)    | 16142.4879   |

| Date Time          | Label            | Element Label (nm) | Conc             | %RSD     | Unadjusted Conc | Intensity   |
|--------------------|------------------|--------------------|------------------|----------|-----------------|-------------|
| 11/1/2017 20:43:19 | R1710113-006 10X | Be (313.107 nm)    | 0.0007 (ppm)     | 0.64     | 0.0007 (ppm)    | 605.0368    |
| 11/1/2017 20:43:19 | R1710113-006 10X | Ca (227.547 nm)    | 114.4817 o (ppm) | 0.51     | 114.4817 (ppm)  | 6729.4100   |
| 11/1/2017 20:43:19 | R1710113-006 10X | Cd (214.439 nm)    | 0.0009 (ppm)     | 20.04    | 0.0009 (ppm)    | 32.9237     |
| 11/1/2017 20:43:19 | R1710113-006 10X | Co (230.786 nm)    | 0.0050 (ppm)     | 5.03     | 0.0050 (ppm)    | 50.2759     |
| 11/1/2017 20:43:19 | R1710113-006 10X | Cr (267.716 nm)    | 0.0415 (ppm)     | 2.29     | 0.0415 (ppm)    | 2161.5017   |
| 11/1/2017 20:43:19 | R1710113-006 10X | Cu (327.395 nm)    | 0.1050 (ppm)     | 0.91     | 0.1050 (ppm)    | 6616.4742   |
| 11/1/2017 20:43:19 | R1710113-006 10X | Fe (234.350 nm)    | 22.8902 o (ppm)  | 0.45     | 22.8902 (ppm)   | 265990.6785 |
| 11/1/2017 20:43:19 | R1710113-006 10X | K (766.491 nm)     | 11.7651 (ppm)    | 0.76     | 11.7651 (ppm)   | 36382.9042  |
| 11/1/2017 20:43:19 | R1710113-006 10X | Mg (279.078 nm)    | 22.5487 (ppm)    | 0.45     | 22.5487 (ppm)   | 45491.4239  |
| 11/1/2017 20:43:19 | R1710113-006 10X | Mn (257.610 nm)    | 0.3491 (ppm)     | 0.49     | 0.3491 (ppm)    | 112984.6487 |
| 11/1/2017 20:43:19 | R1710113-006 10X | Mo (202.032 nm)    | 0.0061 (ppm)     | 6.86     | 0.0061 (ppm)    | 81.8701     |
| 11/1/2017 20:43:19 | R1710113-006 10X | Na (588.995 nm)    | 3.8694 (ppm)     | 0.64     | 3.8694 (ppm)    | 171574.3122 |
| 11/1/2017 20:43:19 | R1710113-006 10X | Ni (230.299 nm)    | 0.0131 (ppm)     | 6.69     | 0.0131 (ppm)    | 65.1507     |
| 11/1/2017 20:43:19 | R1710113-006 10X | Pb (220.353 nm)    | 2.7391 o (ppm)   | 0.35     | 2.7391 (ppm)    | 6119.8576   |
| 11/1/2017 20:43:19 | R1710113-006 10X | Sb (217.582 nm)    | 0.0069 (ppm)     | 60.62    | 0.0069 (ppm)    | 13.9605     |
| 11/1/2017 20:43:19 | R1710113-006 10X | Se (196.026 nm)    | 0.0017 (ppm)     | 79.37    | 0.0017 (ppm)    | 7.0219      |
| 11/1/2017 20:43:19 | R1710113-006 10X | Sn (189.925 nm)    | 0.0271 (ppm)     | 5.92     | 0.0271 (ppm)    | 34.3308     |
| 11/1/2017 20:43:19 | R1710113-006 10X | Sr (216.596 nm)    | 0.2890 (ppm)     | 0.26     | 0.2890 (ppm)    | 4310.6115   |
| 11/1/2017 20:43:19 | R1710113-006 10X | Ti (336.122 nm)    | 0.7093 (ppm)     | 0.84     | 0.7093 (ppm)    | 155133.3856 |
| 11/1/2017 20:43:19 | R1710113-006 10X | Tl (351.923 nm)    | -0.0015 u (ppm)  | > 100.00 | -0.0015 (ppm)   | 10.3234     |
| 11/1/2017 20:43:19 | R1710113-006 10X | V (292.401 nm)     | 0.0441 (ppm)     | 0.65     | 0.0441 (ppm)    | 1697.0896   |
| 11/1/2017 20:43:19 | R1710113-006 10X | Y (360.074 nm)     | 0.95 (Ratio)     | 0.94     | 0.95 (Ratio)    | 890091.72   |
| 11/1/2017 20:43:19 | R1710113-006 10X | Y_R (360.074 nm)   | 0.95 (Ratio)     | 0.94     | 0.95 (Ratio)    | 890227.07   |
| 11/1/2017 20:43:19 | R1710113-006 10X | Zn (213.857 nm)    | 0.3082 (ppm)     | 0.64     | 0.3082 (ppm)    | 8924.1928   |
| 11/1/2017 20:46:38 | R1710113-007 10X | Ag (328.068 nm)    | 0.0008 (ppm)     | 6.45     | 0.0008 (ppm)    | -65.6697    |
| 11/1/2017 20:46:38 | R1710113-007 10X | Al (394.401 nm)    | 8.2710 (ppm)     | 0.62     | 8.2710 (ppm)    | 110530.1127 |
| 11/1/2017 20:46:38 | R1710113-007 10X | As (188.980 nm)    | 0.0321 (ppm)     | 6.11     | 0.0321 (ppm)    | 26.8258     |
| 11/1/2017 20:46:38 | R1710113-007 10X | B (249.772 nm)     | 0.0756 (ppm)     | 0.57     | 0.0756 (ppm)    | 2257.9364   |
| 11/1/2017 20:46:38 | R1710113-007 10X | Ba (230.424 nm)    | 0.2116 (ppm)     | 0.42     | 0.2116 (ppm)    | 7412.1748   |
| 11/1/2017 20:46:38 | R1710113-007 10X | Be (313.107 nm)    | 0.0003 (ppm)     | 0.32     | 0.0003 (ppm)    | -43.1840    |
| 11/1/2017 20:46:38 | R1710113-007 10X | Ca (227.547 nm)    | 91.5640 o (ppm)  | 0.47     | 91.5640 (ppm)   | 5383.5075   |
| 11/1/2017 20:46:38 | R1710113-007 10X | Cd (214.439 nm)    | 0.0004 (ppm)     | 34.17    | 0.0004 (ppm)    | 22.6391     |
| 11/1/2017 20:46:38 | R1710113-007 10X | Co (230.786 nm)    | 0.0020 (ppm)     | 14.91    | 0.0020 (ppm)    | 19.4866     |
| 11/1/2017 20:46:38 | R1710113-007 10X | Cr (267.716 nm)    | 0.0177 (ppm)     | 2.10     | 0.0177 (ppm)    | 922.1399    |
| 11/1/2017 20:46:38 | R1710113-007 10X | Cu (327.395 nm)    | 0.0477 (ppm)     | 0.71     | 0.0477 (ppm)    | 3016.6227   |
| 11/1/2017 20:46:38 | R1710113-007 10X | Fe (234.350 nm)    | 10.6006 (ppm)    | 0.56     | 10.6006 (ppm)   | 123220.3521 |
| 11/1/2017 20:46:38 | R1710113-007 10X | K (766.491 nm)     | 8.4810 (ppm)     | 0.64     | 8.4810 (ppm)    | 26243.0077  |
| 11/1/2017 20:46:38 | R1710113-007 10X | Mg (279.078 nm)    | 20.5789 (ppm)    | 0.57     | 20.5789 (ppm)   | 41516.7898  |
| 11/1/2017 20:46:38 | R1710113-007 10X | Mn (257.610 nm)    | 0.2024 (ppm)     | 0.50     | 0.2024 (ppm)    | 65513.4184  |
| 11/1/2017 20:46:38 | R1710113-007 10X | Mo (202.032 nm)    | 0.0039 (ppm)     | 6.41     | 0.0039 (ppm)    | 58.7379     |
| 11/1/2017 20:46:38 | R1710113-007 10X | Na (588.995 nm)    | 3.8678 (ppm)     | 0.63     | 3.8678 (ppm)    | 171503.1704 |
| 11/1/2017 20:46:38 | R1710113-007 10X | Ni (230.299 nm)    | 0.0043 (ppm)     | 15.21    | 0.0043 (ppm)    | 3.5036      |
| 11/1/2017 20:46:38 | R1710113-007 10X | Pb (220.353 nm)    | 1.2882 o (ppm)   | 0.56     | 1.2882 (ppm)    | 2881.1358   |
| 11/1/2017 20:46:38 | R1710113-007 10X | Sb (217.582 nm)    | 0.0050 (ppm)     | 41.43    | 0.0050 (ppm)    | 11.3278     |
| 11/1/2017 20:46:38 | R1710113-007 10X | Se (196.026 nm)    | -0.0010 u (ppm)  | > 100.00 | -0.0010 (ppm)   | 4.6349      |
| 11/1/2017 20:46:38 | R1710113-007 10X | Sn (189.925 nm)    | 0.0118 (ppm)     | 21.36    | 0.0118 (ppm)    | 14.8571     |
| 11/1/2017 20:46:38 | R1710113-007 10X | Sr (216.596 nm)    | 0.2212 (ppm)     | 0.46     | 0.2212 (ppm)    | 3298.2409   |
| 11/1/2017 20:46:38 | R1710113-007 10X | Ti (336.122 nm)    | 0.3523 (ppm)     | 0.38     | 0.3523 (ppm)    | 76833.4472  |
| 11/1/2017 20:46:38 | R1710113-007 10X | Tl (351.923 nm)    | -0.0008 u (ppm)  | > 100.00 | -0.0008 (ppm)   | 12.2222     |
| 11/1/2017 20:46:38 | R1710113-007 10X | V (292.401 nm)     | 0.0195 (ppm)     | 0.74     | 0.0195 (ppm)    | 811.2476    |
| 11/1/2017 20:46:38 | R1710113-007 10X | Y (360.074 nm)     | 0.95 (Ratio)     | 1.15     | 0.95 (Ratio)    | 890079.74   |

| Date Time          | Label            | Element Label (nm) | Conc             | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|------------------|--------------------|------------------|----------|-----------------|--------------|
| 11/1/2017 20:46:38 | R1710113-007 10X | Y_R (360.074 nm)   | 0.95 (Ratio)     | 1.15     | 0.95 (Ratio)    | 890241.56    |
| 11/1/2017 20:46:38 | R1710113-007 10X | Zn (213.857 nm)    | 0.1400 (ppm)     | 0.66     | 0.1400 (ppm)    | 4035.9117    |
| 11/1/2017 20:49:57 | R1710113-007     | Ag (328.068 nm)    | 0.0072 (ppm)     | 1.70     | 0.0072 (ppm)    | 406.2599     |
| 11/1/2017 20:49:57 | R1710113-007     | Al (394.401 nm)    | 91.8331 o (ppm)  | 0.58     | 91.8331 (ppm)   | 1226372.1938 |
| 11/1/2017 20:49:57 | R1710113-007     | As (188.980 nm)    | 0.3384 (ppm)     | 1.06     | 0.3384 (ppm)    | 310.3367     |
| 11/1/2017 20:49:57 | R1710113-007     | B (249.772 nm)     | 0.7968 (ppm)     | 0.46     | 0.7968 (ppm)    | 22924.2141   |
| 11/1/2017 20:49:57 | R1710113-007     | Ba (230.424 nm)    | 1.9506 (ppm)     | 0.47     | 1.9506 (ppm)    | 68274.0126   |
| 11/1/2017 20:49:57 | R1710113-007     | Be (313.107 nm)    | 0.0030 (ppm)     | 0.30     | 0.0030 (ppm)    | 4003.0636    |
| 11/1/2017 20:49:57 | R1710113-007     | Ca (227.547 nm)    | 987.2251 o (ppm) | 0.55     | 987.2251 (ppm)  | 57983.5806   |
| 11/1/2017 20:49:57 | R1710113-007     | Cd (214.439 nm)    | 0.0032 (ppm)     | 15.52    | 0.0032 (ppm)    | 85.8538      |
| 11/1/2017 20:49:57 | R1710113-007     | Co (230.786 nm)    | 0.0229 (ppm)     | 3.22     | 0.0229 (ppm)    | 234.5757     |
| 11/1/2017 20:49:57 | R1710113-007     | Cr (267.716 nm)    | 0.1603 (ppm)     | 0.45     | 0.1603 (ppm)    | 8359.9791    |
| 11/1/2017 20:49:57 | R1710113-007     | Cu (327.395 nm)    | 0.5010 (ppm)     | 0.13     | 0.5010 (ppm)    | 31491.3599   |
| 11/1/2017 20:49:57 | R1710113-007     | Fe (234.350 nm)    | 93.1816 o (ppm)  | 0.52     | 93.1816 (ppm)   | 1082572.6261 |
| 11/1/2017 20:49:57 | R1710113-007     | K (766.491 nm)     | 93.8843 o (ppm)  | 0.57     | 93.8843 (ppm)   | 289931.4565  |
| 11/1/2017 20:49:57 | R1710113-007     | Mg (279.078 nm)    | 205.9005 o (ppm) | 0.44     | 205.9005 (ppm)  | 415455.3805  |
| 11/1/2017 20:49:57 | R1710113-007     | Mn (257.610 nm)    | 1.8788 o (ppm)   | 0.40     | 1.8788 (ppm)    | 607897.3825  |
| 11/1/2017 20:49:57 | R1710113-007     | Mo (202.032 nm)    | 0.0410 (ppm)     | 1.33     | 0.0410 (ppm)    | 455.1485     |
| 11/1/2017 20:49:57 | R1710113-007     | Na (588.995 nm)    | 41.1151 (ppm)    | 0.83     | 41.1151 (ppm)   | 1880662.9363 |
| 11/1/2017 20:49:57 | R1710113-007     | Ni (230.299 nm)    | 0.0677 (ppm)     | 2.02     | 0.0677 (ppm)    | 443.5560     |
| 11/1/2017 20:49:57 | R1710113-007     | Pb (220.353 nm)    | 11.8086 o (ppm)  | 0.40     | 11.8086 (ppm)   | 26365.1999   |
| 11/1/2017 20:49:57 | R1710113-007     | Sb (217.582 nm)    | 0.0430 (ppm)     | 3.65     | 0.0430 (ppm)    | 65.4272      |
| 11/1/2017 20:49:57 | R1710113-007     | Se (196.026 nm)    | 0.0094 (ppm)     | 38.40    | 0.0094 (ppm)    | 13.7709      |
| 11/1/2017 20:49:57 | R1710113-007     | Sn (189.925 nm)    | 0.1120 (ppm)     | 2.29     | 0.1120 (ppm)    | 142.5211     |
| 11/1/2017 20:49:57 | R1710113-007     | Sr (216.596 nm)    | 2.0096 (ppm)     | 0.19     | 2.0096 (ppm)    | 29976.1671   |
| 11/1/2017 20:49:57 | R1710113-007     | Tl (336.122 nm)    | 3.1354 (ppm)     | 0.37     | 3.1354 (ppm)    | 687179.6162  |
| 11/1/2017 20:49:57 | R1710113-007     | Tl (351.923 nm)    | 0.0273 (ppm)     | 11.65    | 0.0273 (ppm)    | 92.2687      |
| 11/1/2017 20:49:57 | R1710113-007     | V (292.401 nm)     | 0.1816 (ppm)     | 0.39     | 0.1816 (ppm)    | 6648.4195    |
| 11/1/2017 20:49:57 | R1710113-007     | Y (360.074 nm)     | 0.87 (Ratio)     | 0.49     | 0.87 (Ratio)    | 812157.63    |
| 11/1/2017 20:49:57 | R1710113-007     | Y_R (360.074 nm)   | 0.87 (Ratio)     | 0.50     | 0.87 (Ratio)    | 812620.57    |
| 11/1/2017 20:49:57 | R1710113-007     | Zn (213.857 nm)    | 1.3951 (ppm)     | 0.56     | 1.3951 (ppm)    | 40504.9592   |
| 11/1/2017 20:53:16 | R1710200-001 10X | Ag (328.068 nm)    | 0.0001 (ppm)     | 52.79    | 0.0001 (ppm)    | -121.2823    |
| 11/1/2017 20:53:16 | R1710200-001 10X | Al (394.401 nm)    | 0.0092 (ppm)     | 10.35    | 0.0092 (ppm)    | 205.5059     |
| 11/1/2017 20:53:16 | R1710200-001 10X | As (188.980 nm)    | 0.0010 u (ppm)   | > 100.00 | 0.0010 (ppm)    | -1.9770      |
| 11/1/2017 20:53:16 | R1710200-001 10X | B (249.772 nm)     | 0.1064 (ppm)     | 0.82     | 0.1064 (ppm)    | 3139.7966    |
| 11/1/2017 20:53:16 | R1710200-001 10X | Ba (230.424 nm)    | 0.0236 (ppm)     | 0.68     | 0.0236 (ppm)    | 834.7570     |
| 11/1/2017 20:53:16 | R1710200-001 10X | Be (313.107 nm)    | 0.0000 (ppm)     | 30.47    | 0.0000 (ppm)    | -534.8221    |
| 11/1/2017 20:53:16 | R1710200-001 10X | Ca (227.547 nm)    | 10.0445 (ppm)    | 1.31     | 10.0445 (ppm)   | 596.0617     |
| 11/1/2017 20:53:16 | R1710200-001 10X | Cd (214.439 nm)    | 0.0000 u (ppm)   | > 100.00 | 0.0000 (ppm)    | 13.5831      |
| 11/1/2017 20:53:16 | R1710200-001 10X | Co (230.786 nm)    | 0.0001 (ppm)     | > 100.00 | 0.0001 (ppm)    | -0.7854      |
| 11/1/2017 20:53:16 | R1710200-001 10X | Cr (267.716 nm)    | 0.0001 (ppm)     | 90.08    | 0.0001 (ppm)    | 2.9885       |
| 11/1/2017 20:53:16 | R1710200-001 10X | Cu (327.395 nm)    | 0.0004 (ppm)     | 38.47    | 0.0004 (ppm)    | 43.9681      |
| 11/1/2017 20:53:16 | R1710200-001 10X | Fe (234.350 nm)    | 0.3262 (ppm)     | 1.02     | 0.3262 (ppm)    | 3861.9726    |
| 11/1/2017 20:53:16 | R1710200-001 10X | K (766.491 nm)     | 14.0356 (ppm)    | 0.87     | 14.0356 (ppm)   | 43393.4457   |
| 11/1/2017 20:53:16 | R1710200-001 10X | Mg (279.078 nm)    | 3.8284 (ppm)     | 0.55     | 3.8284 (ppm)    | 7717.9291    |
| 11/1/2017 20:53:16 | R1710200-001 10X | Mn (257.610 nm)    | 0.0809 (ppm)     | 0.59     | 0.0809 (ppm)    | 26203.1894   |
| 11/1/2017 20:53:16 | R1710200-001 10X | Mo (202.032 nm)    | 0.0002 (ppm)     | > 100.00 | 0.0002 (ppm)    | 18.9741      |
| 11/1/2017 20:53:16 | R1710200-001 10X | Na (588.995 nm)    | 51.7340 (ppm)    | 0.87     | 51.7340 (ppm)   | 2367928.3185 |
| 11/1/2017 20:53:16 | R1710200-001 10X | Ni (230.299 nm)    | 0.0010 (ppm)     | 26.98    | 0.0010 (ppm)    | -18.7701     |
| 11/1/2017 20:53:16 | R1710200-001 10X | Pb (220.353 nm)    | -0.0009 u (ppm)  | 54.21    | -0.0009 (ppm)   | 3.7248       |
| 11/1/2017 20:53:16 | R1710200-001 10X | Sb (217.582 nm)    | -0.0024 u (ppm)  | 55.17    | -0.0024 (ppm)   | 0.7574       |

| Date Time          | Label             | Element Label (nm) | Conc             | %RSD     | Unadjusted Conc | Intensity     |
|--------------------|-------------------|--------------------|------------------|----------|-----------------|---------------|
| 11/1/2017 20:53:16 | R1710200-001 10X  | Se (196.026 nm)    | -0.0010 u (ppm)  | > 100.00 | -0.0010 (ppm)   | 4.6452        |
| 11/1/2017 20:53:16 | R1710200-001 10X  | Sn (189.925 nm)    | 0.0007 u (ppm)   | > 100.00 | 0.0007 (ppm)    | 0.6891        |
| 11/1/2017 20:53:16 | R1710200-001 10X  | Sr (216.596 nm)    | 0.0439 (ppm)     | 0.87     | 0.0439 (ppm)    | 653.0544      |
| 11/1/2017 20:53:16 | R1710200-001 10X  | Ti (336.122 nm)    | 0.0014 (ppm)     | 4.62     | 0.0014 (ppm)    | -115.6919     |
| 11/1/2017 20:53:16 | R1710200-001 10X  | Tl (351.923 nm)    | -0.0038 u (ppm)  | 58.76    | -0.0038 (ppm)   | 3.7239        |
| 11/1/2017 20:53:16 | R1710200-001 10X  | V (292.401 nm)     | 0.0000 u (ppm)   | > 100.00 | 0.0000 (ppm)    | 109.8895      |
| 11/1/2017 20:53:16 | R1710200-001 10X  | Y (360.074 nm)     | 0.96 (Ratio)     | 0.88     | 0.96 (Ratio)    | 894725.82     |
| 11/1/2017 20:53:16 | R1710200-001 10X  | Y_R (360.074 nm)   | 0.96 (Ratio)     | 0.88     | 0.96 (Ratio)    | 895084.76     |
| 11/1/2017 20:53:16 | R1710200-001 10X  | Zn (213.857 nm)    | 0.0011 (ppm)     | 0.61     | 0.0011 (ppm)    | 1.5693        |
| 11/1/2017 20:56:35 | R1710200-001      | Ag (328.068 nm)    | 0.0000 u (ppm)   | > 100.00 | 0.0000 (ppm)    | -128.1348     |
| 11/1/2017 20:56:35 | R1710200-001      | Al (394.401 nm)    | 0.0326 (ppm)     | 0.95     | 0.0326 (ppm)    | 519.1238      |
| 11/1/2017 20:56:35 | R1710200-001      | As (188.980 nm)    | 0.0052 (ppm)     | 19.79    | 0.0052 (ppm)    | 1.8892        |
| 11/1/2017 20:56:35 | R1710200-001      | B (249.772 nm)     | 1.1656 (ppm)     | 0.48     | 1.1656 (ppm)    | 33494.3820    |
| 11/1/2017 20:56:35 | R1710200-001      | Ba (230.424 nm)    | 0.2296 (ppm)     | 0.36     | 0.2296 (ppm)    | 8042.8762     |
| 11/1/2017 20:56:35 | R1710200-001      | Be (313.107 nm)    | 0.0000 (ppm)     | 5.38     | 0.0000 (ppm)    | -574.8616     |
| 11/1/2017 20:56:35 | R1710200-001      | Ca (227.547 nm)    | 112.5964 o (ppm) | 0.70     | 112.5964 (ppm)  | 6618.6928     |
| 11/1/2017 20:56:35 | R1710200-001      | Cd (214.439 nm)    | 0.0001 (ppm)     | > 100.00 | 0.0001 (ppm)    | 14.7363       |
| 11/1/2017 20:56:35 | R1710200-001      | Co (230.786 nm)    | 0.0030 (ppm)     | 24.97    | 0.0030 (ppm)    | 29.9901       |
| 11/1/2017 20:56:35 | R1710200-001      | Cr (267.716 nm)    | -0.0001 u (ppm)  | > 100.00 | -0.0001 (ppm)   | -3.2783       |
| 11/1/2017 20:56:35 | R1710200-001      | Cu (327.395 nm)    | 0.0036 (ppm)     | 2.64     | 0.0036 (ppm)    | 244.7799      |
| 11/1/2017 20:56:35 | R1710200-001      | Fe (234.350 nm)    | 3.0852 (ppm)     | 0.42     | 3.0852 (ppm)    | 35913.5267    |
| 11/1/2017 20:56:35 | R1710200-001      | K (766.491 nm)     | 156.3503 o (ppm) | 0.71     | 156.3503 (ppm)  | 482799.1911   |
| 11/1/2017 20:56:35 | R1710200-001      | Mg (279.078 nm)    | 38.4311 (ppm)    | 0.47     | 38.4311 (ppm)   | 77538.6583    |
| 11/1/2017 20:56:35 | R1710200-001      | Mn (257.610 nm)    | 0.7770 (ppm)     | 0.50     | 0.7770 (ppm)    | 251429.8537   |
| 11/1/2017 20:56:35 | R1710200-001      | Mo (202.032 nm)    | 0.0057 (ppm)     | 5.97     | 0.0057 (ppm)    | 77.5910       |
| 11/1/2017 20:56:35 | R1710200-001      | Na (588.995 nm)    | 468.3280 o (ppm) | 0.96     | 468.3280 (ppm)  | 21484092.8726 |
| 11/1/2017 20:56:35 | R1710200-001      | Ni (230.299 nm)    | 0.0120 (ppm)     | 9.74     | 0.0120 (ppm)    | 57.1851       |
| 11/1/2017 20:56:35 | R1710200-001      | Pb (220.353 nm)    | -0.0024 u (ppm)  | 10.69    | -0.0024 (ppm)   | 0.2112        |
| 11/1/2017 20:56:35 | R1710200-001      | Sb (217.582 nm)    | -0.0035 u (ppm)  | 82.16    | -0.0035 (ppm)   | -0.8668       |
| 11/1/2017 20:56:35 | R1710200-001      | Se (196.026 nm)    | -0.0037 u (ppm)  | 65.11    | -0.0037 (ppm)   | 2.2575        |
| 11/1/2017 20:56:35 | R1710200-001      | Sn (189.925 nm)    | -0.0008 u (ppm)  | > 100.00 | -0.0008 (ppm)   | -1.1836       |
| 11/1/2017 20:56:35 | R1710200-001      | Sr (216.596 nm)    | 0.4253 (ppm)     | 0.47     | 0.4253 (ppm)    | 6342.9495     |
| 11/1/2017 20:56:35 | R1710200-001      | Ti (336.122 nm)    | 0.0015 (ppm)     | 5.94     | 0.0015 (ppm)    | -86.4210      |
| 11/1/2017 20:56:35 | R1710200-001      | Tl (351.923 nm)    | -0.0002 u (ppm)  | > 100.00 | -0.0002 (ppm)   | 13.9580       |
| 11/1/2017 20:56:35 | R1710200-001      | V (292.401 nm)     | 0.0012 (ppm)     | 10.05    | 0.0012 (ppm)    | 154.2095      |
| 11/1/2017 20:56:35 | R1710200-001      | Y (360.074 nm)     | 0.87 (Ratio)     | 0.88     | 0.87 (Ratio)    | 813258.76     |
| 11/1/2017 20:56:35 | R1710200-001      | Y_R (360.074 nm)   | 0.87 (Ratio)     | 0.88     | 0.87 (Ratio)    | 813780.23     |
| 11/1/2017 20:56:35 | R1710200-001      | Zn (213.857 nm)    | 0.0064 (ppm)     | 0.50     | 0.0064 (ppm)    | 154.0651      |
| 11/1/2017 20:59:54 | R1710200-002 -003 | Ag (328.068 nm)    | 0.0001 (ppm)     | 55.36    | 0.0001 (ppm)    | -118.4153     |
| 11/1/2017 20:59:54 | R1710200-002      | Al (394.401 nm)    | 0.0672 (ppm)     | 1.01     | 0.0672 (ppm)    | 981.1815      |
| 11/1/2017 20:59:54 | R1710200-002      | As (188.980 nm)    | 0.0004 u (ppm)   | > 100.00 | 0.0004 (ppm)    | -2.5578       |
| 11/1/2017 20:59:54 | R1710200-002      | B (249.772 nm)     | 0.0257 (ppm)     | 2.06     | 0.0257 (ppm)    | 827.7606      |
| 11/1/2017 20:59:54 | R1710200-002      | Ba (230.424 nm)    | 0.0352 (ppm)     | 0.71     | 0.0352 (ppm)    | 1238.1881     |
| 11/1/2017 20:59:54 | R1710200-002      | Be (313.107 nm)    | 0.0000 (ppm)     | 12.03    | 0.0000 (ppm)    | -526.1103     |
| 11/1/2017 20:59:54 | R1710200-002      | Ca (227.547 nm)    | 115.1431 o (ppm) | 0.69     | 115.1431 (ppm)  | 6768.2506     |
| 11/1/2017 20:59:54 | R1710200-002      | Cd (214.439 nm)    | 0.0000 u (ppm)   | 99.05    | 0.0000 (ppm)    | 11.4488       |
| 11/1/2017 20:59:54 | R1710200-002      | Co (230.786 nm)    | -0.0002 u (ppm)  | > 100.00 | -0.0002 (ppm)   | -3.1546       |
| 11/1/2017 20:59:54 | R1710200-002      | Cr (267.716 nm)    | 0.0003 (ppm)     | 62.71    | 0.0003 (ppm)    | 16.4305       |
| 11/1/2017 20:59:54 | R1710200-002      | Cu (327.395 nm)    | 0.0053 (ppm)     | 2.19     | 0.0053 (ppm)    | 353.1979      |
| 11/1/2017 20:59:54 | R1710200-002      | Fe (234.350 nm)    | 0.0603 (ppm)     | 0.80     | 0.0603 (ppm)    | 773.5564      |
| 11/1/2017 20:59:54 | R1710200-002      | K (766.491 nm)     | 4.4736 (ppm)     | 1.16     | 4.4736 (ppm)    | 13869.9321    |

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| Date Time          | Label                               | Element Label (nm) | Conc             | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|-------------------------------------|--------------------|------------------|----------|-----------------|--------------|
| 11/1/2017 20:59:54 | R1710200-002 -003                   | Mg (279.078 nm)    | 16.8365 (ppm)    | 0.32     | 16.8365 (ppm)   | 33965.3365   |
| 11/1/2017 20:59:54 | R1710200-002                        | Mn (257.610 nm)    | 0.0058 (ppm)     | 0.37     | 0.0058 (ppm)    | 1894.8088    |
| 11/1/2017 20:59:54 | R1710200-002                        | Mo (202.032 nm)    | -0.0004 u (ppm)  | 20.28    | -0.0004 (ppm)   | 12.5113      |
| 11/1/2017 20:59:54 | R1710200-002                        | Na (588.995 nm)    | 3.8292 (ppm)     | 0.99     | 3.8292 (ppm)    | 169731.1102  |
| 11/1/2017 20:59:54 | R1710200-002                        | Ni (230.299 nm)    | -0.0025 u (ppm)  | 20.82    | -0.0025 (ppm)   | -43.5373     |
| 11/1/2017 20:59:54 | R1710200-002                        | Pb (220.353 nm)    | 0.0000 u (ppm)   | > 100.00 | 0.0000 (ppm)    | 5.5428       |
| 11/1/2017 20:59:54 | R1710200-002                        | Sb (217.582 nm)    | -0.0027 u (ppm)  | 59.02    | -0.0027 (ppm)   | 0.2828       |
| 11/1/2017 20:59:54 | R1710200-002                        | Se (196.026 nm)    | -0.0017 u (ppm)  | > 100.00 | -0.0017 (ppm)   | 4.0764       |
| 11/1/2017 20:59:54 | R1710200-002                        | Sn (189.925 nm)    | -0.0016 u (ppm)  | 66.75    | -0.0016 (ppm)   | -2.1466      |
| 11/1/2017 20:59:54 | R1710200-002                        | Sr (216.596 nm)    | 0.7609 (ppm)     | 0.46     | 0.7609 (ppm)    | 11349.4961   |
| 11/1/2017 20:59:54 | R1710200-002                        | Ti (336.122 nm)    | 0.0024 (ppm)     | 4.64     | 0.0024 (ppm)    | 104.3993     |
| 11/1/2017 20:59:54 | R1710200-002                        | Ti (351.923 nm)    | -0.0018 u (ppm)  | > 100.00 | -0.0018 (ppm)   | 9.4567       |
| 11/1/2017 20:59:54 | R1710200-002                        | V (292.401 nm)     | 0.0003 (ppm)     | 50.09    | 0.0003 (ppm)    | 119.9114     |
| 11/1/2017 20:59:54 | R1710200-002                        | Y (360.074 nm)     | 0.95 (Ratio)     | 0.80     | 0.95 (Ratio)    | 894054.33    |
| 11/1/2017 20:59:54 | R1710200-002                        | Y_R (360.074 nm)   | 0.96 (Ratio)     | 0.80     | 0.96 (Ratio)    | 894420.52    |
| 11/1/2017 20:59:54 | R1710200-002                        | Zn (213.857 nm)    | 0.0083 (ppm)     | 1.59     | 0.0083 (ppm)    | 211.8510     |
| 11/1/2017 21:03:13 | R1710054-013                        | Ag (328.068 nm)    | 0.0002 (ppm)     | 72.29    | 0.0002 (ppm)    | -114.2421    |
| 11/1/2017 21:03:13 | R1710054-013                        | Al (394.401 nm)    | 0.2247 (ppm)     | 0.62     | 0.2247 (ppm)    | 3083.9102    |
| 11/1/2017 21:03:13 | R1710054-013                        | As (188.980 nm)    | 0.0008 u (ppm)   | > 100.00 | 0.0008 (ppm)    | -2.1939      |
| 11/1/2017 21:03:13 | R1710054-013                        | B (249.772 nm)     | 0.0522 (ppm)     | 0.36     | 0.0522 (ppm)    | 1586.3079    |
| 11/1/2017 21:03:13 | R1710054-013                        | Ba (230.424 nm)    | 0.2090 (ppm)     | 0.40     | 0.2090 (ppm)    | 7323.8623    |
| 11/1/2017 21:03:13 | R1710054-013                        | Be (313.107 nm)    | 0.0000 (ppm)     | 71.76    | 0.0000 (ppm)    | -521.8905    |
| 11/1/2017 21:03:13 | R1710054-013                        | Ce (227.547 nm)    | 183.2981 u (ppm) | 0.52     | 183.2981 (ppm)  | 10770.8335   |
| 11/1/2017 21:03:13 | R1710054-013                        | Cd (214.439 nm)    | 0.0000 u (ppm)   | > 100.00 | 0.0000 (ppm)    | 12.7714      |
| 11/1/2017 21:03:13 | R1710054-013                        | Co (230.786 nm)    | 0.0045 (ppm)     | 12.69    | 0.0045 (ppm)    | 45.1386      |
| 11/1/2017 21:03:13 | R1710054-013                        | Cr (267.716 nm)    | -0.0002 u (ppm)  | 54.83    | -0.0002 (ppm)   | -12.5300     |
| 11/1/2017 21:03:13 | R1710054-013                        | Cu (327.395 nm)    | 0.0021 (ppm)     | 5.15     | 0.0021 (ppm)    | 153.1349     |
| 11/1/2017 21:03:13 | R1710054-013                        | Fe (234.350 nm)    | 0.2590 (ppm)     | 0.64     | 0.2590 (ppm)    | 3081.5869    |
| 11/1/2017 21:03:13 | R1710054-013                        | K (766.491 nm)     | 5.0669 (ppm)     | 0.71     | 5.0669 (ppm)    | 15701.9472   |
| 11/1/2017 21:03:13 | R1710054-013                        | Mg (279.078 nm)    | 28.8627 (ppm)    | 0.42     | 28.8627 (ppm)   | 58231.6928   |
| 11/1/2017 21:03:13 | R1710054-013                        | Mn (257.610 nm)    | 0.8143 (ppm)     | 0.38     | 0.8143 (ppm)    | 263497.4357  |
| 11/1/2017 21:03:13 | R1710054-013                        | Mo (202.032 nm)    | -0.0005 u (ppm)  | 64.34    | -0.0005 (ppm)   | 11.0710      |
| 11/1/2017 21:03:13 | R1710054-013                        | Na (588.995 nm)    | 44.2872 (ppm)    | 0.64     | 44.2872 (ppm)   | 2026219.2393 |
| 11/1/2017 21:03:13 | R1710054-013                        | Ni (230.299 nm)    | 0.0066 (ppm)     | 9.43     | 0.0066 (ppm)    | 19.7717      |
| 11/1/2017 21:03:13 | R1710054-013                        | Pb (220.353 nm)    | -0.0022 u (ppm)  | 81.73    | -0.0022 (ppm)   | 0.8131       |
| 11/1/2017 21:03:13 | R1710054-013                        | Sb (217.582 nm)    | -0.0029 u (ppm)  | 25.23    | -0.0029 (ppm)   | -0.0267      |
| 11/1/2017 21:03:13 | R1710054-013                        | Se (196.026 nm)    | -0.0017 u (ppm)  | > 100.00 | -0.0017 (ppm)   | 4.0740       |
| 11/1/2017 21:03:13 | R1710054-013                        | Sn (189.925 nm)    | -0.0014 u (ppm)  | > 100.00 | -0.0014 (ppm)   | -1.8747      |
| 11/1/2017 21:03:13 | R1710054-013                        | Sr (216.596 nm)    | 9.7570 u (ppm)   | 0.48     | 9.7570 (ppm)    | 145546.8811  |
| 11/1/2017 21:03:13 | R1710054-013                        | Ti (336.122 nm)    | 0.0049 (ppm)     | 2.62     | 0.0049 (ppm)    | 650.3047     |
| 11/1/2017 21:03:13 | R1710054-013                        | Ti (351.923 nm)    | -0.0006 u (ppm)  | > 100.00 | -0.0006 (ppm)   | 12.9082      |
| 11/1/2017 21:03:13 | R1710054-013                        | V (292.401 nm)     | 0.0005 (ppm)     | 11.73    | 0.0005 (ppm)    | 127.1353     |
| 11/1/2017 21:03:13 | R1710054-013                        | Y (360.074 nm)     | 0.93 (Ratio)     | 0.74     | 0.93 (Ratio)    | 869044.29    |
| 11/1/2017 21:03:13 | R1710054-013                        | Y_R (360.074 nm)   | 0.93 (Ratio)     | 0.74     | 0.93 (Ratio)    | 869535.33    |
| 11/1/2017 21:03:13 | R1710054-013                        | Zn (213.857 nm)    | 0.0044 (ppm)     | 2.83     | 0.0044 (ppm)    | 96.2499      |
| 11/1/2017 21:06:32 | Continuing Calibration Verification | Ag (328.068 nm)    | 0.4943 (ppm)     | 0.46     | 0.4943 (ppm)    | 36189.3698   |
| 11/1/2017 21:06:32 | Continuing Calibration Verification | Al (394.401 nm)    | 9.6594 (ppm)     | 0.63     | 9.6594 (ppm)    | 129069.5745  |
| 11/1/2017 21:06:32 | Continuing Calibration Verification | As (188.980 nm)    | 0.9768 (ppm)     | 0.67     | 0.9768 (ppm)    | 901.1295     |
| 11/1/2017 21:06:32 | Continuing Calibration Verification | B (249.772 nm)     | 2.4326 (ppm)     | 0.41     | 2.4326 (ppm)    | 69801.5208   |
| 11/1/2017 21:06:32 | Continuing Calibration Verification | Ba (230.424 nm)    | 10.3818 (ppm)    | 0.48     | 10.3818 (ppm)   | 363343.7612  |
| 11/1/2017 21:06:32 | Continuing Calibration Verification | Be (313.107 nm)    | 0.2559 (ppm)     | 0.18     | 0.2559 (ppm)    | 387614.1686  |

| Date Time          | Label                               | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|-------------------------------------|--------------------|-----------------|----------|-----------------|--------------|
| 11/1/2017 21:06:32 | Continuing Calibration Verification | Ca (227.547 nm)    | 24.5453 (ppm)   | 0.76     | 24.5453 (ppm)   | 1447.6573    |
| 11/1/2017 21:06:32 | Continuing Calibration Verification | Cd (214.439 nm)    | 0.5014 (ppm)    | 0.35     | 0.5014 (ppm)    | 11414.5940   |
| 11/1/2017 21:06:32 | Continuing Calibration Verification | Co (230.786 nm)    | 2.6112 (ppm)    | 0.48     | 2.6112 (ppm)    | 26873.0683   |
| 11/1/2017 21:06:32 | Continuing Calibration Verification | Cr (267.716 nm)    | 0.5090 (ppm)    | 0.48     | 0.5090 (ppm)    | 26548.2170   |
| 11/1/2017 21:06:32 | Continuing Calibration Verification | Cu (327.395 nm)    | 1.2230 (ppm)    | 0.40     | 1.2230 (ppm)    | 76834.5336   |
| 11/1/2017 21:06:32 | Continuing Calibration Verification | Fe (234.350 nm)    | 4.8984 (ppm)    | 0.40     | 4.8984 (ppm)    | 56978.1462   |
| 11/1/2017 21:06:32 | Continuing Calibration Verification | K (766.491 nm)     | 25.0111 (ppm)   | 0.78     | 25.0111 (ppm)   | 77280.8918   |
| 11/1/2017 21:06:32 | Continuing Calibration Verification | Mg (279.078 nm)    | 25.1834 (ppm)   | 0.47     | 25.1834 (ppm)   | 50807.5323   |
| 11/1/2017 21:06:32 | Continuing Calibration Verification | Mn (257.610 nm)    | 0.7607 (ppm)    | 0.35     | 0.7607 (ppm)    | 246132.8560  |
| 11/1/2017 21:06:32 | Continuing Calibration Verification | Mo (202.032 nm)    | 2.4191 (ppm)    | 0.32     | 2.4191 (ppm)    | 25900.4758   |
| 11/1/2017 21:06:32 | Continuing Calibration Verification | Na (588.995 nm)    | 25.1799 (ppm)   | 0.78     | 25.1799 (ppm)   | 1149445.1221 |
| 11/1/2017 21:06:32 | Continuing Calibration Verification | Ni (230.299 nm)    | 2.0515 (ppm)    | 0.33     | 2.0515 (ppm)    | 14209.9637   |
| 11/1/2017 21:06:32 | Continuing Calibration Verification | Pb (220.353 nm)    | 0.5001 (ppm)    | 0.30     | 0.5001 (ppm)    | 1122.0169    |
| 11/1/2017 21:06:32 | Continuing Calibration Verification | Sb (217.582 nm)    | 4.9323 (ppm)    | 0.78     | 4.9323 (ppm)    | 7040.4781    |
| 11/1/2017 21:06:32 | Continuing Calibration Verification | Se (196.026 nm)    | 0.4837 (ppm)    | 0.90     | 0.4837 (ppm)    | 428.0402     |
| 11/1/2017 21:06:32 | Continuing Calibration Verification | Sn (189.925 nm)    | 5.0836 (ppm)    | 0.37     | 5.0836 (ppm)    | 6477.4853    |
| 11/1/2017 21:06:32 | Continuing Calibration Verification | Sr (216.596 nm)    | 2.5309 (ppm)    | 0.38     | 2.5309 (ppm)    | 37752.4087   |
| 11/1/2017 21:06:32 | Continuing Calibration Verification | Ti (336.122 nm)    | 2.5146 (ppm)    | 0.44     | 2.5146 (ppm)    | 551030.1742  |
| 11/1/2017 21:06:32 | Continuing Calibration Verification | Tl (351.923 nm)    | 0.9996 (ppm)    | 0.78     | 0.9996 (ppm)    | 2852.4596    |
| 11/1/2017 21:06:32 | Continuing Calibration Verification | V (292.401 nm)     | 2.5468 (ppm)    | 0.47     | 2.5468 (ppm)    | 91786.2161   |
| 11/1/2017 21:06:32 | Continuing Calibration Verification | Y (360.074 nm)     | 0.95 (Ratio)    | 0.88     | 0.95 (Ratio)    | 887917.69    |
| 11/1/2017 21:06:32 | Continuing Calibration Verification | Y_R (360.074 nm)   | 0.95 (Ratio)    | 0.87     | 0.95 (Ratio)    | 888382.10    |
| 11/1/2017 21:06:32 | Continuing Calibration Verification | Zn (213.857 nm)    | 1.0074 (ppm)    | 0.48     | 1.0074 (ppm)    | 29237.9060   |
| 11/1/2017 21:09:52 | Continuing Calibration Blank        | Ag (328.068 nm)    | 0.0001 (ppm)    | > 100.00 | 0.0001 (ppm)    | -120.0767    |
| 11/1/2017 21:09:52 | Continuing Calibration Blank        | Al (394.401 nm)    | 0.0003 u (ppm)  | > 100.00 | 0.0003 (ppm)    | 87.0601      |
| 11/1/2017 21:09:52 | Continuing Calibration Blank        | As (188.980 nm)    | 0.0018 (ppm)    | 65.49    | 0.0018 (ppm)    | -1.2209      |
| 11/1/2017 21:09:52 | Continuing Calibration Blank        | B (249.772 nm)     | 0.0011 (ppm)    | 67.23    | 0.0011 (ppm)    | 123.5222     |
| 11/1/2017 21:09:52 | Continuing Calibration Blank        | Ba (230.424 nm)    | 0.0004 (ppm)    | 29.01    | 0.0004 (ppm)    | 21.7861      |
| 11/1/2017 21:09:52 | Continuing Calibration Blank        | Be (313.107 nm)    | 0.0000 (ppm)    | 94.55    | 0.0000 (ppm)    | -495.4066    |
| 11/1/2017 21:09:52 | Continuing Calibration Blank        | Ca (227.547 nm)    | -0.0349 u (ppm) | > 100.00 | -0.0349 (ppm)   | 4.1197       |
| 11/1/2017 21:09:52 | Continuing Calibration Blank        | Cd (214.439 nm)    | 0.0002 (ppm)    | 44.40    | 0.0002 (ppm)    | 16.4470      |
| 11/1/2017 21:09:52 | Continuing Calibration Blank        | Co (230.786 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | -2.1734      |
| 11/1/2017 21:09:52 | Continuing Calibration Blank        | Cr (267.716 nm)    | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | -0.6060      |
| 11/1/2017 21:09:52 | Continuing Calibration Blank        | Cu (327.395 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | 19.8906      |
| 11/1/2017 21:09:52 | Continuing Calibration Blank        | Fe (234.350 nm)    | 0.0046 (ppm)    | 5.40     | 0.0046 (ppm)    | 126.1661     |
| 11/1/2017 21:09:52 | Continuing Calibration Blank        | K (766.491 nm)     | 0.0479 (ppm)    | 16.89    | 0.0479 (ppm)    | 205.3369     |
| 11/1/2017 21:09:52 | Continuing Calibration Blank        | Mg (279.078 nm)    | 0.0018 (ppm)    | 49.39    | 0.0018 (ppm)    | -3.4419      |
| 11/1/2017 21:09:52 | Continuing Calibration Blank        | Mn (257.610 nm)    | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | 32.4631      |
| 11/1/2017 21:09:52 | Continuing Calibration Blank        | Mo (202.032 nm)    | 0.0021 (ppm)    | 7.11     | 0.0021 (ppm)    | 38.9646      |
| 11/1/2017 21:09:52 | Continuing Calibration Blank        | Na (588.995 nm)    | 0.0039 (ppm)    | 12.39    | 0.0039 (ppm)    | -5797.5979   |
| 11/1/2017 21:09:52 | Continuing Calibration Blank        | Ni (230.299 nm)    | 0.0007 (ppm)    | 44.90    | 0.0007 (ppm)    | -21.4622     |
| 11/1/2017 21:09:52 | Continuing Calibration Blank        | Pb (220.353 nm)    | -0.0006 u (ppm) | > 100.00 | -0.0006 (ppm)   | 4.2888       |
| 11/1/2017 21:09:52 | Continuing Calibration Blank        | Sb (217.582 nm)    | -0.0017 u (ppm) | > 100.00 | -0.0017 (ppm)   | 1.7671       |
| 11/1/2017 21:09:52 | Continuing Calibration Blank        | Se (196.026 nm)    | -0.0005 u (ppm) | > 100.00 | -0.0005 (ppm)   | 5.0624       |
| 11/1/2017 21:09:52 | Continuing Calibration Blank        | Sn (189.925 nm)    | 0.0008 (ppm)    | 55.65    | 0.0008 (ppm)    | 0.9026       |
| 11/1/2017 21:09:52 | Continuing Calibration Blank        | Sr (216.596 nm)    | 0.0003 (ppm)    | 89.00    | 0.0003 (ppm)    | 2.9279       |
| 11/1/2017 21:09:52 | Continuing Calibration Blank        | Ti (336.122 nm)    | 0.0008 (ppm)    | 0.74     | 0.0008 (ppm)    | -247.0011    |
| 11/1/2017 21:09:52 | Continuing Calibration Blank        | Tl (351.923 nm)    | -0.0028 u (ppm) | 82.39    | -0.0028 (ppm)   | 6.6875       |
| 11/1/2017 21:09:52 | Continuing Calibration Blank        | V (292.401 nm)     | -0.0001 u (ppm) | 70.14    | -0.0001 (ppm)   | 106.6731     |
| 11/1/2017 21:09:52 | Continuing Calibration Blank        | Y (360.074 nm)     | 0.99 (Ratio)    | 0.83     | 0.99 (Ratio)    | 930833.30    |
| 11/1/2017 21:09:52 | Continuing Calibration Blank        | Y_R (360.074 nm)   | 0.99 (Ratio)    | 0.83     | 0.99 (Ratio)    | 931080.28    |



| Date Time          | Label                             | Element Label (nm) | Conc             | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|-----------------------------------|--------------------|------------------|----------|-----------------|--------------|
| 11/1/2017 21:09:52 | Continuing Calibration Blank      | Zn (213.857 nm)    | 0.0000 u (ppm)   | > 100.00 | 0.0000 (ppm)    | -30.6204     |
| 11/1/2017 21:13:11 | Contract Required Detection Limit | Ag (328.068 nm)    | 0.0097 (ppm)     | 0.34     | 0.0097 (ppm)    | 586.6918     |
| 11/1/2017 21:13:11 | Contract Required Detection Limit | Al (394.401 nm)    | 0.1756 (ppm)     | 0.50     | 0.1756 (ppm)    | 2428.5570    |
| 11/1/2017 21:13:11 | Contract Required Detection Limit | As (188.980 nm)    | 0.0216 (ppm)     | 3.83     | 0.0216 (ppm)    | 17.0745      |
| 11/1/2017 21:13:11 | Contract Required Detection Limit | B (249.772 nm)     | 0.1889 (ppm)     | 0.31     | 0.1889 (ppm)    | 5502.8201    |
| 11/1/2017 21:13:11 | Contract Required Detection Limit | Ba (230.424 nm)    | 0.2122 (ppm)     | 0.50     | 0.2122 (ppm)    | 7432.8315    |
| 11/1/2017 21:13:11 | Contract Required Detection Limit | Be (313.107 nm)    | 0.0049 (ppm)     | 0.34     | 0.0049 (ppm)    | 6879.6161    |
| 11/1/2017 21:13:11 | Contract Required Detection Limit | Ca (227.547 nm)    | 1.0076 (ppm)     | 6.36     | 1.0076 (ppm)    | 65.3420      |
| 11/1/2017 21:13:11 | Contract Required Detection Limit | Cd (214.439 nm)    | 0.0103 (ppm)     | 0.76     | 0.0103 (ppm)    | 246.2036     |
| 11/1/2017 21:13:11 | Contract Required Detection Limit | Co (230.786 nm)    | 0.0510 (ppm)     | 2.15     | 0.0510 (ppm)    | 523.3232     |
| 11/1/2017 21:13:11 | Contract Required Detection Limit | Cr (267.716 nm)    | 0.0102 (ppm)     | 0.37     | 0.0102 (ppm)    | 529.0179     |
| 11/1/2017 21:13:11 | Contract Required Detection Limit | Cu (327.395 nm)    | 0.0246 (ppm)     | 0.87     | 0.0246 (ppm)    | 1568.2461    |
| 11/1/2017 21:13:11 | Contract Required Detection Limit | Fe (234.350 nm)    | 0.0976 (ppm)     | 0.08     | 0.0976 (ppm)    | 1206.9322    |
| 11/1/2017 21:13:11 | Contract Required Detection Limit | K (766.491 nm)     | 0.9566 (ppm)     | 1.33     | 0.9566 (ppm)    | 3011.1010    |
| 11/1/2017 21:13:11 | Contract Required Detection Limit | Mg (279.078 nm)    | 1.0007 (ppm)     | 0.15     | 1.0007 (ppm)    | 2012.1287    |
| 11/1/2017 21:13:11 | Contract Required Detection Limit | Mn (257.610 nm)    | 0.0154 (ppm)     | 0.55     | 0.0154 (ppm)    | 5007.4906    |
| 11/1/2017 21:13:11 | Contract Required Detection Limit | Mo (202.032 nm)    | 0.0248 (ppm)     | 0.92     | 0.0248 (ppm)    | 281.9739     |
| 11/1/2017 21:13:11 | Contract Required Detection Limit | Na (588.995 nm)    | 1.0241 (ppm)     | 0.60     | 1.0241 (ppm)    | 41013.7181   |
| 11/1/2017 21:13:11 | Contract Required Detection Limit | Ni (230.299 nm)    | 0.0412 (ppm)     | 1.05     | 0.0412 (ppm)    | 259.8335     |
| 11/1/2017 21:13:11 | Contract Required Detection Limit | Pb (220.353 nm)    | 0.0095 (ppm)     | 11.35    | 0.0095 (ppm)    | 26.8505      |
| 11/1/2017 21:13:11 | Contract Required Detection Limit | Sb (217.582 nm)    | 0.0550 (ppm)     | 2.94     | 0.0550 (ppm)    | 82.6225      |
| 11/1/2017 21:13:11 | Contract Required Detection Limit | Se (196.026 nm)    | 0.0094 (ppm)     | 16.25    | 0.0094 (ppm)    | 13.7279      |
| 11/1/2017 21:13:11 | Contract Required Detection Limit | Sn (189.925 nm)    | 0.5086 (ppm)     | 0.73     | 0.5086 (ppm)    | 647.9363     |
| 11/1/2017 21:13:11 | Contract Required Detection Limit | Sr (216.596 nm)    | 0.1024 (ppm)     | 0.86     | 0.1024 (ppm)    | 1526.0110    |
| 11/1/2017 21:13:11 | Contract Required Detection Limit | Ti (336.122 nm)    | 0.0510 (ppm)     | 0.49     | 0.0510 (ppm)    | 10754.6838   |
| 11/1/2017 21:13:11 | Contract Required Detection Limit | Tl (351.923 nm)    | 0.0161 (ppm)     | 4.60     | 0.0161 (ppm)    | 60.4142      |
| 11/1/2017 21:13:11 | Contract Required Detection Limit | V (292.401 nm)     | 0.0498 (ppm)     | 0.48     | 0.0498 (ppm)    | 1902.2695    |
| 11/1/2017 21:13:11 | Contract Required Detection Limit | Y (360.074 nm)     | 0.99 (Ratio)     | 0.80     | 0.99 (Ratio)    | 931194.72    |
| 11/1/2017 21:13:11 | Contract Required Detection Limit | Y_R (360.074 nm)   | 1.00 (Ratio)     | 0.81     | 1.00 (Ratio)    | 931517.10    |
| 11/1/2017 21:13:11 | Contract Required Detection Limit | Zn (213.857 nm)    | 0.0192 (ppm)     | 0.79     | 0.0192 (ppm)    | 528.0747     |
| 11/1/2017 21:16:30 | Interference Check Solution A     | Ag (328.068 nm)    | 0.0001 (ppm)     | > 100.00 | 0.0001 (ppm)    | -116.0845    |
| 11/1/2017 21:16:30 | Interference Check Solution A     | Al (394.401 nm)    | 267.3465 o (ppm) | 0.56     | 267.3465 (ppm)  | 3570083.2251 |
| 11/1/2017 21:16:30 | Interference Check Solution A     | As (188.980 nm)    | 0.0003 u (ppm)   | > 100.00 | 0.0003 (ppm)    | -2.5770      |
| 11/1/2017 21:16:30 | Interference Check Solution A     | B (249.772 nm)     | 0.0380 (ppm)     | 0.41     | 0.0380 (ppm)    | 1179.0755    |
| 11/1/2017 21:16:30 | Interference Check Solution A     | Ba (230.424 nm)    | 0.0003 (ppm)     | 28.69    | 0.0003 (ppm)    | 19.5863      |
| 11/1/2017 21:16:30 | Interference Check Solution A     | Be (313.107 nm)    | -0.0001 u (ppm)  | 4.38     | -0.0001 (ppm)   | -594.2393    |
| 11/1/2017 21:16:30 | Interference Check Solution A     | Ca (227.547 nm)    | 271.8127 o (ppm) | 0.63     | 271.8127 (ppm)  | 15969.0922   |
| 11/1/2017 21:16:30 | Interference Check Solution A     | Cd (214.439 nm)    | -0.0010 u (ppm)  | 10.69    | -0.0010 (ppm)   | -9.8237      |
| 11/1/2017 21:16:30 | Interference Check Solution A     | Co (230.786 nm)    | -0.0018 u (ppm)  | 13.65    | -0.0018 (ppm)   | -20.2251     |
| 11/1/2017 21:16:30 | Interference Check Solution A     | Cr (267.716 nm)    | 0.0000 u (ppm)   | > 100.00 | 0.0000 (ppm)    | -0.3435      |
| 11/1/2017 21:16:30 | Interference Check Solution A     | Cu (327.395 nm)    | 0.0005 (ppm)     | 12.12    | 0.0005 (ppm)    | 52.4983      |
| 11/1/2017 21:16:30 | Interference Check Solution A     | Fe (234.350 nm)    | 89.8320 o (ppm)  | 0.42     | 89.8320 (ppm)   | 1043659.4755 |
| 11/1/2017 21:16:30 | Interference Check Solution A     | K (766.491 nm)     | 0.0396 (ppm)     | 9.36     | 0.0396 (ppm)    | 179.9140     |
| 11/1/2017 21:16:30 | Interference Check Solution A     | Mg (279.078 nm)    | 265.8091 o (ppm) | 0.71     | 265.8091 (ppm)  | 536337.8925  |
| 11/1/2017 21:16:30 | Interference Check Solution A     | Mn (257.610 nm)    | 0.0016 (ppm)     | 0.22     | 0.0016 (ppm)    | 536.7602     |
| 11/1/2017 21:16:30 | Interference Check Solution A     | Mo (202.032 nm)    | 0.0000 u (ppm)   | > 100.00 | 0.0000 (ppm)    | 17.1009      |
| 11/1/2017 21:16:30 | Interference Check Solution A     | Na (588.995 nm)    | 0.0050 (ppm)     | 41.81    | 0.0050 (ppm)    | -5751.1971   |
| 11/1/2017 21:16:30 | Interference Check Solution A     | Ni (230.299 nm)    | -0.0016 u (ppm)  | 62.84    | -0.0016 (ppm)   | -37.1130     |
| 11/1/2017 21:16:30 | Interference Check Solution A     | Pb (220.353 nm)    | -0.0015 u (ppm)  | > 100.00 | -0.0015 (ppm)   | 2.2359       |
| 11/1/2017 21:16:30 | Interference Check Solution A     | Sb (217.582 nm)    | -0.0042 u (ppm)  | 96.01    | -0.0042 (ppm)   | -1.9094      |
| 11/1/2017 21:16:30 | Interference Check Solution A     | Se (196.026 nm)    | 0.0041 u (ppm)   | > 100.00 | 0.0041 (ppm)    | 9.1407       |

| Date Time          | Label                          | Element Label (nm) | Conc              | %RSD     | Unadjusted Conc | Intensity     |
|--------------------|--------------------------------|--------------------|-------------------|----------|-----------------|---------------|
| 11/1/2017 21:16:30 | Interference Check Solution A  | Sn (189.925 nm)    | -0.0018 u (ppm)   | 49.99    | -0.0018 (ppm)   | -2.4196       |
| 11/1/2017 21:16:30 | Interference Check Solution A  | Sr (216.596 nm)    | 0.0189 (ppm)      | 3.25     | 0.0189 (ppm)    | 280.2526      |
| 11/1/2017 21:16:30 | Interference Check Solution A  | Tl (336.122 nm)    | 0.0014 (ppm)      | 9.10     | 0.0014 (ppm)    | -116.4873     |
| 11/1/2017 21:16:30 | Interference Check Solution A  | Tl (351.923 nm)    | 0.0016 u (ppm)    | > 100.00 | 0.0016 (ppm)    | 19.2611       |
| 11/1/2017 21:16:30 | Interference Check Solution A  | V (292.401 nm)     | 0.0035 K (ppm)    | 6.65     | 0.0035 (ppm)    | 237.6267 K    |
| 11/1/2017 21:16:30 | Interference Check Solution A  | Y (360.074 nm)     | 0.87 (Ratio)      | 0.83     | 0.87 (Ratio)    | 810720.73     |
| 11/1/2017 21:16:30 | Interference Check Solution A  | Y_R (360.074 nm)   | 0.87 (Ratio)      | 0.83     | 0.87 (Ratio)    | 811319.38     |
| 11/1/2017 21:16:30 | Interference Check Solution A  | Zn (213.857 nm)    | 0.0117 K (ppm)    | 1.79     | 0.0117 (ppm)    | 308.1188 K    |
| 11/1/2017 21:19:49 | Interference Check Solution AB | Ag (328.068 nm)    | 0.2175 (ppm)      | 0.30     | 0.2175 (ppm)    | 15849.9823    |
| 11/1/2017 21:19:49 | Interference Check Solution AB | Al (394.401 nm)    | 267.3423 o (ppm)  | 0.53     | 267.3423 (ppm)  | 3570027.6209  |
| 11/1/2017 21:19:49 | Interference Check Solution AB | As (188.980 nm)    | 0.1050 (ppm)      | 5.66     | 0.1050 (ppm)    | 94.2642       |
| 11/1/2017 21:19:49 | Interference Check Solution AB | B (249.772 nm)     | 0.0385 (ppm)      | 1.38     | 0.0385 (ppm)    | 1193.9849     |
| 11/1/2017 21:19:49 | Interference Check Solution AB | Ba (230.424 nm)    | 0.5322 (ppm)      | 0.33     | 0.5322 (ppm)    | 18632.6788    |
| 11/1/2017 21:19:49 | Interference Check Solution AB | Be (313.107 nm)    | 0.5129 (ppm)      | 0.36     | 0.5129 (ppm)    | 777476.4426   |
| 11/1/2017 21:19:49 | Interference Check Solution AB | Ca (227.547 nm)    | 269.4789 o (ppm)  | 0.38     | 269.4789 (ppm)  | 15832.0319    |
| 11/1/2017 21:19:49 | Interference Check Solution AB | Cd (214.439 nm)    | 0.9694 (ppm)      | 0.15     | 0.9694 (ppm)    | 22058.8594    |
| 11/1/2017 21:19:49 | Interference Check Solution AB | Co (230.786 nm)    | 0.4993 (ppm)      | 0.49     | 0.4993 (ppm)    | 5137.6994     |
| 11/1/2017 21:19:49 | Interference Check Solution AB | Cr (267.716 nm)    | 0.5001 (ppm)      | 0.30     | 0.5001 (ppm)    | 26082.7554    |
| 11/1/2017 21:19:49 | Interference Check Solution AB | Cu (327.395 nm)    | 0.5351 (ppm)      | 0.56     | 0.5351 (ppm)    | 33630.4811    |
| 11/1/2017 21:19:49 | Interference Check Solution AB | Fe (234.350 nm)    | 89.9781 o (ppm)   | 0.33     | 89.9781 (ppm)   | 1045357.3641  |
| 11/1/2017 21:19:49 | Interference Check Solution AB | K (766.491 nm)     | 0.0348 (ppm)      | 11.78    | 0.0348 (ppm)    | 164.8447      |
| 11/1/2017 21:19:49 | Interference Check Solution AB | Mg (279.078 nm)    | 266.3544 o (ppm)  | 0.53     | 266.3544 (ppm)  | 537438.1619   |
| 11/1/2017 21:19:49 | Interference Check Solution AB | Mn (257.610 nm)    | 0.5018 (ppm)      | 0.40     | 0.5018 (ppm)    | 162379.4519   |
| 11/1/2017 21:19:49 | Interference Check Solution AB | Mo (202.032 nm)    | 0.0000 u (ppm)    | > 100.00 | 0.0000 (ppm)    | 16.6249       |
| 11/1/2017 21:19:49 | Interference Check Solution AB | Na (588.995 nm)    | 0.0120 (ppm)      | 10.98    | 0.0120 (ppm)    | -5427.9971    |
| 11/1/2017 21:19:49 | Interference Check Solution AB | Ni (230.299 nm)    | 0.9655 (ppm)      | 0.55     | 0.9655 (ppm)    | 6673.7384     |
| 11/1/2017 21:19:49 | Interference Check Solution AB | Pb (220.353 nm)    | 0.0474 (ppm)      | 5.31     | 0.0474 (ppm)    | 111.3676      |
| 11/1/2017 21:19:49 | Interference Check Solution AB | Sb (217.582 nm)    | 0.6154 (ppm)      | 1.11     | 0.6154 (ppm)    | 882.0335      |
| 11/1/2017 21:19:49 | Interference Check Solution AB | Se (196.026 nm)    | 0.0494 (ppm)      | 5.22     | 0.0494 (ppm)    | 48.6482       |
| 11/1/2017 21:19:49 | Interference Check Solution AB | Sn (189.925 nm)    | 0.0019 (ppm)      | 54.79    | 0.0019 (ppm)    | 2.2728        |
| 11/1/2017 21:19:49 | Interference Check Solution AB | Sr (216.596 nm)    | 0.0193 (ppm)      | 1.18     | 0.0193 (ppm)    | 286.9404      |
| 11/1/2017 21:19:49 | Interference Check Solution AB | Tl (336.122 nm)    | 0.0012 (ppm)      | 7.63     | 0.0012 (ppm)    | -166.0473     |
| 11/1/2017 21:19:49 | Interference Check Solution AB | Tl (351.923 nm)    | 0.1170 (ppm)      | 1.68     | 0.1170 (ppm)    | 346.8787      |
| 11/1/2017 21:19:49 | Interference Check Solution AB | V (292.401 nm)     | 0.5149 (ppm)      | 0.45     | 0.5149 (ppm)    | 18645.3392    |
| 11/1/2017 21:19:49 | Interference Check Solution AB | Y (360.074 nm)     | 0.86 (Ratio)      | 0.83     | 0.86 (Ratio)    | 809236.94     |
| 11/1/2017 21:19:49 | Interference Check Solution AB | Y_R (360.074 nm)   | 0.87 (Ratio)      | 0.83     | 0.87 (Ratio)    | 809839.61     |
| 11/1/2017 21:19:49 | Interference Check Solution AB | Zn (213.857 nm)    | 1.0365 (ppm)      | 0.28     | 1.0365 (ppm)    | 30084.5383    |
| 11/1/2017 21:23:09 | HLCCV2                         | Ag (328.068 nm)    | 2.2101 Qo (ppm)   | 0.43     | 2.2101 (ppm)    | 162230.9387 Q |
| 11/1/2017 21:23:09 | HLCCV2                         | Al (394.401 nm)    | 544.5308 o (ppm)  | 0.62     | 544.5308 (ppm)  | 7271451.9677  |
| 11/1/2017 21:23:09 | HLCCV2                         | As (188.980 nm)    | 4.1171 o (ppm)    | 0.96     | 4.1171 (ppm)    | 3807.6332     |
| 11/1/2017 21:23:09 | HLCCV2                         | B (249.772 nm)     | 10.5952 o (ppm)   | 0.33     | 10.5952 (ppm)   | 303716.5229   |
| 11/1/2017 21:23:09 | HLCCV2                         | Ba (230.424 nm)    | 38.2806 o (ppm)   | 0.20     | 38.2806 (ppm)   | 1339733.7413  |
| 11/1/2017 21:23:09 | HLCCV2                         | Be (313.107 nm)    | 0.9939 o (ppm)    | 0.40     | 0.9939 (ppm)    | 1506978.1057  |
| 11/1/2017 21:23:09 | HLCCV2                         | Ca (227.547 nm)    | 282.4571 Qo (ppm) | 0.61     | 282.4571 (ppm)  | 16594.2119 Q  |
| 11/1/2017 21:23:09 | HLCCV2                         | Cd (214.439 nm)    | 1.8727 o (ppm)    | 0.21     | 1.8727 (ppm)    | 42599.8990    |
| 11/1/2017 21:23:09 | HLCCV2                         | Co (230.786 nm)    | 9.3450 o (ppm)    | 0.16     | 9.3450 (ppm)    | 96177.9026    |
| 11/1/2017 21:23:09 | HLCCV2                         | Cr (267.716 nm)    | 9.6605 o (ppm)    | 0.32     | 9.6605 (ppm)    | 503827.0910   |
| 11/1/2017 21:23:09 | HLCCV2                         | Cu (327.395 nm)    | 5.5861 Qo (ppm)   | 0.63     | 5.5861 (ppm)    | 350878.2152 Q |
| 11/1/2017 21:23:09 | HLCCV2                         | Fe (234.350 nm)    | 46.8529 o (ppm)   | 0.29     | 46.8529 (ppm)   | 544367.1861   |
| 11/1/2017 21:23:09 | HLCCV2                         | K (766.491 nm)     | 176.2301 Qo (ppm) | 0.62     | 176.2301 (ppm)  | 544179.4382 Q |
| 11/1/2017 21:23:09 | HLCCV2                         | Mg (279.078 nm)    | 521.6130 o (ppm)  | 0.37     | 521.6130 (ppm)  | 1052494.5179  |

| Date Time          | Label  | Element Label (nm) | Conc             | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|--------|--------------------|------------------|----------|-----------------|--------------|
| 11/1/2017 21:23:09 | HLCCV2 | Mn (257.610 nm)    | 9.5866 o (ppm)   | 0.33     | 9.5866 (ppm)    | 3101584.5372 |
| 11/1/2017 21:23:09 | HLCCV2 | Mo (202.032 nm)    | 9.7006 o (ppm)   | 0.25     | 9.7006 (ppm)    | 103811.6539  |
| 11/1/2017 21:23:09 | HLCCV2 | Na (588.995 nm)    | 161.8823 o (ppm) | 0.80     | 161.8823 (ppm)  | 7422280.4861 |
| 11/1/2017 21:23:09 | HLCCV2 | Ni (230.299 nm)    | 7.4228 o (ppm)   | 0.34     | 7.4228 (ppm)    | 51481.6637   |
| 11/1/2017 21:23:09 | HLCCV2 | Pb (220.353 nm)    | 9.4958 o (ppm)   | 0.20     | 9.4958 (ppm)    | 21202.5152   |
| 11/1/2017 21:23:09 | HLCCV2 | Sb (217.582 nm)    | 0.0326 (ppm)     | 10.88    | 0.0326 (ppm)    | 50.6639      |
| 11/1/2017 21:23:09 | HLCCV2 | Se (196.026 nm)    | 2.0559 o (ppm)   | 1.17     | 2.0559 (ppm)    | 1801.4470    |
| 11/1/2017 21:23:09 | HLCCV2 | Sn (189.925 nm)    | -0.0240 u (ppm)  | 25.35    | -0.0240 (ppm)   | -30.7980     |
| 11/1/2017 21:23:09 | HLCCV2 | Sr (216.596 nm)    | 9.6629 o (ppm)   | 0.18     | 9.6629 (ppm)    | 144143.0787  |
| 11/1/2017 21:23:09 | HLCCV2 | Ti (336.122 nm)    | 10.1557 o (ppm)  | 0.49     | 10.1557 (ppm)   | 2226745.5972 |
| 11/1/2017 21:23:09 | HLCCV2 | Tl (351.923 nm)    | 4.5546 Qo (ppm)  | 0.52     | 4.5546 (ppm)    | 12945.3663 Q |
| 11/1/2017 21:23:09 | HLCCV2 | V (292.401 nm)     | 9.9874 o (ppm)   | 0.44     | 9.9874 (ppm)    | 359623.8763  |
| 11/1/2017 21:23:09 | HLCCV2 | Y (360.074 nm)     | 0.82 (Ratio)     | 0.96     | 0.82 (Ratio)    | 765609.48    |
| 11/1/2017 21:23:09 | HLCCV2 | Y_R (360.074 nm)   | 0.82 (Ratio)     | 0.95     | 0.82 (Ratio)    | 766347.45    |
| 11/1/2017 21:23:09 | HLCCV2 | Zn (213.857 nm)    | 4.1010 o (ppm)   | 0.19     | 4.1010 (ppm)    | 119122.9359  |
| 11/1/2017 21:26:28 | HLCCV3 | Ag (328.068 nm)    | 0.0003 (ppm)     | 10.02    | 0.0003 (ppm)    | -104.9727    |
| 11/1/2017 21:26:28 | HLCCV3 | Al (394.401 nm)    | 0.0539 (ppm)     | 14.40    | 0.0539 (ppm)    | 802.6417     |
| 11/1/2017 21:26:28 | HLCCV3 | As (188.980 nm)    | 0.0095 (ppm)     | 44.66    | 0.0095 (ppm)    | 5.8548       |
| 11/1/2017 21:26:28 | HLCCV3 | B (249.772 nm)     | 0.0244 (ppm)     | 10.71    | 0.0244 (ppm)    | 790.4464     |
| 11/1/2017 21:26:28 | HLCCV3 | Ba (230.424 nm)    | 0.0024 (ppm)     | 22.56    | 0.0024 (ppm)    | 92.7716      |
| 11/1/2017 21:26:28 | HLCCV3 | Be (313.107 nm)    | 0.0000 (ppm)     | 41.68    | 0.0000 (ppm)    | -437.7563    |
| 11/1/2017 21:26:28 | HLCCV3 | Ca (227.547 nm)    | 202.4052 o (ppm) | 0.62     | 202.4052 (ppm)  | 11892.9494   |
| 11/1/2017 21:26:28 | HLCCV3 | Cd (214.439 nm)    | 0.0009 (ppm)     | 10.23    | 0.0009 (ppm)    | 32.1810      |
| 11/1/2017 21:26:28 | HLCCV3 | Co (230.786 nm)    | -0.0004 u (ppm)  | 96.12    | -0.0004 (ppm)   | -5.5553      |
| 11/1/2017 21:26:28 | HLCCV3 | Cr (267.716 nm)    | 0.0007 (ppm)     | 22.99    | 0.0007 (ppm)    | 38.3002      |
| 11/1/2017 21:26:28 | HLCCV3 | Cu (327.395 nm)    | 4.1382 o (ppm)   | 0.46     | 4.1382 (ppm)    | 259936.3819  |
| 11/1/2017 21:26:28 | HLCCV3 | Fe (234.350 nm)    | 37.9467 o (ppm)  | 0.32     | 37.9467 (ppm)   | 440902.8558  |
| 11/1/2017 21:26:28 | HLCCV3 | K (766.491 nm)     | 100.5641 o (ppm) | 0.61     | 100.5641 (ppm)  | 310555.6244  |
| 11/1/2017 21:26:28 | HLCCV3 | Mg (279.078 nm)    | 0.0245 (ppm)     | 36.23    | 0.0245 (ppm)    | 42.4305      |
| 11/1/2017 21:26:28 | HLCCV3 | Mn (257.610 nm)    | 0.0027 (ppm)     | 5.83     | 0.0027 (ppm)    | 900.8512     |
| 11/1/2017 21:26:28 | HLCCV3 | Mo (202.032 nm)    | 0.0049 (ppm)     | 9.02     | 0.0049 (ppm)    | 69.5840      |
| 11/1/2017 21:26:28 | HLCCV3 | Na (588.995 nm)    | 0.0123 (ppm)     | 38.40    | 0.0123 (ppm)    | -5414.5293   |
| 11/1/2017 21:26:28 | HLCCV3 | Ni (230.299 nm)    | -0.0288 u (ppm)  | 1.07     | -0.0288 (ppm)   | -225.7619    |
| 11/1/2017 21:26:28 | HLCCV3 | Pb (220.353 nm)    | 0.0003 u (ppm)   | > 100.00 | 0.0003 (ppm)    | 6.1953       |
| 11/1/2017 21:26:28 | HLCCV3 | Sb (217.582 nm)    | -0.0027 u (ppm)  | 54.02    | -0.0027 (ppm)   | 0.2165       |
| 11/1/2017 21:26:28 | HLCCV3 | Se (196.026 nm)    | 0.0008 u (ppm)   | > 100.00 | 0.0008 (ppm)    | 6.1815       |
| 11/1/2017 21:26:28 | HLCCV3 | Sn (189.925 nm)    | -0.0011 u (ppm)  | > 100.00 | -0.0011 (ppm)   | -1.5640      |
| 11/1/2017 21:26:28 | HLCCV3 | Sr (216.596 nm)    | 0.0062 (ppm)     | 6.92     | 0.0062 (ppm)    | 90.7128      |
| 11/1/2017 21:26:28 | HLCCV3 | Ti (336.122 nm)    | 0.0038 (ppm)     | 1.99     | 0.0038 (ppm)    | 407.5079     |
| 11/1/2017 21:26:28 | HLCCV3 | Tl (351.923 nm)    | 2.9944 o (ppm)   | 0.67     | 2.9944 (ppm)    | 8515.9127    |
| 11/1/2017 21:26:28 | HLCCV3 | V (292.401 nm)     | 0.0020 (ppm)     | 13.50    | 0.0020 (ppm)    | 181.8735     |
| 11/1/2017 21:26:28 | HLCCV3 | Y (360.074 nm)     | 0.92 (Ratio)     | 0.68     | 0.92 (Ratio)    | 859688.99    |
| 11/1/2017 21:26:28 | HLCCV3 | Y_R (360.074 nm)   | 0.92 (Ratio)     | 0.68     | 0.92 (Ratio)    | 860338.04    |
| 11/1/2017 21:26:28 | HLCCV3 | Zn (213.857 nm)    | 0.0065 (ppm)     | 2.76     | 0.0065 (ppm)    | 157.4734     |
| 11/1/2017 21:29:48 | HLCCV1 | Ag (328.068 nm)    | 1.0114 (ppm)     | 0.47     | 1.0114 (ppm)    | 74174.7258   |
| 11/1/2017 21:29:48 | HLCCV1 | Al (394.401 nm)    | 20.3312 (ppm)    | 0.64     | 20.3312 (ppm)   | 271574.8792  |
| 11/1/2017 21:29:48 | HLCCV1 | As (188.980 nm)    | 2.0124 (ppm)     | 0.75     | 2.0124 (ppm)    | 1859.6888    |
| 11/1/2017 21:29:48 | HLCCV1 | B (249.772 nm)     | 5.0430 (ppm)     | 0.38     | 5.0430 (ppm)    | 144607.4954  |
| 11/1/2017 21:29:48 | HLCCV1 | Ba (230.424 nm)    | 20.1288 (ppm)    | 0.51     | 20.1288 (ppm)   | 704465.1867  |
| 11/1/2017 21:29:48 | HLCCV1 | Be (313.107 nm)    | 0.5059 (ppm)     | 0.29     | 0.5059 (ppm)    | 766855.2778  |
| 11/1/2017 21:29:48 | HLCCV1 | Ca (227.547 nm)    | 50.6192 (ppm)    | 0.86     | 50.6192 (ppm)   | 2978.9145    |

| Date Time          | Label                                | Element Label (nm) | Conc          | %RSD | Unadjusted Conc | Intensity    |
|--------------------|--------------------------------------|--------------------|---------------|------|-----------------|--------------|
| 11/1/2017 21:29:48 | HLCCV1                               | Cd (214.439 nm)    | 1.0029 (ppm)  | 0.34 | 1.0029 (ppm)    | 22819.5325   |
| 11/1/2017 21:29:48 | HLCCV1                               | Co (230.786 nm)    | 5.0241 (ppm)  | 0.40 | 5.0241 (ppm)    | 51707.1861   |
| 11/1/2017 21:29:48 | HLCCV1                               | Cr (267.716 nm)    | 1.0146 (ppm)  | 0.43 | 1.0146 (ppm)    | 52916.5796   |
| 11/1/2017 21:29:48 | HLCCV1                               | Cu (327.395 nm)    | 2.5323 (ppm)  | 0.70 | 2.5323 (ppm)    | 159072.6990  |
| 11/1/2017 21:29:48 | HLCCV1                               | Fe (234.350 nm)    | 10.0961 (ppm) | 0.45 | 10.0961 (ppm)   | 117360.4196  |
| 11/1/2017 21:29:48 | HLCCV1                               | K (766.491 nm)     | 51.0221 (ppm) | 0.75 | 51.0221 (ppm)   | 157591.6180  |
| 11/1/2017 21:29:48 | HLCCV1                               | Mg (279.078 nm)    | 50.5354 (ppm) | 0.38 | 50.5354 (ppm)   | 101962.4799  |
| 11/1/2017 21:29:48 | HLCCV1                               | Mn (257.610 nm)    | 1.5175 (ppm)  | 0.41 | 1.5175 (ppm)    | 490979.2999  |
| 11/1/2017 21:29:48 | HLCCV1                               | Mo (202.032 nm)    | 5.0468 (ppm)  | 0.35 | 5.0468 (ppm)    | 54017.1396   |
| 11/1/2017 21:29:48 | HLCCV1                               | Na (588.995 nm)    | 50.9004 (ppm) | 0.92 | 50.9004 (ppm)   | 2329679.3024 |
| 11/1/2017 21:29:48 | HLCCV1                               | Ni (230.299 nm)    | 4.0234 (ppm)  | 0.32 | 4.0234 (ppm)    | 27892.7677   |
| 11/1/2017 21:29:48 | HLCCV1                               | Pb (220.353 nm)    | 1.0064 (ppm)  | 0.36 | 1.0064 (ppm)    | 2252.1867    |
| 11/1/2017 21:29:48 | HLCCV1                               | Sb (217.582 nm)    | 10.0121 (ppm) | 0.56 | 10.0121 (ppm)   | 14287.3126   |
| 11/1/2017 21:29:48 | HLCCV1                               | Se (196.026 nm)    | 0.9982 (ppm)  | 0.73 | 0.9982 (ppm)    | 877.5295     |
| 11/1/2017 21:29:48 | HLCCV1                               | Sn (189.925 nm)    | 10.0043 (ppm) | 0.58 | 10.0043 (ppm)   | 12747.6268   |
| 11/1/2017 21:29:48 | HLCCV1                               | Sr (216.596 nm)    | 5.0551 (ppm)  | 0.19 | 5.0551 (ppm)    | 75406.5115   |
| 11/1/2017 21:29:48 | HLCCV1                               | Ti (336.122 nm)    | 5.0601 (ppm)  | 0.53 | 5.0601 (ppm)    | 1109260.7210 |
| 11/1/2017 21:29:48 | HLCCV1                               | Tl (351.923 nm)    | 2.0298 (ppm)  | 0.59 | 2.0298 (ppm)    | 5777.2450    |
| 11/1/2017 21:29:48 | HLCCV1                               | V (292.401 nm)     | 5.0648 (ppm)  | 0.48 | 5.0648 (ppm)    | 182425.3271  |
| 11/1/2017 21:29:48 | HLCCV1                               | Y (360.074 nm)     | 0.92 (Ratio)  | 0.87 | 0.92 (Ratio)    | 864309.51    |
| 11/1/2017 21:29:48 | HLCCV1                               | Y_R (360.074 nm)   | 0.92 (Ratio)  | 0.86 | 0.92 (Ratio)    | 864955.03    |
| 11/1/2017 21:29:48 | HLCCV1                               | Zn (213.857 nm)    | 2.0137 (ppm)  | 0.47 | 2.0137 (ppm)    | 58478.7202   |
| 11/1/2017 21:33:08 | Continuing Calibration Verification1 | Ag (328.068 nm)    | 0.4965 (ppm)  | 0.52 | 0.4965 (ppm)    | 36344.2828   |
| 11/1/2017 21:33:08 | Continuing Calibration Verification1 | Al (394.401 nm)    | 9.6722 (ppm)  | 0.73 | 9.6722 (ppm)    | 129241.1686  |
| 11/1/2017 21:33:08 | Continuing Calibration Verification1 | As (188.980 nm)    | 0.9772 (ppm)  | 1.13 | 0.9772 (ppm)    | 901.5653     |
| 11/1/2017 21:33:08 | Continuing Calibration Verification1 | B (249.772 nm)     | 2.4524 (ppm)  | 0.49 | 2.4524 (ppm)    | 70368.1316   |
| 11/1/2017 21:33:08 | Continuing Calibration Verification1 | Ba (230.424 nm)    | 10.4536 (ppm) | 0.30 | 10.4536 (ppm)   | 365856.7729  |
| 11/1/2017 21:33:08 | Continuing Calibration Verification1 | Be (313.107 nm)    | 0.2577 (ppm)  | 0.51 | 0.2577 (ppm)    | 390368.8320  |
| 11/1/2017 21:33:08 | Continuing Calibration Verification1 | Ca (227.547 nm)    | 24.4817 (ppm) | 1.10 | 24.4817 (ppm)   | 1443.9250    |
| 11/1/2017 21:33:08 | Continuing Calibration Verification1 | Cd (214.439 nm)    | 0.5051 (ppm)  | 0.20 | 0.5051 (ppm)    | 11500.4028   |
| 11/1/2017 21:33:08 | Continuing Calibration Verification1 | Co (230.786 nm)    | 2.6261 (ppm)  | 0.41 | 2.6261 (ppm)    | 27026.1146   |
| 11/1/2017 21:33:08 | Continuing Calibration Verification1 | Cr (267.716 nm)    | 0.5129 (ppm)  | 0.48 | 0.5129 (ppm)    | 26748.6267   |
| 11/1/2017 21:33:08 | Continuing Calibration Verification1 | Cu (327.395 nm)    | 1.2200 (ppm)  | 0.94 | 1.2200 (ppm)    | 76650.9323   |
| 11/1/2017 21:33:08 | Continuing Calibration Verification1 | Fe (234.350 nm)    | 4.9320 (ppm)  | 0.50 | 4.9320 (ppm)    | 57368.4767   |
| 11/1/2017 21:33:08 | Continuing Calibration Verification1 | K (766.491 nm)     | 25.0807 (ppm) | 0.93 | 25.0807 (ppm)   | 77495.7656   |
| 11/1/2017 21:33:08 | Continuing Calibration Verification1 | Mg (279.078 nm)    | 25.3412 (ppm) | 0.45 | 25.3412 (ppm)   | 51126.0399   |
| 11/1/2017 21:33:08 | Continuing Calibration Verification1 | Mn (257.610 nm)    | 0.7656 (ppm)  | 0.41 | 0.7656 (ppm)    | 247723.5118  |
| 11/1/2017 21:33:08 | Continuing Calibration Verification1 | Mo (202.032 nm)    | 2.4414 (ppm)  | 0.50 | 2.4414 (ppm)    | 26139.0634   |
| 11/1/2017 21:33:08 | Continuing Calibration Verification1 | Na (588.995 nm)    | 25.1840 (ppm) | 0.87 | 25.1840 (ppm)   | 1149634.3193 |
| 11/1/2017 21:33:08 | Continuing Calibration Verification1 | Ni (230.299 nm)    | 2.0643 (ppm)  | 0.46 | 2.0643 (ppm)    | 14298.5692   |
| 11/1/2017 21:33:08 | Continuing Calibration Verification1 | Pb (220.353 nm)    | 0.5057 (ppm)  | 0.61 | 0.5057 (ppm)    | 1134.5263    |
| 11/1/2017 21:33:08 | Continuing Calibration Verification1 | Sb (217.582 nm)    | 4.9651 (ppm)  | 0.58 | 4.9651 (ppm)    | 7087.3644    |
| 11/1/2017 21:33:08 | Continuing Calibration Verification1 | Se (196.026 nm)    | 0.4885 (ppm)  | 0.80 | 0.4885 (ppm)    | 432.2856     |
| 11/1/2017 21:33:08 | Continuing Calibration Verification1 | Sn (189.925 nm)    | 5.1153 (ppm)  | 0.57 | 5.1153 (ppm)    | 6517.8611    |
| 11/1/2017 21:33:08 | Continuing Calibration Verification1 | Sr (216.596 nm)    | 2.5491 (ppm)  | 0.29 | 2.5491 (ppm)    | 38024.8051   |
| 11/1/2017 21:33:08 | Continuing Calibration Verification1 | Ti (336.122 nm)    | 2.5263 (ppm)  | 1.01 | 2.5263 (ppm)    | 553601.7523  |
| 11/1/2017 21:33:08 | Continuing Calibration Verification1 | Tl (351.923 nm)    | 1.0029 (ppm)  | 0.48 | 1.0029 (ppm)    | 2861.8312    |
| 11/1/2017 21:33:08 | Continuing Calibration Verification1 | V (292.401 nm)     | 2.5639 (ppm)  | 0.52 | 2.5639 (ppm)    | 92402.1256   |
| 11/1/2017 21:33:08 | Continuing Calibration Verification1 | Y (360.074 nm)     | 0.95 (Ratio)  | 0.84 | 0.95 (Ratio)    | 887597.57    |
| 11/1/2017 21:33:08 | Continuing Calibration Verification1 | Y_R (360.074 nm)   | 0.95 (Ratio)  | 0.83 | 0.95 (Ratio)    | 888190.77    |
| 11/1/2017 21:33:08 | Continuing Calibration Verification1 | Zn (213.857 nm)    | 1.0140 (ppm)  | 0.44 | 1.0140 (ppm)    | 29431.9796   |

| Date Time          | Label                          | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity  |
|--------------------|--------------------------------|--------------------|-----------------|----------|-----------------|------------|
| 11/1/2017 21:36:27 | Continuing Calibration Blank 1 | Ag (328.068 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | -124.6288  |
| 11/1/2017 21:36:27 | Continuing Calibration Blank 1 | Al (394.401 nm)    | 0.0001 u (ppm)  | > 100.00 | 0.0001 (ppm)    | 84.1779    |
| 11/1/2017 21:36:27 | Continuing Calibration Blank 1 | As (188.980 nm)    | 0.0039 (ppm)    | 31.46    | 0.0039 (ppm)    | 0.6933     |
| 11/1/2017 21:36:27 | Continuing Calibration Blank 1 | B (249.772 nm)     | 0.0036 (ppm)    | 24.01    | 0.0036 (ppm)    | 194.2154   |
| 11/1/2017 21:36:27 | Continuing Calibration Blank 1 | Ba (230.424 nm)    | 0.0001 (ppm)    | > 100.00 | 0.0001 (ppm)    | 10.9594    |
| 11/1/2017 21:36:27 | Continuing Calibration Blank 1 | Be (313.107 nm)    | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | -507.1500  |
| 11/1/2017 21:36:27 | Continuing Calibration Blank 1 | Ca (227.547 nm)    | -0.0216 u (ppm) | > 100.00 | -0.0216 (ppm)   | 4.9033     |
| 11/1/2017 21:36:27 | Continuing Calibration Blank 1 | Cd (214.439 nm)    | 0.0002 u (ppm)  | > 100.00 | 0.0002 (ppm)    | 16.1590    |
| 11/1/2017 21:36:27 | Continuing Calibration Blank 1 | Co (230.786 nm)    | -0.0003 u (ppm) | 90.50    | -0.0003 (ppm)   | -4.1977    |
| 11/1/2017 21:36:27 | Continuing Calibration Blank 1 | Cr (267.716 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | 1.5114     |
| 11/1/2017 21:36:27 | Continuing Calibration Blank 1 | Cu (327.395 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | 19.6668    |
| 11/1/2017 21:36:27 | Continuing Calibration Blank 1 | Fe (234.350 nm)    | 0.0003 (ppm)    | 41.96    | 0.0003 (ppm)    | 76.8224    |
| 11/1/2017 21:36:27 | Continuing Calibration Blank 1 | K (766.491 nm)     | 0.0485 (ppm)    | 11.44    | 0.0485 (ppm)    | 207.1869   |
| 11/1/2017 21:36:27 | Continuing Calibration Blank 1 | Mg (279.078 nm)    | 0.0017 (ppm)    | 49.45    | 0.0017 (ppm)    | -3.6592    |
| 11/1/2017 21:36:27 | Continuing Calibration Blank 1 | Mn (257.610 nm)    | 0.0000 u (ppm)  | 31.62    | 0.0000 (ppm)    | 19.1440    |
| 11/1/2017 21:36:27 | Continuing Calibration Blank 1 | Mo (202.032 nm)    | 0.0025 (ppm)    | 16.93    | 0.0025 (ppm)    | 43.5048    |
| 11/1/2017 21:36:27 | Continuing Calibration Blank 1 | Na (588.995 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | -5977.7952 |
| 11/1/2017 21:36:27 | Continuing Calibration Blank 1 | Ni (230.299 nm)    | 0.0001 u (ppm)  | > 100.00 | 0.0001 (ppm)    | -25.5914   |
| 11/1/2017 21:36:27 | Continuing Calibration Blank 1 | Pb (220.353 nm)    | -0.0002 u (ppm) | > 100.00 | -0.0002 (ppm)   | 5.1382     |
| 11/1/2017 21:36:27 | Continuing Calibration Blank 1 | Sb (217.582 nm)    | 0.0017 (ppm)    | 46.93    | 0.0017 (ppm)    | 6.6222     |
| 11/1/2017 21:36:27 | Continuing Calibration Blank 1 | Se (196.026 nm)    | 0.0005 u (ppm)  | > 100.00 | 0.0005 (ppm)    | 5.9742     |
| 11/1/2017 21:36:27 | Continuing Calibration Blank 1 | Sn (189.925 nm)    | 0.0003 u (ppm)  | > 100.00 | 0.0003 (ppm)    | 0.2001     |
| 11/1/2017 21:36:27 | Continuing Calibration Blank 1 | Sr (216.596 nm)    | 0.0001 u (ppm)  | > 100.00 | 0.0001 (ppm)    | -0.0145    |
| 11/1/2017 21:36:27 | Continuing Calibration Blank 1 | Ti (336.122 nm)    | 0.0009 (ppm)    | 5.88     | 0.0009 (ppm)    | -228.0672  |
| 11/1/2017 21:36:27 | Continuing Calibration Blank 1 | Tl (351.923 nm)    | -0.0023 u (ppm) | 23.82    | -0.0023 (ppm)   | 8.0409     |
| 11/1/2017 21:36:27 | Continuing Calibration Blank 1 | V (292.401 nm)     | -0.0001 u (ppm) | 16.60    | -0.0001 (ppm)   | 108.0478   |
| 11/1/2017 21:36:27 | Continuing Calibration Blank 1 | Y (360.074 nm)     | 0.99 (Ratio)    | 0.96     | 0.99 (Ratio)    | 928572.82  |
| 11/1/2017 21:36:27 | Continuing Calibration Blank 1 | Y_R (360.074 nm)   | 0.99 (Ratio)    | 0.96     | 0.99 (Ratio)    | 929056.45  |
| 11/1/2017 21:36:27 | Continuing Calibration Blank 1 | Zn (213.857 nm)    | 0.0002 (ppm)    | 48.85    | 0.0002 (ppm)    | -25.6228   |
| 11/1/2017 21:39:46 | PBW-301737                     | Ag (328.068 nm)    | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | -124.5725  |
| 11/1/2017 21:39:46 | PBW-301737                     | Al (394.401 nm)    | 0.0013 (ppm)    | 29.91    | 0.0013 (ppm)    | 101.0924   |
| 11/1/2017 21:39:46 | PBW-301737                     | As (188.980 nm)    | 0.0018 u (ppm)  | > 100.00 | 0.0018 (ppm)    | -1.1934    |
| 11/1/2017 21:39:46 | PBW-301737                     | B (249.772 nm)     | 0.0014 (ppm)    | 18.14    | 0.0014 (ppm)    | 130.8387   |
| 11/1/2017 21:39:46 | PBW-301737                     | Ba (230.424 nm)    | -0.0001 u (ppm) | 44.72    | -0.0001 (ppm)   | 3.3616     |
| 11/1/2017 21:39:46 | PBW-301737                     | Be (313.107 nm)    | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | -513.0734  |
| 11/1/2017 21:39:46 | PBW-301737                     | Ca (227.547 nm)    | -0.0383 u (ppm) | 87.82    | -0.0383 (ppm)   | 3.9194     |
| 11/1/2017 21:39:46 | PBW-301737                     | Cd (214.439 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | 12.0980    |
| 11/1/2017 21:39:46 | PBW-301737                     | Co (230.786 nm)    | -0.0002 u (ppm) | 95.48    | -0.0002 (ppm)   | -3.1667    |
| 11/1/2017 21:39:46 | PBW-301737                     | Cr (267.716 nm)    | 0.0003 (ppm)    | 25.10    | 0.0003 (ppm)    | 17.4511    |
| 11/1/2017 21:39:46 | PBW-301737                     | Cu (327.395 nm)    | -0.0001 u (ppm) | 61.44    | -0.0001 (ppm)   | 14.5484    |
| 11/1/2017 21:39:46 | PBW-301737                     | Fe (234.350 nm)    | 0.0065 (ppm)    | 6.10     | 0.0065 (ppm)    | 148.4566   |
| 11/1/2017 21:39:46 | PBW-301737                     | K (766.491 nm)     | 0.0156 (ppm)    | 4.66     | 0.0156 (ppm)    | 105.7236   |
| 11/1/2017 21:39:46 | PBW-301737                     | Mg (279.078 nm)    | 0.0011 (ppm)    | 62.63    | 0.0011 (ppm)    | -4.7778    |
| 11/1/2017 21:39:46 | PBW-301737                     | Mn (257.610 nm)    | 0.0003 (ppm)    | 2.50     | 0.0003 (ppm)    | 140.1575   |
| 11/1/2017 21:39:46 | PBW-301737                     | Mo (202.032 nm)    | -0.0003 u (ppm) | 71.21    | -0.0003 (ppm)   | 13.4053    |
| 11/1/2017 21:39:46 | PBW-301737                     | Na (588.995 nm)    | 0.0141 (ppm)    | 8.90     | 0.0141 (ppm)    | -5333.3094 |
| 11/1/2017 21:39:46 | PBW-301737                     | Ni (230.299 nm)    | 0.0008 u (ppm)  | > 100.00 | 0.0008 (ppm)    | -20.7466   |
| 11/1/2017 21:39:46 | PBW-301737                     | Pb (220.353 nm)    | -0.0005 u (ppm) | 49.13    | -0.0005 (ppm)   | 4.6208     |
| 11/1/2017 21:39:46 | PBW-301737                     | Sb (217.582 nm)    | 0.0001 (ppm)    | > 100.00 | 0.0001 (ppm)    | 4.2125     |
| 11/1/2017 21:39:46 | PBW-301737                     | Se (196.026 nm)    | -0.0006 u (ppm) | > 100.00 | -0.0006 (ppm)   | 4.9701     |
| 11/1/2017 21:39:46 | PBW-301737                     | Sn (189.925 nm)    | -0.0004 u (ppm) | > 100.00 | -0.0004 (ppm)   | -0.6876    |

| Date Time          | Label             | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|-------------------|--------------------|-----------------|----------|-----------------|--------------|
| 11/1/2017 21:39:46 | PBW-301737        | Sr (216.596 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | -2.9659      |
| 11/1/2017 21:39:46 | PBW-301737        | Ti (336.122 nm)    | 0.0006 (ppm)    | 22.06    | 0.0006 (ppm)    | -292.8218    |
| 11/1/2017 21:39:46 | PBW-301737        | Ti (351.923 nm)    | 0.0002 u (ppm)  | > 100.00 | 0.0002 (ppm)    | 15.1809      |
| 11/1/2017 21:39:46 | PBW-301737        | V (292.401 nm)     | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | 108.1985     |
| 11/1/2017 21:39:46 | PBW-301737        | Y (360.074 nm)     | 1.01 (Ratio)    | 0.85     | 1.01 (Ratio)    | 944311.39    |
| 11/1/2017 21:39:46 | PBW-301737        | Y_R (360.074 nm)   | 1.01 (Ratio)    | 0.85     | 1.01 (Ratio)    | 944804.04    |
| 11/1/2017 21:39:46 | PBW-301737        | Zn (213.857 nm)    | 0.0037 (ppm)    | 1.10     | 0.0037 (ppm)    | 77.6032      |
| 11/1/2017 21:43:05 | LCSW-301737       | Ag (328.068 nm)    | 0.0501 (ppm)    | 1.15     | 0.0501 (ppm)    | 3554.8477    |
| 11/1/2017 21:43:05 | LCSW-301737       | Al (394.401 nm)    | 1.8750 (ppm)    | 0.78     | 1.8750 (ppm)    | 25121.6443   |
| 11/1/2017 21:43:05 | LCSW-301737       | As (188.980 nm)    | 0.0435 (ppm)    | 12.02    | 0.0435 (ppm)    | 37.3855      |
| 11/1/2017 21:43:05 | LCSW-301737       | B (249.772 nm)     | 0.9734 (ppm)    | 0.48     | 0.9734 (ppm)    | 27985.7103   |
| 11/1/2017 21:43:05 | LCSW-301737       | Ba (230.424 nm)    | 2.1003 (ppm)    | 0.80     | 2.1003 (ppm)    | 73513.6760   |
| 11/1/2017 21:43:05 | LCSW-301737       | Be (313.107 nm)    | 0.0510 (ppm)    | 0.55     | 0.0510 (ppm)    | 76799.4644   |
| 11/1/2017 21:43:05 | LCSW-301737       | Ca (227.547 nm)    | 1.9372 (ppm)    | 3.31     | 1.9372 (ppm)    | 119.9396     |
| 11/1/2017 21:43:05 | LCSW-301737       | Cd (214.439 nm)    | 0.0520 (ppm)    | 0.89     | 0.0520 (ppm)    | 1194.7515    |
| 11/1/2017 21:43:05 | LCSW-301737       | Co (230.786 nm)    | 0.5192 (ppm)    | 0.50     | 0.5192 (ppm)    | 5341.8677    |
| 11/1/2017 21:43:05 | LCSW-301737       | Cr (267.716 nm)    | 0.2016 (ppm)    | 0.66     | 0.2016 (ppm)    | 10512.4361   |
| 11/1/2017 21:43:05 | LCSW-301737       | Cu (327.395 nm)    | 0.2474 (ppm)    | 0.59     | 0.2474 (ppm)    | 15560.3588   |
| 11/1/2017 21:43:05 | LCSW-301737       | Fe (234.350 nm)    | 0.9813 (ppm)    | 0.56     | 0.9813 (ppm)    | 11472.6440   |
| 11/1/2017 21:43:05 | LCSW-301737       | K (766.491 nm)     | 19.4553 (ppm)   | 0.69     | 19.4553 (ppm)   | 60126.9921   |
| 11/1/2017 21:43:05 | LCSW-301737       | Mg (279.078 nm)    | 2.0172 (ppm)    | 0.53     | 2.0172 (ppm)    | 4063.1798    |
| 11/1/2017 21:43:05 | LCSW-301737       | Mn (257.610 nm)    | 0.5019 (ppm)    | 0.52     | 0.5019 (ppm)    | 162426.0547  |
| 11/1/2017 21:43:05 | LCSW-301737       | Mo (202.032 nm)    | 0.4824 (ppm)    | 0.57     | 0.4824 (ppm)    | 5178.7962    |
| 11/1/2017 21:43:05 | LCSW-301737       | Na (588.995 nm)    | 19.8721 (ppm)   | 0.97     | 19.8721 (ppm)   | 905888.5577  |
| 11/1/2017 21:43:05 | LCSW-301737       | Ni (230.299 nm)    | 0.5183 (ppm)    | 0.71     | 0.5183 (ppm)    | 3570.4220    |
| 11/1/2017 21:43:05 | LCSW-301737       | Pb (220.353 nm)    | 0.5178 (ppm)    | 0.33     | 0.5178 (ppm)    | 1161.5493    |
| 11/1/2017 21:43:05 | LCSW-301737       | Sb (217.582 nm)    | 0.4981 (ppm)    | 1.20     | 0.4981 (ppm)    | 714.7868     |
| 11/1/2017 21:43:05 | LCSW-301737       | Se (196.026 nm)    | 1.0355 (ppm)    | 0.21     | 1.0355 (ppm)    | 910.1066     |
| 11/1/2017 21:43:05 | LCSW-301737       | Sn (189.925 nm)    | 5.0778 (ppm)    | 0.61     | 5.0778 (ppm)    | 6470.0808    |
| 11/1/2017 21:43:05 | LCSW-301737       | Sr (216.596 nm)    | 2.0601 (ppm)    | 0.56     | 2.0601 (ppm)    | 30729.5504   |
| 11/1/2017 21:43:05 | LCSW-301737       | Ti (336.122 nm)    | 0.4967 (ppm)    | 0.58     | 0.4967 (ppm)    | 108500.8145  |
| 11/1/2017 21:43:05 | LCSW-301737       | Ti (351.923 nm)    | 1.8961 (ppm)    | 0.51     | 1.8961 (ppm)    | 5397.7874    |
| 11/1/2017 21:43:05 | LCSW-301737       | V (292.401 nm)     | 0.5049 (ppm)    | 0.67     | 0.5049 (ppm)    | 18286.0604   |
| 11/1/2017 21:43:05 | LCSW-301737       | Y (360.074 nm)     | 0.98 (Ratio)    | 0.94     | 0.98 (Ratio)    | 916933.69    |
| 11/1/2017 21:43:05 | LCSW-301737       | Y_R (360.074 nm)   | 0.98 (Ratio)    | 0.93     | 0.98 (Ratio)    | 917378.68    |
| 11/1/2017 21:43:05 | LCSW-301737       | Zn (213.857 nm)    | 0.5116 (ppm)    | 0.63     | 0.5116 (ppm)    | 14833.4953   |
| 11/1/2017 21:46:25 | R1710018-003 100X | Ag (328.068 nm)    | -0.0002 u (ppm) | 21.52    | -0.0002 (ppm)   | -137.0045    |
| 11/1/2017 21:46:25 | R1710018-003 100X | Al (394.401 nm)    | 0.0048 (ppm)    | 7.59     | 0.0048 (ppm)    | 146.8854     |
| 11/1/2017 21:46:25 | R1710018-003 100X | As (188.980 nm)    | 0.0001 u (ppm)  | > 100.00 | 0.0001 (ppm)    | -2.7735      |
| 11/1/2017 21:46:25 | R1710018-003 100X | B (249.772 nm)     | 0.0001 u (ppm)  | > 100.00 | 0.0001 (ppm)    | 93.6515      |
| 11/1/2017 21:46:25 | R1710018-003 100X | Ba (230.424 nm)    | 0.0005 (ppm)    | 3.97     | 0.0005 (ppm)    | 26.4229      |
| 11/1/2017 21:46:25 | R1710018-003 100X | Be (313.107 nm)    | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | -503.9792    |
| 11/1/2017 21:46:25 | R1710018-003 100X | Ca (227.547 nm)    | 1.2876 (ppm)    | 2.71     | 1.2876 (ppm)    | 81.7882      |
| 11/1/2017 21:46:25 | R1710018-003 100X | Cd (214.439 nm)    | 0.0001 (ppm)    | 17.49    | 0.0001 (ppm)    | 15.7269      |
| 11/1/2017 21:46:25 | R1710018-003 100X | Co (230.786 nm)    | -0.0003 u (ppm) | 11.77    | -0.0003 (ppm)   | -4.6010      |
| 11/1/2017 21:46:25 | R1710018-003 100X | Cr (267.716 nm)    | -0.0067 u (ppm) | 3.55     | -0.0067 (ppm)   | -351.7257    |
| 11/1/2017 21:46:25 | R1710018-003 100X | Cu (327.395 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | 21.9442      |
| 11/1/2017 21:46:25 | R1710018-003 100X | Fe (234.350 nm)    | 0.0027 (ppm)    | 6.41     | 0.0027 (ppm)    | 104.2587     |
| 11/1/2017 21:46:25 | R1710018-003 100X | K (766.491 nm)     | 0.1382 (ppm)    | 4.43     | 0.1382 (ppm)    | 484.3040     |
| 11/1/2017 21:46:25 | R1710018-003 100X | Mg (279.078 nm)    | 0.1305 (ppm)    | 0.36     | 0.1305 (ppm)    | 256.2419     |
| 11/1/2017 21:46:25 | R1710018-003 100X | Mn (257.610 nm)    | 21.6414 o (ppm) | 1.35     | 21.6414 (ppm)   | 7001686.9647 |

| Date Time          | Label              | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|--------------------|--------------------|-----------------|----------|-----------------|--------------|
| 11/1/2017 21:46:25 | R1710018-003 100X  | Mo (202.032 nm)    | 0.0005 (ppm)    | 28.15    | 0.0005 (ppm)    | 22.3361      |
| 11/1/2017 21:46:25 | R1710018-003 100X  | Na (588.995 nm)    | 13.5702 (ppm)   | 0.92     | 13.5702 (ppm)   | 616713.9713  |
| 11/1/2017 21:46:25 | R1710018-003 100X  | Ni (230.299 nm)    | 0.0010 (ppm)    | 63.91    | 0.0010 (ppm)    | -19.2531     |
| 11/1/2017 21:46:25 | R1710018-003 100X  | Pb (220.353 nm)    | 0.0016 (ppm)    | 64.62    | 0.0016 (ppm)    | 9.1955       |
| 11/1/2017 21:46:25 | R1710018-003 100X  | Sb (217.582 nm)    | -0.0021 u (ppm) | 60.67    | -0.0021 (ppm)   | 1.1628       |
| 11/1/2017 21:46:25 | R1710018-003 100X  | Se (196.026 nm)    | 0.0103 (ppm)    | 2.52     | 0.0103 (ppm)    | 14.5155      |
| 11/1/2017 21:46:25 | R1710018-003 100X  | Sn (189.925 nm)    | 0.0002 u (ppm)  | > 100.00 | 0.0002 (ppm)    | 0.0441       |
| 11/1/2017 21:46:25 | R1710018-003 100X  | Sr (216.596 nm)    | 0.0056 (ppm)    | 4.52     | 0.0056 (ppm)    | 82.7882      |
| 11/1/2017 21:46:25 | R1710018-003 100X  | Ti (336.122 nm)    | 0.0003 (ppm)    | 29.89    | 0.0003 (ppm)    | -361.4708    |
| 11/1/2017 21:46:25 | R1710018-003 100X  | Tl (351.923 nm)    | -0.0038 u (ppm) | > 100.00 | -0.0038 (ppm)   | 3.8366       |
| 11/1/2017 21:46:25 | R1710018-003 100X  | V (292.401 nm)     | 0.0001 (ppm)    | 26.18    | 0.0001 (ppm)    | 115.2997     |
| 11/1/2017 21:46:25 | R1710018-003 100X  | Y (360.074 nm)     | 0.98 (Ratio)    | 0.87     | 0.98 (Ratio)    | 917985.30    |
| 11/1/2017 21:46:25 | R1710018-003 100X  | Y_R (360.074 nm)   | 0.98 (Ratio)    | 0.88     | 0.98 (Ratio)    | 918313.06    |
| 11/1/2017 21:46:25 | R1710018-003 100X  | Zn (213.857 nm)    | 0.0017 (ppm)    | 4.62     | 0.0017 (ppm)    | 19.6790      |
| 11/1/2017 21:49:44 | R1710018-009 100X  | Ag (328.068 nm)    | -0.0002 u (ppm) | 21.91    | -0.0002 (ppm)   | -143.8980    |
| 11/1/2017 21:49:44 | R1710018-009 100X  | Al (394.401 nm)    | 0.0058 (ppm)    | 13.75    | 0.0058 (ppm)    | 160.5666     |
| 11/1/2017 21:49:44 | R1710018-009 100X  | As (188.980 nm)    | 0.0020 u (ppm)  | > 100.00 | 0.0020 (ppm)    | -1.0068      |
| 11/1/2017 21:49:44 | R1710018-009 100X  | B (249.772 nm)     | -0.0013 u (ppm) | 5.59     | -0.0013 (ppm)   | 54.1831      |
| 11/1/2017 21:49:44 | R1710018-009 100X  | Ba (230.424 nm)    | 0.0002 (ppm)    | 12.44    | 0.0002 (ppm)    | 15.0789      |
| 11/1/2017 21:49:44 | R1710018-009 100X  | Be (313.107 nm)    | 0.0000 (ppm)    | 59.24    | 0.0000 (ppm)    | -510.0815    |
| 11/1/2017 21:49:44 | R1710018-009 100X  | Ca (227.547 nm)    | 1.7317 (ppm)    | 2.57     | 1.7317 (ppm)    | 107.8698     |
| 11/1/2017 21:49:44 | R1710018-009 100X  | Cd (214.439 nm)    | 0.0001 (ppm)    | > 100.00 | 0.0001 (ppm)    | 14.9723      |
| 11/1/2017 21:49:44 | R1710018-009 100X  | Co (230.786 nm)    | -0.0002 u (ppm) | 60.59    | -0.0002 (ppm)   | -3.2938      |
| 11/1/2017 21:49:44 | R1710018-009 100X  | Cr (267.716 nm)    | -0.0098 u (ppm) | 4.63     | -0.0098 (ppm)   | -508.9778    |
| 11/1/2017 21:49:44 | R1710018-009 100X  | Cu (327.395 nm)    | 0.0001 (ppm)    | 73.60    | 0.0001 (ppm)    | 29.0099      |
| 11/1/2017 21:49:44 | R1710018-009 100X  | Fe (234.350 nm)    | 0.0013 (ppm)    | 23.72    | 0.0013 (ppm)    | 87.2966      |
| 11/1/2017 21:49:44 | R1710018-009 100X  | K (766.491 nm)     | 0.2148 (ppm)    | 1.62     | 0.2148 (ppm)    | 720.5760     |
| 11/1/2017 21:49:44 | R1710018-009 100X  | Mg (279.078 nm)    | 0.1974 (ppm)    | 1.57     | 0.1974 (ppm)    | 391.3536     |
| 11/1/2017 21:49:44 | R1710018-009 100X  | Mn (257.610 nm)    | 26.7456 u (ppm) | 4.36     | 26.7456 (ppm)   | 8653035.1668 |
| 11/1/2017 21:49:44 | R1710018-009 100X  | Mo (202.032 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | 15.1983      |
| 11/1/2017 21:49:44 | R1710018-009 100X  | Na (588.995 nm)    | 20.8618 (ppm)   | 0.74     | 20.8618 (ppm)   | 951304.6303  |
| 11/1/2017 21:49:44 | R1710018-009 100X  | Ni (230.299 nm)    | 0.0008 (ppm)    | 55.77    | 0.0008 (ppm)    | -20.8252     |
| 11/1/2017 21:49:44 | R1710018-009 100X  | Pb (220.353 nm)    | 0.0029 (ppm)    | 33.82    | 0.0029 (ppm)    | 12.0274      |
| 11/1/2017 21:49:44 | R1710018-009 100X  | Sb (217.582 nm)    | -0.0030 u (ppm) | 39.80    | -0.0030 (ppm)   | -0.1490      |
| 11/1/2017 21:49:44 | R1710018-009 100X  | Se (196.026 nm)    | 0.0128 (ppm)    | 11.27    | 0.0128 (ppm)    | 16.7428      |
| 11/1/2017 21:49:44 | R1710018-009 100X  | Sn (189.925 nm)    | 0.0004 u (ppm)  | > 100.00 | 0.0004 (ppm)    | 0.2966       |
| 11/1/2017 21:49:44 | R1710018-009 100X  | Sr (216.596 nm)    | 0.0069 (ppm)    | 3.75     | 0.0069 (ppm)    | 102.2977     |
| 11/1/2017 21:49:44 | R1710018-009 100X  | Ti (336.122 nm)    | -0.0002 u (ppm) | 14.40    | -0.0002 (ppm)   | -456.9330    |
| 11/1/2017 21:49:44 | R1710018-009 100X  | Tl (351.923 nm)    | -0.0016 u (ppm) | > 100.00 | -0.0016 (ppm)   | 10.0027      |
| 11/1/2017 21:49:44 | R1710018-009 100X  | V (292.401 nm)     | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | 111.7773     |
| 11/1/2017 21:49:44 | R1710018-009 100X  | Y (360.074 nm)     | 0.98 (Ratio)    | 0.75     | 0.98 (Ratio)    | 914701.17    |
| 11/1/2017 21:49:44 | R1710018-009 100X  | Y_R (360.074 nm)   | 0.98 (Ratio)    | 0.75     | 0.98 (Ratio)    | 915096.47    |
| 11/1/2017 21:49:44 | R1710018-009 100X  | Zn (213.857 nm)    | 0.0014 (ppm)    | 2.23     | 0.0014 (ppm)    | 9.8164       |
| 11/1/2017 21:53:03 | R1710018-009L 100X | Ag (328.068 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | -128.1184    |
| 11/1/2017 21:53:03 | R1710018-009L 100X | Al (394.401 nm)    | 0.0014 (ppm)    | 50.48    | 0.0014 (ppm)    | 101.8131     |
| 11/1/2017 21:53:03 | R1710018-009L 100X | As (188.980 nm)    | 0.0030 (ppm)    | 62.47    | 0.0030 (ppm)    | -0.0978      |
| 11/1/2017 21:53:03 | R1710018-009L 100X | B (249.772 nm)     | -0.0011 u (ppm) | 7.86     | -0.0011 (ppm)   | 58.1962      |
| 11/1/2017 21:53:03 | R1710018-009L 100X | Ba (230.424 nm)    | -0.0001 u (ppm) | 46.88    | -0.0001 (ppm)   | 3.6509       |
| 11/1/2017 21:53:03 | R1710018-009L 100X | Be (313.107 nm)    | 0.0000 (ppm)    | 84.02    | 0.0000 (ppm)    | -519.2966    |
| 11/1/2017 21:53:03 | R1710018-009L 100X | Ca (227.547 nm)    | 0.3976 (ppm)    | 5.84     | 0.3976 (ppm)    | 29.5203      |
| 11/1/2017 21:53:03 | R1710018-009L 100X | Cd (214.439 nm)    | 0.0001 (ppm)    | 88.36    | 0.0001 (ppm)    | 14.8088      |

| Date Time          | Label              | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|--------------------|--------------------|-----------------|----------|-----------------|--------------|
| 11/1/2017 21:53:03 | R1710018-009L 100X | Co (230.786 nm)    | -0.0003 u (ppm) | 40.12    | -0.0003 (ppm)   | -4.0609      |
| 11/1/2017 21:53:03 | R1710018-009L 100X | Cr (267.716 nm)    | -0.0027 u (ppm) | 4.95     | -0.0027 (ppm)   | -142.5775    |
| 11/1/2017 21:53:03 | R1710018-009L 100X | Cu (327.395 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | 22.1458      |
| 11/1/2017 21:53:03 | R1710018-009L 100X | Fe (234.350 nm)    | -0.0016 u (ppm) | 6.65     | -0.0016 (ppm)   | 53.8449      |
| 11/1/2017 21:53:03 | R1710018-009L 100X | K (766.491 nm)     | 0.0530 (ppm)    | 13.43    | 0.0530 (ppm)    | 221.0196     |
| 11/1/2017 21:53:03 | R1710018-009L 100X | Mg (279.078 nm)    | 0.0434 (ppm)    | 2.63     | 0.0434 (ppm)    | 80.4942      |
| 11/1/2017 21:53:03 | R1710018-009L 100X | Mn (257.610 nm)    | 8.2384 o (ppm)  | 2.85     | 8.2384 (ppm)    | 2665401.8736 |
| 11/1/2017 21:53:03 | R1710018-009L 100X | Mo (202.032 nm)    | -0.0002 u (ppm) | > 100.00 | -0.0002 (ppm)   | 15.0479      |
| 11/1/2017 21:53:03 | R1710018-009L 100X | Na (588.995 nm)    | 4.7118 (ppm)    | 0.91     | 4.7118 (ppm)    | 210231.5731  |
| 11/1/2017 21:53:03 | R1710018-009L 100X | Ni (230.299 nm)    | 0.0010 (ppm)    | 26.02    | 0.0010 (ppm)    | -18.3017     |
| 11/1/2017 21:53:03 | R1710018-009L 100X | Pb (220.353 nm)    | 0.0007 u (ppm)  | > 100.00 | 0.0007 (ppm)    | 7.1219       |
| 11/1/2017 21:53:03 | R1710018-009L 100X | Sb (217.582 nm)    | -0.0045 u (ppm) | 27.79    | -0.0045 (ppm)   | -2.3453      |
| 11/1/2017 21:53:03 | R1710018-009L 100X | Se (196.026 nm)    | 0.0027 (ppm)    | 44.59    | 0.0027 (ppm)    | 7.8432       |
| 11/1/2017 21:53:03 | R1710018-009L 100X | Sn (189.925 nm)    | -0.0003 u (ppm) | > 100.00 | -0.0003 (ppm)   | -0.5128      |
| 11/1/2017 21:53:03 | R1710018-009L 100X | Sr (216.596 nm)    | 0.0017 (ppm)    | 1.87     | 0.0017 (ppm)    | 23.9333      |
| 11/1/2017 21:53:03 | R1710018-009L 100X | Ti (336.122 nm)    | -0.0002 u (ppm) | 37.89    | -0.0002 (ppm)   | -463.8551    |
| 11/1/2017 21:53:03 | R1710018-009L 100X | Ti (351.923 nm)    | -0.0013 u (ppm) | > 100.00 | -0.0013 (ppm)   | 10.9172      |
| 11/1/2017 21:53:03 | R1710018-009L 100X | V (292.401 nm)     | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | 106.9950     |
| 11/1/2017 21:53:03 | R1710018-009L 100X | Y (360.074 nm)     | 0.99 (Ratio)    | 0.93     | 0.99 (Ratio)    | 926747.68    |
| 11/1/2017 21:53:03 | R1710018-009L 100X | Y_R (360.074 nm)   | 0.99 (Ratio)    | 0.94     | 0.99 (Ratio)    | 927006.05    |
| 11/1/2017 21:53:03 | R1710018-009L 100X | Zn (213.857 nm)    | 0.0023 (ppm)    | 0.54     | 0.0023 (ppm)    | 36.6573      |
| 11/1/2017 21:56:22 | FBLK-302021        | Ag (328.068 nm)    | 0.0001 (ppm)    | 54.28    | 0.0001 (ppm)    | -120.3757    |
| 11/1/2017 21:56:22 | FBLK-302021        | Al (394.401 nm)    | 0.0091 (ppm)    | 2.31     | 0.0091 (ppm)    | 204.5981     |
| 11/1/2017 21:56:22 | FBLK-302021        | As (188.980 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | -3.0098      |
| 11/1/2017 21:56:22 | FBLK-302021        | B (249.772 nm)     | 0.0138 (ppm)    | 1.38     | 0.0138 (ppm)    | 486.4114     |
| 11/1/2017 21:56:22 | FBLK-302021        | Ba (230.424 nm)    | 0.0260 (ppm)    | 0.74     | 0.0260 (ppm)    | 919.0657     |
| 11/1/2017 21:56:22 | FBLK-302021        | Be (313.107 nm)    | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | -507.8516    |
| 11/1/2017 21:56:22 | FBLK-302021        | Ca (227.547 nm)    | -0.0102 u (ppm) | > 100.00 | -0.0102 (ppm)   | 5.5700       |
| 11/1/2017 21:56:22 | FBLK-302021        | Cd (214.439 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | 10.4543      |
| 11/1/2017 21:56:22 | FBLK-302021        | Co (230.786 nm)    | -0.0003 u (ppm) | 32.58    | -0.0003 (ppm)   | -4.0102      |
| 11/1/2017 21:56:22 | FBLK-302021        | Cr (267.716 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | -5.4093      |
| 11/1/2017 21:56:22 | FBLK-302021        | Cu (327.395 nm)    | 0.0008 (ppm)    | 9.22     | 0.0008 (ppm)    | 69.3263      |
| 11/1/2017 21:56:22 | FBLK-302021        | Fe (234.350 nm)    | -0.0041 u (ppm) | 1.64     | -0.0041 (ppm)   | 25.0126      |
| 11/1/2017 21:56:22 | FBLK-302021        | K (766.491 nm)     | 0.0156 (ppm)    | 34.10    | 0.0156 (ppm)    | 105.6351     |
| 11/1/2017 21:56:22 | FBLK-302021        | Mg (279.078 nm)    | 0.0060 (ppm)    | 1.01     | 0.0060 (ppm)    | 5.1519       |
| 11/1/2017 21:56:22 | FBLK-302021        | Mn (257.610 nm)    | 0.0242 (ppm)    | 30.75    | 0.0242 (ppm)    | 7863.7192    |
| 11/1/2017 21:56:22 | FBLK-302021        | Mo (202.032 nm)    | -0.0008 u (ppm) | 36.19    | -0.0008 (ppm)   | 8.4592       |
| 11/1/2017 21:56:22 | FBLK-302021        | Na (588.995 nm)    | 0.1993 (ppm)    | 0.63     | 0.1993 (ppm)    | 3166.2263    |
| 11/1/2017 21:56:22 | FBLK-302021        | Ni (230.299 nm)    | 0.0007 (ppm)    | 37.55    | 0.0007 (ppm)    | -20.9026     |
| 11/1/2017 21:56:22 | FBLK-302021        | Pb (220.353 nm)    | -0.0007 u (ppm) | > 100.00 | -0.0007 (ppm)   | 3.9640       |
| 11/1/2017 21:56:22 | FBLK-302021        | Sb (217.582 nm)    | -0.0020 u (ppm) | 44.58    | -0.0020 (ppm)   | 1.3152       |
| 11/1/2017 21:56:22 | FBLK-302021        | Se (196.026 nm)    | -0.0004 u (ppm) | > 100.00 | -0.0004 (ppm)   | 5.1854       |
| 11/1/2017 21:56:22 | FBLK-302021        | Sn (189.925 nm)    | 0.0002 u (ppm)  | > 100.00 | 0.0002 (ppm)    | 0.1251       |
| 11/1/2017 21:56:22 | FBLK-302021        | Sr (216.596 nm)    | 0.0003 (ppm)    | 57.11    | 0.0003 (ppm)    | 2.6020       |
| 11/1/2017 21:56:22 | FBLK-302021        | Ti (336.122 nm)    | 0.0004 (ppm)    | 4.41     | 0.0004 (ppm)    | -332.6218    |
| 11/1/2017 21:56:22 | FBLK-302021        | Ti (351.923 nm)    | -0.0009 u (ppm) | > 100.00 | -0.0009 (ppm)   | 12.1701      |
| 11/1/2017 21:56:22 | FBLK-302021        | V (292.401 nm)     | -0.0002 u (ppm) | 16.75    | -0.0002 (ppm)   | 103.6015     |
| 11/1/2017 21:56:22 | FBLK-302021        | Y (360.074 nm)     | 1.01 (Ratio)    | 0.80     | 1.01 (Ratio)    | 944209.68    |
| 11/1/2017 21:56:22 | FBLK-302021        | Y_R (360.074 nm)   | 1.01 (Ratio)    | 0.80     | 1.01 (Ratio)    | 944430.24    |
| 11/1/2017 21:56:22 | FBLK-302021        | Zn (213.857 nm)    | 0.0160 (ppm)    | 0.38     | 0.0160 (ppm)    | 433.1049     |
| 11/1/2017 21:59:41 | PBW-302021         | Ag (328.068 nm)    | 0.0001 (ppm)    | 15.68    | 0.0001 (ppm)    | -117.5262    |



| Date Time          | Label       | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity   |
|--------------------|-------------|--------------------|-----------------|----------|-----------------|-------------|
| 11/1/2017 21:59:41 | PBW-302021  | Al (394.401 nm)    | 0.0021 (ppm)    | 21.24    | 0.0021 (ppm)    | 111.7866    |
| 11/1/2017 21:59:41 | PBW-302021  | As (188.980 nm)    | 0.0011 u (ppm)  | > 100.00 | 0.0011 (ppm)    | -1.8853     |
| 11/1/2017 21:59:41 | PBW-302021  | B (249.772 nm)     | -0.0006 u (ppm) | 38.49    | -0.0006 (ppm)   | 73.5501     |
| 11/1/2017 21:59:41 | PBW-302021  | Ba (230.424 nm)    | -0.0001 u (ppm) | 39.59    | -0.0001 (ppm)   | 4.3807      |
| 11/1/2017 21:59:41 | PBW-302021  | Be (313.107 nm)    | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | -510.1836   |
| 11/1/2017 21:59:41 | PBW-302021  | Ca (227.547 nm)    | -0.0332 u (ppm) | > 100.00 | -0.0332 (ppm)   | 4.2218      |
| 11/1/2017 21:59:41 | PBW-302021  | Cd (214.439 nm)    | -0.0002 u (ppm) | 35.55    | -0.0002 (ppm)   | 8.9770      |
| 11/1/2017 21:59:41 | PBW-302021  | Co (230.786 nm)    | -0.0002 u (ppm) | 56.68    | -0.0002 (ppm)   | -3.1682     |
| 11/1/2017 21:59:41 | PBW-302021  | Cr (267.716 nm)    | -0.0001 u (ppm) | 21.24    | -0.0001 (ppm)   | -4.5317     |
| 11/1/2017 21:59:41 | PBW-302021  | Cu (327.395 nm)    | 0.0001 (ppm)    | > 100.00 | 0.0001 (ppm)    | 25.5080     |
| 11/1/2017 21:59:41 | PBW-302021  | Fe (234.350 nm)    | -0.0051 u (ppm) | 1.85     | -0.0051 (ppm)   | 13.2708     |
| 11/1/2017 21:59:41 | PBW-302021  | K (766.491 nm)     | 0.0014 u (ppm)  | > 100.00 | 0.0014 (ppm)    | 61.6981     |
| 11/1/2017 21:59:41 | PBW-302021  | Mg (279.078 nm)    | 0.0024 (ppm)    | 47.85    | 0.0024 (ppm)    | -2.1505     |
| 11/1/2017 21:59:41 | PBW-302021  | Mn (257.610 nm)    | 0.0211 (ppm)    | 31.35    | 0.0211 (ppm)    | 6866.2679   |
| 11/1/2017 21:59:41 | PBW-302021  | Mo (202.032 nm)    | -0.0007 u (ppm) | 24.39    | -0.0007 (ppm)   | 8.9935      |
| 11/1/2017 21:59:41 | PBW-302021  | Na (588.995 nm)    | 0.0093 (ppm)    | 11.05    | 0.0093 (ppm)    | -5550.6600  |
| 11/1/2017 21:59:41 | PBW-302021  | Ni (230.299 nm)    | 0.0015 (ppm)    | 39.42    | 0.0015 (ppm)    | -15.6685    |
| 11/1/2017 21:59:41 | PBW-302021  | Pb (220.353 nm)    | -0.0007 u (ppm) | > 100.00 | -0.0007 (ppm)   | 3.9717      |
| 11/1/2017 21:59:41 | PBW-302021  | Sb (217.582 nm)    | -0.0026 u (ppm) | 47.85    | -0.0026 (ppm)   | 0.4332      |
| 11/1/2017 21:59:41 | PBW-302021  | Se (196.026 nm)    | 0.0020 u (ppm)  | 95.24    | 0.0020 (ppm)    | 7.2262      |
| 11/1/2017 21:59:41 | PBW-302021  | Sn (189.925 nm)    | 0.0008 (ppm)    | 89.85    | 0.0008 (ppm)    | 0.8582      |
| 11/1/2017 21:59:41 | PBW-302021  | Sr (216.596 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | -3.0285     |
| 11/1/2017 21:59:41 | PBW-302021  | Ti (336.122 nm)    | 0.0003 (ppm)    | 29.74    | 0.0003 (ppm)    | -358.9324   |
| 11/1/2017 21:59:41 | PBW-302021  | Tl (351.923 nm)    | -0.0022 u (ppm) | 51.20    | -0.0022 (ppm)   | 8.3521      |
| 11/1/2017 21:59:41 | PBW-302021  | V (292.401 nm)     | -0.0002 u (ppm) | 63.10    | -0.0002 (ppm)   | 104.3345    |
| 11/1/2017 21:59:41 | PBW-302021  | Y (360.074 nm)     | 1.01 (Ratio)    | 0.80     | 1.01 (Ratio)    | 943292.02   |
| 11/1/2017 21:59:41 | PBW-302021  | Y_R (360.074 nm)   | 1.01 (Ratio)    | 0.80     | 1.01 (Ratio)    | 943545.78   |
| 11/1/2017 21:59:41 | PBW-302021  | Zn (213.857 nm)    | 0.0019 (ppm)    | 3.58     | 0.0019 (ppm)    | 24.3849     |
| 11/1/2017 22:03:00 | LCSW-302021 | Ag (328.068 nm)    | 0.0505 (ppm)    | 0.63     | 0.0505 (ppm)    | 3584.2909   |
| 11/1/2017 22:03:00 | LCSW-302021 | Al (394.401 nm)    | 1.8975 (ppm)    | 0.70     | 1.8975 (ppm)    | 25422.0620  |
| 11/1/2017 22:03:00 | LCSW-302021 | As (188.980 nm)    | 0.0409 (ppm)    | 13.16    | 0.0409 (ppm)    | 34.9626     |
| 11/1/2017 22:03:00 | LCSW-302021 | B (249.772 nm)     | 0.9810 (ppm)    | 0.53     | 0.9810 (ppm)    | 28202.6783  |
| 11/1/2017 22:03:00 | LCSW-302021 | Ba (230.424 nm)    | 2.1172 (ppm)    | 0.45     | 2.1172 (ppm)    | 74105.5463  |
| 11/1/2017 22:03:00 | LCSW-302021 | Be (313.107 nm)    | 0.0514 (ppm)    | 0.55     | 0.0514 (ppm)    | 77521.7864  |
| 11/1/2017 22:03:00 | LCSW-302021 | Ca (227.547 nm)    | 1.9260 (ppm)    | 1.90     | 1.9260 (ppm)    | 119.2802    |
| 11/1/2017 22:03:00 | LCSW-302021 | Cd (214.439 nm)    | 0.0524 (ppm)    | 0.64     | 0.0524 (ppm)    | 1203.8938   |
| 11/1/2017 22:03:00 | LCSW-302021 | Co (230.786 nm)    | 0.5223 (ppm)    | 0.45     | 0.5223 (ppm)    | 5374.5711   |
| 11/1/2017 22:03:00 | LCSW-302021 | Cr (267.716 nm)    | 0.2025 (ppm)    | 0.64     | 0.2025 (ppm)    | 10559.2243  |
| 11/1/2017 22:03:00 | LCSW-302021 | Cu (327.395 nm)    | 0.2510 (ppm)    | 0.81     | 0.2510 (ppm)    | 15787.2944  |
| 11/1/2017 22:03:00 | LCSW-302021 | Fe (234.350 nm)    | 0.9943 (ppm)    | 0.53     | 0.9943 (ppm)    | 11624.0959  |
| 11/1/2017 22:03:00 | LCSW-302021 | K (766.491 nm)     | 19.6785 (ppm)   | 0.74     | 19.6785 (ppm)   | 60816.0930  |
| 11/1/2017 22:03:00 | LCSW-302021 | Mg (279.078 nm)    | 2.0324 (ppm)    | 0.60     | 2.0324 (ppm)    | 4093.9266   |
| 11/1/2017 22:03:00 | LCSW-302021 | Mn (257.610 nm)    | 0.5195 (ppm)    | 0.28     | 0.5195 (ppm)    | 168107.1950 |
| 11/1/2017 22:03:00 | LCSW-302021 | Mo (202.032 nm)    | 0.4843 (ppm)    | 0.51     | 0.4843 (ppm)    | 5198.4161   |
| 11/1/2017 22:03:00 | LCSW-302021 | Na (588.995 nm)    | 20.1148 (ppm)   | 0.86     | 20.1148 (ppm)   | 917023.6962 |
| 11/1/2017 22:03:00 | LCSW-302021 | Ni (230.299 nm)    | 0.5221 (ppm)    | 0.19     | 0.5221 (ppm)    | 3596.7477   |
| 11/1/2017 22:03:00 | LCSW-302021 | Pb (220.353 nm)    | 0.5222 (ppm)    | 0.90     | 0.5222 (ppm)    | 1171.3973   |
| 11/1/2017 22:03:00 | LCSW-302021 | Sb (217.582 nm)    | 0.5027 (ppm)    | 0.32     | 0.5027 (ppm)    | 721.3504    |
| 11/1/2017 22:03:00 | LCSW-302021 | Se (196.026 nm)    | 1.0521 (ppm)    | 0.61     | 1.0521 (ppm)    | 924.5613    |
| 11/1/2017 22:03:00 | LCSW-302021 | Sn (189.925 nm)    | 5.1529 (ppm)    | 0.42     | 5.1529 (ppm)    | 6565.8890   |
| 11/1/2017 22:03:00 | LCSW-302021 | Sr (216.596 nm)    | 2.0760 (ppm)    | 0.68     | 2.0760 (ppm)    | 30966.4490  |

| Date Time          | Label        | Element Label (nm) | Conc             | %RSD     | Unadjusted Conc | Intensity     |
|--------------------|--------------|--------------------|------------------|----------|-----------------|---------------|
| 11/1/2017 22:03:00 | LCSW-302021  | Ti (336.122 nm)    | 0.5025 (ppm)     | 0.56     | 0.5025 (ppm)    | 109768.5709   |
| 11/1/2017 22:03:00 | LCSW-302021  | Ti (351.923 nm)    | 1.9199 (ppm)     | 0.42     | 1.9199 (ppm)    | 5465.4192     |
| 11/1/2017 22:03:00 | LCSW-302021  | V (292.401 nm)     | 0.5096 (ppm)     | 0.64     | 0.5096 (ppm)    | 18454.9889    |
| 11/1/2017 22:03:00 | LCSW-302021  | Y (360.074 nm)     | 0.98 (Ratio)     | 0.94     | 0.98 (Ratio)    | 914056.28     |
| 11/1/2017 22:03:00 | LCSW-302021  | Y_R (360.074 nm)   | 0.98 (Ratio)     | 0.94     | 0.98 (Ratio)    | 914438.63     |
| 11/1/2017 22:03:00 | LCSW-302021  | Zn (213.857 nm)    | 0.5158 (ppm)     | 0.86     | 0.5158 (ppm)    | 14954.9721    |
| 11/1/2017 22:06:18 | R1710088-001 | Ag (328.068 nm)    | 0.0002 (ppm)     | 55.07    | 0.0002 (ppm)    | -109.8860     |
| 11/1/2017 22:06:18 | R1710088-001 | Al (394.401 nm)    | 0.0393 (ppm)     | 2.72     | 0.0393 (ppm)    | 607.7402      |
| 11/1/2017 22:06:18 | R1710088-001 | As (188.980 nm)    | -0.0005 u (ppm)  | > 100.00 | -0.0005 (ppm)   | -3.3831       |
| 11/1/2017 22:06:18 | R1710088-001 | B (249.772 nm)     | 1.6016 (ppm)     | 0.51     | 1.6016 (ppm)    | 45987.5133    |
| 11/1/2017 22:06:18 | R1710088-001 | Ba (230.424 nm)    | 0.0073 (ppm)     | 0.66     | 0.0073 (ppm)    | 262.4007      |
| 11/1/2017 22:06:18 | R1710088-001 | Be (313.107 nm)    | 0.0000 (ppm)     | 67.99    | 0.0000 (ppm)    | -538.8777     |
| 11/1/2017 22:06:18 | R1710088-001 | Ca (227.547 nm)    | 675.2374 o (ppm) | 0.62     | 675.2374 (ppm)  | 39661.2768    |
| 11/1/2017 22:06:18 | R1710088-001 | Cd (214.439 nm)    | 0.0001 (ppm)     | 50.14    | 0.0001 (ppm)    | 15.1466       |
| 11/1/2017 22:06:18 | R1710088-001 | Co (230.786 nm)    | 0.0000 (ppm)     | > 100.00 | 0.0000 (ppm)    | -1.3592       |
| 11/1/2017 22:06:18 | R1710088-001 | Cr (267.716 nm)    | 0.0019 (ppm)     | 3.00     | 0.0019 (ppm)    | 99.4108       |
| 11/1/2017 22:06:18 | R1710088-001 | Cu (327.395 nm)    | 0.0002 (ppm)     | 14.33    | 0.0002 (ppm)    | 30.9912       |
| 11/1/2017 22:06:18 | R1710088-001 | Fe (234.350 nm)    | 0.0008 (ppm)     | 55.45    | 0.0008 (ppm)    | 81.4768       |
| 11/1/2017 22:06:18 | R1710088-001 | K (766.491 nm)     | 18.4678 (ppm)    | 0.65     | 18.4678 (ppm)   | 57078.0092    |
| 11/1/2017 22:06:18 | R1710088-001 | Mg (279.078 nm)    | 181.2689 o (ppm) | 0.48     | 181.2689 (ppm)  | 365754.2254   |
| 11/1/2017 22:06:18 | R1710088-001 | Mn (257.610 nm)    | 0.0269 (ppm)     | 14.89    | 0.0269 (ppm)    | 8720.2132     |
| 11/1/2017 22:06:18 | R1710088-001 | Mo (202.032 nm)    | 0.0003 (ppm)     | 89.09    | 0.0003 (ppm)    | 19.9515       |
| 11/1/2017 22:06:18 | R1710088-001 | Na (588.995 nm)    | 322.1792 o (ppm) | 0.68     | 322.1792 (ppm)  | 14777792.3109 |
| 11/1/2017 22:06:18 | R1710088-001 | Ni (230.299 nm)    | -0.0043 u (ppm)  | 8.00     | -0.0043 (ppm)   | -56.0338      |
| 11/1/2017 22:06:18 | R1710088-001 | Pb (220.353 nm)    | -0.0023 u (ppm)  | 84.07    | -0.0023 (ppm)   | 0.4353        |
| 11/1/2017 22:06:18 | R1710088-001 | Sb (217.582 nm)    | -0.0032 u (ppm)  | 49.34    | -0.0032 (ppm)   | -0.3688       |
| 11/1/2017 22:06:18 | R1710088-001 | Se (196.026 nm)    | -0.0005 u (ppm)  | > 100.00 | -0.0005 (ppm)   | 5.1132        |
| 11/1/2017 22:06:18 | R1710088-001 | Sn (189.925 nm)    | -0.0035 u (ppm)  | 12.55    | -0.0035 (ppm)   | -4.5896       |
| 11/1/2017 22:06:18 | R1710088-001 | Sr (216.596 nm)    | 11.8557 o (ppm)  | 1.59     | 11.8557 (ppm)   | 176854.3881   |
| 11/1/2017 22:06:18 | R1710088-001 | Ti (336.122 nm)    | 0.0042 (ppm)     | 0.39     | 0.0042 (ppm)    | 502.0528      |
| 11/1/2017 22:06:18 | R1710088-001 | Ti (351.923 nm)    | 0.0168 (ppm)     | 20.17    | 0.0168 (ppm)    | 62.3570       |
| 11/1/2017 22:06:18 | R1710088-001 | V (292.401 nm)     | 0.0000 u (ppm)   | > 100.00 | 0.0000 (ppm)    | 110.1129      |
| 11/1/2017 22:06:18 | R1710088-001 | Y (360.074 nm)     | 0.85 (Ratio)     | 0.68     | 0.85 (Ratio)    | 799613.57     |
| 11/1/2017 22:06:18 | R1710088-001 | Y_R (360.074 nm)   | 0.85 (Ratio)     | 0.68     | 0.85 (Ratio)    | 800199.72     |
| 11/1/2017 22:06:18 | R1710088-001 | Zn (213.857 nm)    | 0.0066 (ppm)     | 0.83     | 0.0066 (ppm)    | 159.8374      |
| 11/1/2017 22:09:38 | R1710088-002 | Ag (328.068 nm)    | 0.0001 (ppm)     | 28.26    | 0.0001 (ppm)    | -115.9566     |
| 11/1/2017 22:09:38 | R1710088-002 | Al (394.401 nm)    | 0.0359 (ppm)     | 2.67     | 0.0359 (ppm)    | 562.5188      |
| 11/1/2017 22:09:38 | R1710088-002 | As (188.980 nm)    | -0.0014 u (ppm)  | > 100.00 | -0.0014 (ppm)   | -4.1636       |
| 11/1/2017 22:09:38 | R1710088-002 | B (249.772 nm)     | 1.0817 (ppm)     | 0.69     | 1.0817 (ppm)    | 31089.8116    |
| 11/1/2017 22:09:38 | R1710088-002 | Ba (230.424 nm)    | 0.0106 (ppm)     | 2.65     | 0.0106 (ppm)    | 377.7208      |
| 11/1/2017 22:09:38 | R1710088-002 | Be (313.107 nm)    | 0.0000 (ppm)     | 19.84    | 0.0000 (ppm)    | -551.1103     |
| 11/1/2017 22:09:38 | R1710088-002 | Ca (227.547 nm)    | 529.3560 o (ppm) | 0.90     | 529.3560 (ppm)  | 31094.0001    |
| 11/1/2017 22:09:38 | R1710088-002 | Cd (214.439 nm)    | 0.0001 u (ppm)   | > 100.00 | 0.0001 (ppm)    | 14.0420       |
| 11/1/2017 22:09:38 | R1710088-002 | Co (230.786 nm)    | -0.0002 u (ppm)  | 18.55    | -0.0002 (ppm)   | -3.3103       |
| 11/1/2017 22:09:38 | R1710088-002 | Cr (267.716 nm)    | 0.0006 (ppm)     | 10.93    | 0.0006 (ppm)    | 31.3957       |
| 11/1/2017 22:09:38 | R1710088-002 | Cu (327.395 nm)    | 0.0002 (ppm)     | 51.87    | 0.0002 (ppm)    | 32.8605       |
| 11/1/2017 22:09:38 | R1710088-002 | Fe (234.350 nm)    | 0.0003 (ppm)     | 86.30    | 0.0003 (ppm)    | 76.4481       |
| 11/1/2017 22:09:38 | R1710088-002 | K (766.491 nm)     | 12.7230 (ppm)    | 0.97     | 12.7230 (ppm)   | 39340.4722    |
| 11/1/2017 22:09:38 | R1710088-002 | Mg (279.078 nm)    | 151.3790 o (ppm) | 0.59     | 151.3790 (ppm)  | 305442.8411   |
| 11/1/2017 22:09:38 | R1710088-002 | Mn (257.610 nm)    | 0.0306 (ppm)     | 14.35    | 0.0306 (ppm)    | 9945.4590     |
| 11/1/2017 22:09:38 | R1710088-002 | Mo (202.032 nm)    | -0.0007 u (ppm)  | 27.17    | -0.0007 (ppm)   | 9.3809        |

| Date Time          | Label                                | Element Label (nm) | Conc             | %RSD     | Unadjusted Conc | Intensity     |
|--------------------|--------------------------------------|--------------------|------------------|----------|-----------------|---------------|
| 11/1/2017 22:09:38 | R1710088-002                         | Na (588.995 nm)    | 285.2414 o (ppm) | 0.97     | 285.2414 (ppm)  | 13082836.5661 |
| 11/1/2017 22:09:38 | R1710088-002                         | Ni (230.299 nm)    | -0.0036 u (ppm)  | 31.86    | -0.0036 (ppm)   | -50.7514      |
| 11/1/2017 22:09:38 | R1710088-002                         | Pb (220.353 nm)    | -0.0025 u (ppm)  | 22.83    | -0.0025 (ppm)   | 0.1142        |
| 11/1/2017 22:09:38 | R1710088-002                         | Sb (217.582 nm)    | -0.0010 u (ppm)  | > 100.00 | -0.0010 (ppm)   | 2.6538        |
| 11/1/2017 22:09:38 | R1710088-002                         | Se (196.026 nm)    | -0.0048 u (ppm)  | 52.03    | -0.0048 (ppm)   | 1.3173        |
| 11/1/2017 22:09:38 | R1710088-002                         | Sn (189.925 nm)    | -0.0020 u (ppm)  | 30.71    | -0.0020 (ppm)   | -2.6608       |
| 11/1/2017 22:09:38 | R1710088-002                         | Sr (216.596 nm)    | 11.9715 o (ppm)  | 2.12     | 11.9715 (ppm)   | 178581.4901   |
| 11/1/2017 22:09:38 | R1710088-002                         | Ti (336.122 nm)    | 0.0032 (ppm)     | 0.44     | 0.0032 (ppm)    | 272.6275      |
| 11/1/2017 22:09:38 | R1710088-002                         | Tl (351.923 nm)    | 0.0122 (ppm)     | 18.49    | 0.0122 (ppm)    | 49.1732       |
| 11/1/2017 22:09:38 | R1710088-002                         | V (292.401 nm)     | -0.0001 u (ppm)  | 69.83    | -0.0001 (ppm)   | 104.8998      |
| 11/1/2017 22:09:38 | R1710088-002                         | Y (360.074 nm)     | 0.87 (Ratio)     | 0.98     | 0.87 (Ratio)    | 811972.08     |
| 11/1/2017 22:09:38 | R1710088-002                         | Y_R (360.074 nm)   | 0.87 (Ratio)     | 0.98     | 0.87 (Ratio)    | 812486.72     |
| 11/1/2017 22:09:38 | R1710088-002                         | Zn (213.857 nm)    | 0.0027 (ppm)     | 3.56     | 0.0027 (ppm)    | 47.7247       |
| 11/1/2017 22:12:56 | Continuing Calibration Verification1 | Ag (328.068 nm)    | 0.4922 (ppm)     | 0.39     | 0.4922 (ppm)    | 36030.3778    |
| 11/1/2017 22:12:56 | Continuing Calibration Verification1 | Al (394.401 nm)    | 9.6441 (ppm)     | 0.43     | 9.6441 (ppm)    | 128865.2852   |
| 11/1/2017 22:12:56 | Continuing Calibration Verification1 | As (188.980 nm)    | 0.9625 (ppm)     | 0.69     | 0.9625 (ppm)    | 887.9391      |
| 11/1/2017 22:12:56 | Continuing Calibration Verification1 | B (249.772 nm)     | 2.4210 (ppm)     | 0.32     | 2.4210 (ppm)    | 69468.5951    |
| 11/1/2017 22:12:56 | Continuing Calibration Verification1 | Ba (230.424 nm)    | 10.2824 (ppm)    | 0.16     | 10.2824 (ppm)   | 359866.7094   |
| 11/1/2017 22:12:56 | Continuing Calibration Verification1 | Be (313.107 nm)    | 0.2545 (ppm)     | 0.15     | 0.2545 (ppm)    | 385488.7221   |
| 11/1/2017 22:12:56 | Continuing Calibration Verification1 | Ca (227.547 nm)    | 24.5474 (ppm)    | 0.96     | 24.5474 (ppm)   | 1447.7782     |
| 11/1/2017 22:12:56 | Continuing Calibration Verification1 | Cd (214.439 nm)    | 0.4946 (ppm)     | 0.24     | 0.4946 (ppm)    | 11260.4478    |
| 11/1/2017 22:12:56 | Continuing Calibration Verification1 | Co (230.786 nm)    | 2.5844 (ppm)     | 0.31     | 2.5844 (ppm)    | 26597.5396    |
| 11/1/2017 22:12:56 | Continuing Calibration Verification1 | Cr (267.716 nm)    | 0.5036 (ppm)     | 0.16     | 0.5036 (ppm)    | 26265.7709    |
| 11/1/2017 22:12:56 | Continuing Calibration Verification1 | Cu (327.395 nm)    | 1.2212 (ppm)     | 0.74     | 1.2212 (ppm)    | 76722.2085    |
| 11/1/2017 22:12:56 | Continuing Calibration Verification1 | Fe (234.350 nm)    | 4.8415 (ppm)     | 0.31     | 4.8415 (ppm)    | 56316.3561    |
| 11/1/2017 22:12:56 | Continuing Calibration Verification1 | K (766.491 nm)     | 25.2205 (ppm)    | 0.54     | 25.2205 (ppm)   | 77927.3943    |
| 11/1/2017 22:12:56 | Continuing Calibration Verification1 | Mg (279.078 nm)    | 24.9243 (ppm)    | 0.30     | 24.9243 (ppm)   | 50284.7487    |
| 11/1/2017 22:12:56 | Continuing Calibration Verification1 | Mn (257.610 nm)    | 0.7616 (ppm)     | 0.18     | 0.7616 (ppm)    | 246435.4602   |
| 11/1/2017 22:12:56 | Continuing Calibration Verification1 | Mo (202.032 nm)    | 2.3987 (ppm)     | 0.22     | 2.3987 (ppm)    | 25682.1673    |
| 11/1/2017 22:12:56 | Continuing Calibration Verification1 | Na (588.995 nm)    | 25.4367 (ppm)    | 0.73     | 25.4367 (ppm)   | 1161228.5488  |
| 11/1/2017 22:12:56 | Continuing Calibration Verification1 | Ni (230.299 nm)    | 2.0284 (ppm)     | 0.25     | 2.0284 (ppm)    | 14049.5622    |
| 11/1/2017 22:12:56 | Continuing Calibration Verification1 | Pb (220.353 nm)    | 0.4971 (ppm)     | 0.34     | 0.4971 (ppm)    | 1115.2003     |
| 11/1/2017 22:12:56 | Continuing Calibration Verification1 | Sb (217.582 nm)    | 4.9240 (ppm)     | 0.43     | 4.9240 (ppm)    | 7028.6604     |
| 11/1/2017 22:12:56 | Continuing Calibration Verification1 | Se (196.026 nm)    | 0.4833 (ppm)     | 0.57     | 0.4833 (ppm)    | 427.6875      |
| 11/1/2017 22:12:56 | Continuing Calibration Verification1 | Sn (189.925 nm)    | 5.0226 (ppm)     | 0.36     | 5.0226 (ppm)    | 6399.7603     |
| 11/1/2017 22:12:56 | Continuing Calibration Verification1 | Sr (216.596 nm)    | 2.4972 (ppm)     | 0.26     | 2.4972 (ppm)    | 37250.4533    |
| 11/1/2017 22:12:56 | Continuing Calibration Verification1 | Ti (336.122 nm)    | 2.4957 (ppm)     | 0.61     | 2.4957 (ppm)    | 546889.5541   |
| 11/1/2017 22:12:56 | Continuing Calibration Verification1 | Tl (351.923 nm)    | 0.9982 (ppm)     | 0.54     | 0.9982 (ppm)    | 2848.4589     |
| 11/1/2017 22:12:56 | Continuing Calibration Verification1 | V (292.401 nm)     | 2.5277 (ppm)     | 0.25     | 2.5277 (ppm)    | 91099.2125    |
| 11/1/2017 22:12:56 | Continuing Calibration Verification1 | Y (360.074 nm)     | 0.96 (Ratio)     | 0.88     | 0.96 (Ratio)    | 899441.25     |
| 11/1/2017 22:12:56 | Continuing Calibration Verification1 | Y_R (360.074 nm)   | 0.96 (Ratio)     | 0.88     | 0.96 (Ratio)    | 899748.68     |
| 11/1/2017 22:12:56 | Continuing Calibration Verification1 | Zn (213.857 nm)    | 0.9969 (ppm)     | 0.22     | 0.9969 (ppm)    | 28933.6600    |
| 11/1/2017 22:16:14 | Continuing Calibration Blank1        | Ag (328.068 nm)    | 0.0002 (ppm)     | 35.57    | 0.0002 (ppm)    | -114.5542     |
| 11/1/2017 22:16:14 | Continuing Calibration Blank1        | Al (394.401 nm)    | -0.0002 u (ppm)  | > 100.00 | -0.0002 (ppm)   | 79.9885       |
| 11/1/2017 22:16:14 | Continuing Calibration Blank1        | As (188.980 nm)    | 0.0048 (ppm)     | 31.82    | 0.0048 (ppm)    | 1.5498        |
| 11/1/2017 22:16:14 | Continuing Calibration Blank1        | B (249.772 nm)     | 0.0018 (ppm)     | 35.86    | 0.0018 (ppm)    | 142.1031      |
| 11/1/2017 22:16:14 | Continuing Calibration Blank1        | Ba (230.424 nm)    | 0.0001 (ppm)     | 44.28    | 0.0001 (ppm)    | 12.5774       |
| 11/1/2017 22:16:14 | Continuing Calibration Blank1        | Be (313.107 nm)    | 0.0000 (ppm)     | > 100.00 | 0.0000 (ppm)    | -502.9742     |
| 11/1/2017 22:16:14 | Continuing Calibration Blank1        | Ca (227.547 nm)    | -0.0136 u (ppm)  | > 100.00 | -0.0136 (ppm)   | 5.3693        |
| 11/1/2017 22:16:14 | Continuing Calibration Blank1        | Cd (214.439 nm)    | 0.0001 (ppm)     | 42.58    | 0.0001 (ppm)    | 14.9460       |
| 11/1/2017 22:16:14 | Continuing Calibration Blank1        | Co (230.786 nm)    | 0.0000 u (ppm)   | > 100.00 | 0.0000 (ppm)    | -1.2760       |

| Date Time          | Label                          | Element Label (nm) | Conc             | %RSD     | Unadjusted Conc | Intensity     |
|--------------------|--------------------------------|--------------------|------------------|----------|-----------------|---------------|
| 11/1/2017 22:16:14 | Continuing Calibration Blank 1 | Cr (267.716 nm)    | -0.0001 u (ppm)  | 80.42    | -0.0001 (ppm)   | -4.4423       |
| 11/1/2017 22:16:14 | Continuing Calibration Blank 1 | Cu (327.395 nm)    | 0.0000 u (ppm)   | > 100.00 | 0.0000 (ppm)    | 19.7354       |
| 11/1/2017 22:16:14 | Continuing Calibration Blank 1 | Fe (234.350 nm)    | 0.0002 (ppm)     | 50.15    | 0.0002 (ppm)    | 75.1194       |
| 11/1/2017 22:16:14 | Continuing Calibration Blank 1 | K (766.491 nm)     | 0.0185 (ppm)     | 2.24     | 0.0185 (ppm)    | 114.6910      |
| 11/1/2017 22:16:14 | Continuing Calibration Blank 1 | Mg (279.078 nm)    | 0.0014 (ppm)     | > 100.00 | 0.0014 (ppm)    | -4.2091       |
| 11/1/2017 22:16:14 | Continuing Calibration Blank 1 | Mn (257.610 nm)    | 0.0057 (ppm)     | 30.21    | 0.0057 (ppm)    | 1875.6147     |
| 11/1/2017 22:16:14 | Continuing Calibration Blank 1 | Mo (202.032 nm)    | 0.0025 (ppm)     | 14.30    | 0.0025 (ppm)    | 43.2719       |
| 11/1/2017 22:16:14 | Continuing Calibration Blank 1 | Na (588.995 nm)    | 0.0107 (ppm)     | 6.64     | 0.0107 (ppm)    | -5488.9238    |
| 11/1/2017 22:16:14 | Continuing Calibration Blank 1 | Ni (230.299 nm)    | 0.0004 u (ppm)   | > 100.00 | 0.0004 (ppm)    | -23.3286      |
| 11/1/2017 22:16:14 | Continuing Calibration Blank 1 | Pb (220.353 nm)    | 0.0008 u (ppm)   | > 100.00 | 0.0008 (ppm)    | 7.4582        |
| 11/1/2017 22:16:14 | Continuing Calibration Blank 1 | Sb (217.582 nm)    | -0.0014 u (ppm)  | 41.97    | -0.0014 (ppm)   | 2.0947        |
| 11/1/2017 22:16:14 | Continuing Calibration Blank 1 | Se (196.026 nm)    | -0.0012 u (ppm)  | > 100.00 | -0.0012 (ppm)   | 4.4924        |
| 11/1/2017 22:16:14 | Continuing Calibration Blank 1 | Sn (189.925 nm)    | -0.0001 u (ppm)  | > 100.00 | -0.0001 (ppm)   | -0.3288       |
| 11/1/2017 22:16:14 | Continuing Calibration Blank 1 | Sr (216.596 nm)    | 0.0001 (ppm)     | 38.90    | 0.0001 (ppm)    | 0.4900        |
| 11/1/2017 22:16:14 | Continuing Calibration Blank 1 | Ti (336.122 nm)    | 0.0007 (ppm)     | 2.53     | 0.0007 (ppm)    | -266.4401     |
| 11/1/2017 22:16:14 | Continuing Calibration Blank 1 | Ti (351.923 nm)    | -0.0031 u (ppm)  | 91.13    | -0.0031 (ppm)   | 5.8550        |
| 11/1/2017 22:16:14 | Continuing Calibration Blank 1 | V (292.401 nm)     | -0.0001 u (ppm)  | 95.81    | -0.0001 (ppm)   | 107.0708      |
| 11/1/2017 22:16:14 | Continuing Calibration Blank 1 | Y (360.074 nm)     | 1.01 (Ratio)     | 0.99     | 1.01 (Ratio)    | 943045.21     |
| 11/1/2017 22:16:14 | Continuing Calibration Blank 1 | Y_R (360.074 nm)   | 1.01 (Ratio)     | 1.00     | 1.01 (Ratio)    | 943096.78     |
| 11/1/2017 22:16:14 | Continuing Calibration Blank 1 | Zn (213.857 nm)    | 0.0001 (ppm)     | > 100.00 | 0.0001 (ppm)    | -27.2149      |
| 11/1/2017 22:19:33 | R1710088-002S                  | Ag (328.068 nm)    | 0.0548 (ppm)     | 0.76     | 0.0548 (ppm)    | 3901.8710     |
| 11/1/2017 22:19:33 | R1710088-002S                  | Al (394.401 nm)    | 2.3170 (ppm)     | 0.82     | 2.3170 (ppm)    | 31022.8081    |
| 11/1/2017 22:19:33 | R1710088-002S                  | As (188.980 nm)    | 0.0460 (ppm)     | 5.57     | 0.0460 (ppm)    | 39.6759       |
| 11/1/2017 22:19:33 | R1710088-002S                  | B (249.772 nm)     | 2.1296 (ppm)     | 0.64     | 2.1296 (ppm)    | 61120.0021    |
| 11/1/2017 22:19:33 | R1710088-002S                  | Ba (230.424 nm)    | 2.0382 (ppm)     | 0.36     | 2.0382 (ppm)    | 71339.7500    |
| 11/1/2017 22:19:33 | R1710088-002S                  | Be (313.107 nm)    | 0.0499 (ppm)     | 0.76     | 0.0499 (ppm)    | 75121.9925    |
| 11/1/2017 22:19:33 | R1710088-002S                  | Ca (227.547 nm)    | 527.7871 o (ppm) | 1.02     | 527.7871 (ppm)  | 31001.8674    |
| 11/1/2017 22:19:33 | R1710088-002S                  | Cd (214.439 nm)    | 0.0472 (ppm)     | 1.08     | 0.0472 (ppm)    | 1086.1992     |
| 11/1/2017 22:19:33 | R1710088-002S                  | Co (230.786 nm)    | 0.4906 (ppm)     | 0.74     | 0.4906 (ppm)    | 5047.8841     |
| 11/1/2017 22:19:33 | R1710088-002S                  | Cr (267.716 nm)    | 0.1943 (ppm)     | 0.72     | 0.1943 (ppm)    | 10130.6950    |
| 11/1/2017 22:19:33 | R1710088-002S                  | Cu (327.395 nm)    | 0.2722 (ppm)     | 0.73     | 0.2722 (ppm)    | 17119.9541    |
| 11/1/2017 22:19:33 | R1710088-002S                  | Fe (234.350 nm)    | 0.9532 (ppm)     | 0.67     | 0.9532 (ppm)    | 11146.0015    |
| 11/1/2017 22:19:33 | R1710088-002S                  | K (766.491 nm)     | 37.5061 (ppm)    | 0.79     | 37.5061 (ppm)   | 115860.1546   |
| 11/1/2017 22:19:33 | R1710088-002S                  | Mg (279.078 nm)    | 150.7718 o (ppm) | 0.67     | 150.7718 (ppm)  | 304217.7118   |
| 11/1/2017 22:19:33 | R1710088-002S                  | Mn (257.610 nm)    | 0.5191 (ppm)     | 0.17     | 0.5191 (ppm)    | 167974.9228   |
| 11/1/2017 22:19:33 | R1710088-002S                  | Mo (202.032 nm)    | 0.4809 (ppm)     | 0.67     | 0.4809 (ppm)    | 5161.9526     |
| 11/1/2017 22:19:33 | R1710088-002S                  | Na (588.995 nm)    | 301.3647 o (ppm) | 1.16     | 301.3647 (ppm)  | 13822682.7569 |
| 11/1/2017 22:19:33 | R1710088-002S                  | Ni (230.299 nm)    | 0.4805 (ppm)     | 0.75     | 0.4805 (ppm)    | 3308.0299     |
| 11/1/2017 22:19:33 | R1710088-002S                  | Pb (220.353 nm)    | 0.4882 (ppm)     | 0.64     | 0.4882 (ppm)    | 1095.3780     |
| 11/1/2017 22:19:33 | R1710088-002S                  | Sb (217.582 nm)    | 0.5400 (ppm)     | 1.15     | 0.5400 (ppm)    | 774.4990      |
| 11/1/2017 22:19:33 | R1710088-002S                  | Se (196.026 nm)    | 1.0689 (ppm)     | 0.78     | 1.0689 (ppm)    | 939.2034      |
| 11/1/2017 22:19:33 | R1710088-002S                  | Sn (189.925 nm)    | 4.9948 (ppm)     | 0.69     | 4.9948 (ppm)    | 6364.4278     |
| 11/1/2017 22:19:33 | R1710088-002S                  | Sr (216.596 nm)    | 13.7015 o (ppm)  | 0.11     | 13.7015 (ppm)   | 204387.5872   |
| 11/1/2017 22:19:33 | R1710088-002S                  | Ti (336.122 nm)    | 0.5118 (ppm)     | 0.73     | 0.5118 (ppm)    | 111825.0178   |
| 11/1/2017 22:19:33 | R1710088-002S                  | Ti (351.923 nm)    | 2.2296 o (ppm)   | 0.44     | 2.2296 (ppm)    | 6344.6491     |
| 11/1/2017 22:19:33 | R1710088-002S                  | V (292.401 nm)     | 0.5120 (ppm)     | 0.71     | 0.5120 (ppm)    | 18541.3345    |
| 11/1/2017 22:19:33 | R1710088-002S                  | Y (360.074 nm)     | 0.87 (Ratio)     | 1.07     | 0.87 (Ratio)    | 811562.75     |
| 11/1/2017 22:19:33 | R1710088-002S                  | Y_R (360.074 nm)   | 0.87 (Ratio)     | 1.07     | 0.87 (Ratio)    | 811965.53     |
| 11/1/2017 22:19:33 | R1710088-002S                  | Zn (213.857 nm)    | 0.5172 (ppm)     | 0.61     | 0.5172 (ppm)    | 14995.9373    |
| 11/1/2017 22:22:52 | R1710088-002SD                 | Ag (328.068 nm)    | 0.0548 (ppm)     | 0.19     | 0.0548 (ppm)    | 3897.7440     |
| 11/1/2017 22:22:52 | R1710088-002SD                 | Al (394.401 nm)    | 2.3175 (ppm)     | 0.20     | 2.3175 (ppm)    | 31030.5555    |

| Date Time          | Label          | Element Label (nm) | Conc             | %RSD | Unadjusted Conc | Intensity     |
|--------------------|----------------|--------------------|------------------|------|-----------------|---------------|
| 11/1/2017 22:22:52 | R1710088-002SD | As (188.980 nm)    | 0.0419 (ppm)     | 8.52 | 0.0419 (ppm)    | 35.8800       |
| 11/1/2017 22:22:52 | R1710088-002SD | B (249.772 nm)     | 2.1390 (ppm)     | 0.01 | 2.1390 (ppm)    | 61389.0060    |
| 11/1/2017 22:22:52 | R1710088-002SD | Ba (230.424 nm)    | 2.0303 (ppm)     | 0.19 | 2.0303 (ppm)    | 71062.2571    |
| 11/1/2017 22:22:52 | R1710088-002SD | Be (313.107 nm)    | 0.0496 (ppm)     | 0.01 | 0.0496 (ppm)    | 74761.1885    |
| 11/1/2017 22:22:52 | R1710088-002SD | Ca (227.547 nm)    | 532.8782 o (ppm) | 0.30 | 532.8782 (ppm)  | 31300.8521    |
| 11/1/2017 22:22:52 | R1710088-002SD | Cd (214.439 nm)    | 0.0472 (ppm)     | 0.63 | 0.0472 (ppm)    | 1086.3870     |
| 11/1/2017 22:22:52 | R1710088-002SD | Co (230.786 nm)    | 0.4882 (ppm)     | 0.23 | 0.4882 (ppm)    | 5022.9842     |
| 11/1/2017 22:22:52 | R1710088-002SD | Cr (267.716 nm)    | 0.1936 (ppm)     | 0.11 | 0.1936 (ppm)    | 10095.1386    |
| 11/1/2017 22:22:52 | R1710088-002SD | Cu (327.395 nm)    | 0.2718 (ppm)     | 0.42 | 0.2718 (ppm)    | 17092.6263    |
| 11/1/2017 22:22:52 | R1710088-002SD | Fe (234.350 nm)    | 0.9502 (ppm)     | 0.07 | 0.9502 (ppm)    | 11111.5736    |
| 11/1/2017 22:22:52 | R1710088-002SD | K (766.491 nm)     | 37.7115 (ppm)    | 0.48 | 37.7115 (ppm)   | 116494.1044   |
| 11/1/2017 22:22:52 | R1710088-002SD | Mg (279.078 nm)    | 152.2720 o (ppm) | 0.12 | 152.2720 (ppm)  | 307244.6932   |
| 11/1/2017 22:22:52 | R1710088-002SD | Mn (257.610 nm)    | 0.5161 (ppm)     | 0.70 | 0.5161 (ppm)    | 166998.0446   |
| 11/1/2017 22:22:52 | R1710088-002SD | Mo (202.032 nm)    | 0.4786 (ppm)     | 0.19 | 0.4786 (ppm)    | 5138.0141     |
| 11/1/2017 22:22:52 | R1710088-002SD | Na (588.995 nm)    | 303.4158 o (ppm) | 0.61 | 303.4158 (ppm)  | 13916800.4645 |
| 11/1/2017 22:22:52 | R1710088-002SD | Ni (230.299 nm)    | 0.4772 (ppm)     | 0.27 | 0.4772 (ppm)    | 3285.1603     |
| 11/1/2017 22:22:52 | R1710088-002SD | Pb (220.353 nm)    | 0.4839 (ppm)     | 0.95 | 0.4839 (ppm)    | 1085.7686     |
| 11/1/2017 22:22:52 | R1710088-002SD | Sb (217.582 nm)    | 0.5429 (ppm)     | 0.67 | 0.5429 (ppm)    | 778.6033      |
| 11/1/2017 22:22:52 | R1710088-002SD | Se (196.026 nm)    | 1.0509 (ppm)     | 0.50 | 1.0509 (ppm)    | 923.4953      |
| 11/1/2017 22:22:52 | R1710088-002SD | Sn (189.925 nm)    | 4.9505 (ppm)     | 0.14 | 4.9505 (ppm)    | 6307.9040     |
| 11/1/2017 22:22:52 | R1710088-002SD | Sr (216.596 nm)    | 13.7708 o (ppm)  | 0.41 | 13.7708 (ppm)   | 205421.8929   |
| 11/1/2017 22:22:52 | R1710088-002SD | Ti (336.122 nm)    | 0.5097 (ppm)     | 0.11 | 0.5097 (ppm)    | 111367.8304   |
| 11/1/2017 22:22:52 | R1710088-002SD | Tl (351.923 nm)    | 2.2294 o (ppm)   | 0.22 | 2.2294 (ppm)    | 6344.0568     |
| 11/1/2017 22:22:52 | R1710088-002SD | V (292.401 nm)     | 0.5097 (ppm)     | 0.10 | 0.5097 (ppm)    | 18459.0520    |
| 11/1/2017 22:22:52 | R1710088-002SD | Y (360.074 nm)     | 0.87 (Ratio)     | 0.35 | 0.87 (Ratio)    | 819132.97     |
| 11/1/2017 22:22:52 | R1710088-002SD | Y_R (360.074 nm)   | 0.88 (Ratio)     | 0.35 | 0.88 (Ratio)    | 819578.57     |
| 11/1/2017 22:22:52 | R1710088-002SD | Zn (213.857 nm)    | 0.5135 (ppm)     | 0.16 | 0.5135 (ppm)    | 14887.9550    |
| 11/1/2017 22:26:11 | R1710088-002A  | Ag (328.068 nm)    | 0.0520 (ppm)     | 0.78 | 0.0520 (ppm)    | 3697.3296     |
| 11/1/2017 22:26:11 | R1710088-002A  | Al (394.401 nm)    | 2.2440 (ppm)     | 0.44 | 2.2440 (ppm)    | 30048.7035    |
| 11/1/2017 22:26:11 | R1710088-002A  | As (188.980 nm)    | 0.0413 (ppm)     | 2.17 | 0.0413 (ppm)    | 35.2917       |
| 11/1/2017 22:26:11 | R1710088-002A  | B (249.772 nm)     | 2.2532 (ppm)     | 0.31 | 2.2532 (ppm)    | 64660.2439    |
| 11/1/2017 22:26:11 | R1710088-002A  | Ba (230.424 nm)    | 1.9377 (ppm)     | 0.22 | 1.9377 (ppm)    | 67822.8114    |
| 11/1/2017 22:26:11 | R1710088-002A  | Be (313.107 nm)    | 0.0474 (ppm)     | 0.31 | 0.0474 (ppm)    | 71382.1069    |
| 11/1/2017 22:26:11 | R1710088-002A  | Ca (227.547 nm)    | 516.4371 o (ppm) | 0.70 | 516.4371 (ppm)  | 30335.3034    |
| 11/1/2017 22:26:11 | R1710088-002A  | Cd (214.439 nm)    | 0.0452 (ppm)     | 0.62 | 0.0452 (ppm)    | 1040.9420     |
| 11/1/2017 22:26:11 | R1710088-002A  | Co (230.786 nm)    | 0.4675 (ppm)     | 0.37 | 0.4675 (ppm)    | 4810.3983     |
| 11/1/2017 22:26:11 | R1710088-002A  | Cr (267.716 nm)    | 0.1852 (ppm)     | 0.52 | 0.1852 (ppm)    | 9657.2959     |
| 11/1/2017 22:26:11 | R1710088-002A  | Cu (327.395 nm)    | 0.2590 (ppm)     | 0.78 | 0.2590 (ppm)    | 16291.6046    |
| 11/1/2017 22:26:11 | R1710088-002A  | Fe (234.350 nm)    | 0.9077 (ppm)     | 0.42 | 0.9077 (ppm)    | 10618.0947    |
| 11/1/2017 22:26:11 | R1710088-002A  | K (766.491 nm)     | 36.1427 (ppm)    | 0.38 | 36.1427 (ppm)   | 111650.5368   |
| 11/1/2017 22:26:11 | R1710088-002A  | Mg (279.078 nm)    | 147.3787 o (ppm) | 0.39 | 147.3787 (ppm)  | 297371.1140   |
| 11/1/2017 22:26:11 | R1710088-002A  | Mn (257.610 nm)    | 0.5088 (ppm)     | 1.48 | 0.5088 (ppm)    | 164653.5386   |
| 11/1/2017 22:26:11 | R1710088-002A  | Mo (202.032 nm)    | 0.4606 (ppm)     | 0.50 | 0.4606 (ppm)    | 4944.6454     |
| 11/1/2017 22:26:11 | R1710088-002A  | Na (588.995 nm)    | 294.0730 o (ppm) | 0.72 | 294.0730 (ppm)  | 13488089.2084 |
| 11/1/2017 22:26:11 | R1710088-002A  | Ni (230.299 nm)    | 0.4558 (ppm)     | 0.20 | 0.4558 (ppm)    | 3137.0562     |
| 11/1/2017 22:26:11 | R1710088-002A  | Pb (220.353 nm)    | 0.4646 (ppm)     | 0.17 | 0.4646 (ppm)    | 1042.8333     |
| 11/1/2017 22:26:11 | R1710088-002A  | Sb (217.582 nm)    | 0.5190 (ppm)     | 1.00 | 0.5190 (ppm)    | 744.5294      |
| 11/1/2017 22:26:11 | R1710088-002A  | Se (196.026 nm)    | 1.1882 o (ppm)   | 0.50 | 1.1882 (ppm)    | 1043.4404     |
| 11/1/2017 22:26:11 | R1710088-002A  | Sn (189.925 nm)    | 4.7632 (ppm)     | 0.27 | 4.7632 (ppm)    | 6069.2492     |
| 11/1/2017 22:26:11 | R1710088-002A  | Sr (216.596 nm)    | 13.3322 o (ppm)  | 0.11 | 13.3322 (ppm)   | 198878.9709   |
| 11/1/2017 22:26:11 | R1710088-002A  | Ti (336.122 nm)    | 0.4904 (ppm)     | 0.45 | 0.4904 (ppm)    | 107121.2139   |

| Date Time          | Label         | Element Label (nm) | Conc             | %RSD     | Unadjusted Conc | Intensity     |
|--------------------|---------------|--------------------|------------------|----------|-----------------|---------------|
| 11/1/2017 22:26:11 | R1710088-002A | Tl (351.923 nm)    | 2.1302 (ppm)     | 0.55     | 2.1302 (ppm)    | 6062.4678     |
| 11/1/2017 22:26:11 | R1710088-002A | V (292.401 nm)     | 0.4874 (ppm)     | 0.31     | 0.4874 (ppm)    | 17654.9492    |
| 11/1/2017 22:26:11 | R1710088-002A | Y (360.074 nm)     | 0.88 (Ratio)     | 0.67     | 0.88 (Ratio)    | 821385.14     |
| 11/1/2017 22:26:11 | R1710088-002A | Y_R (360.074 nm)   | 0.88 (Ratio)     | 0.67     | 0.88 (Ratio)    | 821929.36     |
| 11/1/2017 22:26:11 | R1710088-002A | Zn (213.857 nm)    | 0.4966 (ppm)     | 0.42     | 0.4966 (ppm)    | 14398.2790    |
| 11/1/2017 22:29:30 | R1710088-002L | Ag (328.068 nm)    | 0.0002 (ppm)     | 10.00    | 0.0002 (ppm)    | -114.5395     |
| 11/1/2017 22:29:30 | R1710088-002L | Al (394.401 nm)    | 0.0196 (ppm)     | 0.70     | 0.0196 (ppm)    | 344.5406      |
| 11/1/2017 22:29:30 | R1710088-002L | As (188.980 nm)    | 0.0019 u (ppm)   | > 100.00 | 0.0019 (ppm)    | -1.1717       |
| 11/1/2017 22:29:30 | R1710088-002L | B (249.772 nm)     | 0.2016 (ppm)     | 0.44     | 0.2016 (ppm)    | 5867.2039     |
| 11/1/2017 22:29:30 | R1710088-002L | Ba (230.424 nm)    | 0.0022 (ppm)     | 0.61     | 0.0022 (ppm)    | 86.6456       |
| 11/1/2017 22:29:30 | R1710088-002L | Be (313.107 nm)    | 0.0000 (ppm)     | 19.29    | 0.0000 (ppm)    | -518.5191     |
| 11/1/2017 22:29:30 | R1710088-002L | Ca (227.547 nm)    | 96.6712 o (ppm)  | 0.51     | 96.6712 (ppm)   | 5683.4442     |
| 11/1/2017 22:29:30 | R1710088-002L | Cd (214.439 nm)    | 0.0000 (ppm)     | > 100.00 | 0.0000 (ppm)    | 13.3016       |
| 11/1/2017 22:29:30 | R1710088-002L | Co (230.786 nm)    | -0.0005 u (ppm)  | 19.56    | -0.0005 (ppm)   | -5.9614       |
| 11/1/2017 22:29:30 | R1710088-002L | Cr (267.716 nm)    | 0.0000 (ppm)     | > 100.00 | 0.0000 (ppm)    | -0.8067       |
| 11/1/2017 22:29:30 | R1710088-002L | Cu (327.395 nm)    | 0.0000 u (ppm)   | > 100.00 | 0.0000 (ppm)    | 20.1302       |
| 11/1/2017 22:29:30 | R1710088-002L | Fe (234.350 nm)    | -0.0024 u (ppm)  | 4.94     | -0.0024 (ppm)   | 45.3928       |
| 11/1/2017 22:29:30 | R1710088-002L | K (766.491 nm)     | 2.1426 (ppm)     | 0.59     | 2.1426 (ppm)    | 6672.8570     |
| 11/1/2017 22:29:30 | R1710088-002L | Mg (279.078 nm)    | 29.1201 (ppm)    | 0.25     | 29.1201 (ppm)   | 58751.0645    |
| 11/1/2017 22:29:30 | R1710088-002L | Mn (257.610 nm)    | 0.0097 (ppm)     | 19.15    | 0.0097 (ppm)    | 3164.0009     |
| 11/1/2017 22:29:30 | R1710088-002L | Mo (202.032 nm)    | 0.0003 (ppm)     | 21.49    | 0.0003 (ppm)    | 20.2236       |
| 11/1/2017 22:29:30 | R1710088-002L | Na (588.995 nm)    | 57.6787 o (ppm)  | 0.55     | 57.6787 (ppm)   | 2640712.0128  |
| 11/1/2017 22:29:30 | R1710088-002L | Ni (230.299 nm)    | -0.0008 u (ppm)  | 40.83    | -0.0008 (ppm)   | -31.4926      |
| 11/1/2017 22:29:30 | R1710088-002L | Pb (220.353 nm)    | -0.0014 u (ppm)  | 52.55    | -0.0014 (ppm)   | 2.5677        |
| 11/1/2017 22:29:30 | R1710088-002L | Sb (217.582 nm)    | -0.0026 u (ppm)  | > 100.00 | -0.0026 (ppm)   | 0.3863        |
| 11/1/2017 22:29:30 | R1710088-002L | Se (196.026 nm)    | 0.0009 u (ppm)   | > 100.00 | 0.0009 (ppm)    | 6.3406        |
| 11/1/2017 22:29:30 | R1710088-002L | Sn (189.925 nm)    | -0.0013 u (ppm)  | > 100.00 | -0.0013 (ppm)   | -1.8321       |
| 11/1/2017 22:29:30 | R1710088-002L | Sr (216.596 nm)    | 2.4757 (ppm)     | 0.95     | 2.4757 (ppm)    | 36929.0559    |
| 11/1/2017 22:29:30 | R1710088-002L | Tl (351.923 nm)    | 0.0007 (ppm)     | 5.97     | 0.0007 (ppm)    | -276.3820     |
| 11/1/2017 22:29:30 | R1710088-002L | Tl (351.923 nm)    | -0.0007 u (ppm)  | > 100.00 | -0.0007 (ppm)   | 12.5776       |
| 11/1/2017 22:29:30 | R1710088-002L | V (292.401 nm)     | 0.0002 (ppm)     | 60.33    | 0.0002 (ppm)    | 115.5869      |
| 11/1/2017 22:29:30 | R1710088-002L | Y (360.074 nm)     | 0.96 (Ratio)     | 0.78     | 0.96 (Ratio)    | 896610.34     |
| 11/1/2017 22:29:30 | R1710088-002L | Y_R (360.074 nm)   | 0.96 (Ratio)     | 0.78     | 0.96 (Ratio)    | 897055.32     |
| 11/1/2017 22:29:30 | R1710088-002L | Zn (213.857 nm)    | 0.0010 (ppm)     | 5.47     | 0.0010 (ppm)    | -1.7655       |
| 11/1/2017 22:32:49 | R1710088-003  | Ag (328.068 nm)    | 0.0003 (ppm)     | 11.69    | 0.0003 (ppm)    | -106.2361     |
| 11/1/2017 22:32:49 | R1710088-003  | Al (394.401 nm)    | 0.0666 (ppm)     | 1.91     | 0.0666 (ppm)    | 972.3831      |
| 11/1/2017 22:32:49 | R1710088-003  | As (188.980 nm)    | -0.0002 u (ppm)  | > 100.00 | -0.0002 (ppm)   | -3.1258       |
| 11/1/2017 22:32:49 | R1710088-003  | B (249.772 nm)     | 0.8023 (ppm)     | 0.46     | 0.8023 (ppm)    | 23081.8286    |
| 11/1/2017 22:32:49 | R1710088-003  | Ba (230.424 nm)    | 0.3420 (ppm)     | 0.63     | 0.3420 (ppm)    | 11976.1688    |
| 11/1/2017 22:32:49 | R1710088-003  | Be (313.107 nm)    | 0.0000 (ppm)     | 14.12    | 0.0000 (ppm)    | -540.9877     |
| 11/1/2017 22:32:49 | R1710088-003  | Ca (227.547 nm)    | 525.0730 o (ppm) | 0.58     | 525.0730 (ppm)  | 30842.4707    |
| 11/1/2017 22:32:49 | R1710088-003  | Cd (214.439 nm)    | 0.0003 (ppm)     | 9.52     | 0.0003 (ppm)    | 20.3402       |
| 11/1/2017 22:32:49 | R1710088-003  | Co (230.786 nm)    | -0.0002 u (ppm)  | > 100.00 | -0.0002 (ppm)   | -3.8167       |
| 11/1/2017 22:32:49 | R1710088-003  | Cr (267.716 nm)    | 0.0007 (ppm)     | 4.56     | 0.0007 (ppm)    | 35.3873       |
| 11/1/2017 22:32:49 | R1710088-003  | Cu (327.395 nm)    | 0.0005 (ppm)     | 24.95    | 0.0005 (ppm)    | 52.8725       |
| 11/1/2017 22:32:49 | R1710088-003  | Fe (234.350 nm)    | 31.6538 o (ppm)  | 0.41     | 31.6538 (ppm)   | 367798.2393   |
| 11/1/2017 22:32:49 | R1710088-003  | K (766.491 nm)     | 19.2368 (ppm)    | 0.46     | 19.2368 (ppm)   | 59452.4363    |
| 11/1/2017 22:32:49 | R1710088-003  | Mg (279.078 nm)    | 111.6212 o (ppm) | 0.43     | 111.6212 (ppm)  | 225220.2964   |
| 11/1/2017 22:32:49 | R1710088-003  | Mn (257.610 nm)    | 1.0572 (ppm)     | 0.47     | 1.0572 (ppm)    | 342065.7395   |
| 11/1/2017 22:32:49 | R1710088-003  | Mo (202.032 nm)    | 0.0003 (ppm)     | > 100.00 | 0.0003 (ppm)    | 19.6368       |
| 11/1/2017 22:32:49 | R1710088-003  | Na (588.995 nm)    | 454.0209 o (ppm) | 0.72     | 454.0209 (ppm)  | 20827583.7613 |

| Date Time          | Label        | Element Label (nm) | Conc             | %RSD     | Unadjusted Conc | Intensity     |
|--------------------|--------------|--------------------|------------------|----------|-----------------|---------------|
| 11/1/2017 22:32:49 | R1710088-003 | Ni (230.299 nm)    | -0.0186 u (ppm)  | 4.23     | -0.0186 (ppm)   | -155.0777     |
| 11/1/2017 22:32:49 | R1710088-003 | Pb (220.353 nm)    | -0.0036 u (ppm)  | 20.30    | -0.0036 (ppm)   | -2.4835       |
| 11/1/2017 22:32:49 | R1710088-003 | Sb (217.582 nm)    | -0.0053 u (ppm)  | 50.21    | -0.0053 (ppm)   | -3.3769       |
| 11/1/2017 22:32:49 | R1710088-003 | Se (196.026 nm)    | -0.0007 u (ppm)  | > 100.00 | -0.0007 (ppm)   | 4.9126        |
| 11/1/2017 22:32:49 | R1710088-003 | Sn (189.925 nm)    | -0.0017 u (ppm)  | > 100.00 | -0.0017 (ppm)   | -2.2933       |
| 11/1/2017 22:32:49 | R1710088-003 | Sr (216.596 nm)    | 7.0613 o (ppm)   | 0.15     | 7.0613 (ppm)    | 105334.8537   |
| 11/1/2017 22:32:49 | R1710088-003 | Ti (336.122 nm)    | 0.0041 (ppm)     | 1.24     | 0.0041 (ppm)    | 481.5336      |
| 11/1/2017 22:32:49 | R1710088-003 | Tl (351.923 nm)    | 0.0108 (ppm)     | 29.77    | 0.0108 (ppm)    | 45.2177       |
| 11/1/2017 22:32:49 | R1710088-003 | V (292.401 nm)     | 0.0017 (ppm)     | 11.87    | 0.0017 (ppm)    | 170.5271      |
| 11/1/2017 22:32:49 | R1710088-003 | Y (360.074 nm)     | 0.87 (Ratio)     | 0.75     | 0.87 (Ratio)    | 811757.20     |
| 11/1/2017 22:32:49 | R1710088-003 | Y_R (360.074 nm)   | 0.87 (Ratio)     | 0.76     | 0.87 (Ratio)    | 812438.15     |
| 11/1/2017 22:32:49 | R1710088-003 | Zn (213.857 nm)    | 0.0089 (ppm)     | 0.99     | 0.0089 (ppm)    | 227.5775      |
| 11/1/2017 22:36:08 | R1710088-004 | Ag (328.068 nm)    | 0.0002 (ppm)     | 36.49    | 0.0002 (ppm)    | -113.7629     |
| 11/1/2017 22:36:08 | R1710088-004 | Al (394.401 nm)    | 0.7830 (ppm)     | 0.13     | 0.7830 (ppm)    | 10538.5651    |
| 11/1/2017 22:36:08 | R1710088-004 | As (188.980 nm)    | 0.0042 (ppm)     | 53.13    | 0.0042 (ppm)    | 0.9899        |
| 11/1/2017 22:36:08 | R1710088-004 | B (249.772 nm)     | 0.3865 (ppm)     | 0.73     | 0.3865 (ppm)    | 11165.2904    |
| 11/1/2017 22:36:08 | R1710088-004 | Ba (230.424 nm)    | 0.0611 (ppm)     | 1.27     | 0.0611 (ppm)    | 2144.9548     |
| 11/1/2017 22:36:08 | R1710088-004 | Be (313.107 nm)    | 0.0000 (ppm)     | 60.53    | 0.0000 (ppm)    | -519.2357     |
| 11/1/2017 22:36:08 | R1710088-004 | Ca (227.547 nm)    | 427.8331 o (ppm) | 0.61     | 427.8331 (ppm)  | 25131.8015    |
| 11/1/2017 22:36:08 | R1710088-004 | Cd (214.439 nm)    | 0.0002 (ppm)     | 42.09    | 0.0002 (ppm)    | 16.7382       |
| 11/1/2017 22:36:08 | R1710088-004 | Co (230.786 nm)    | 0.0054 (ppm)     | 9.17     | 0.0054 (ppm)    | 53.9600       |
| 11/1/2017 22:36:08 | R1710088-004 | Cr (267.716 nm)    | 0.0294 (ppm)     | 0.66     | 0.0294 (ppm)    | 1531.4231     |
| 11/1/2017 22:36:08 | R1710088-004 | Cu (327.395 nm)    | 0.0040 (ppm)     | 1.10     | 0.0040 (ppm)    | 272.5768      |
| 11/1/2017 22:36:08 | R1710088-004 | Fe (234.350 nm)    | 10.5828 (ppm)    | 0.87     | 10.5828 (ppm)   | 123014.2028   |
| 11/1/2017 22:36:08 | R1710088-004 | K (766.491 nm)     | 17.2631 (ppm)    | 0.42     | 17.2631 (ppm)   | 53358.3732    |
| 11/1/2017 22:36:08 | R1710088-004 | Mg (279.078 nm)    | 77.6823 o (ppm)  | 0.96     | 77.6823 (ppm)   | 156738.9614   |
| 11/1/2017 22:36:08 | R1710088-004 | Mn (257.610 nm)    | 0.8855 (ppm)     | 1.66     | 0.8855 (ppm)    | 286505.9033   |
| 11/1/2017 22:36:08 | R1710088-004 | Mo (202.032 nm)    | 0.0005 (ppm)     | 3.05     | 0.0005 (ppm)    | 21.9910       |
| 11/1/2017 22:36:08 | R1710088-004 | Na (588.995 nm)    | 473.7555 o (ppm) | 0.48     | 473.7555 (ppm)  | 21733142.4696 |
| 11/1/2017 22:36:08 | R1710088-004 | Ni (230.299 nm)    | 0.3230 (ppm)     | 1.18     | 0.3230 (ppm)    | 2215.0998     |
| 11/1/2017 22:36:08 | R1710088-004 | Pb (220.353 nm)    | -0.0018 u (ppm)  | > 100.00 | -0.0018 (ppm)   | 1.5566        |
| 11/1/2017 22:36:08 | R1710088-004 | Sb (217.582 nm)    | -0.0025 u (ppm)  | > 100.00 | -0.0025 (ppm)   | 0.6047        |
| 11/1/2017 22:36:08 | R1710088-004 | Se (196.026 nm)    | -0.0014 u (ppm)  | > 100.00 | -0.0014 (ppm)   | 4.2570        |
| 11/1/2017 22:36:08 | R1710088-004 | Sn (189.925 nm)    | -0.0013 u (ppm)  | 88.23    | -0.0013 (ppm)   | -1.7566       |
| 11/1/2017 22:36:08 | R1710088-004 | Sr (216.596 nm)    | 1.4370 (ppm)     | 0.94     | 1.4370 (ppm)    | 21435.1068    |
| 11/1/2017 22:36:08 | R1710088-004 | Ti (336.122 nm)    | 0.0175 (ppm)     | 2.52     | 0.0175 (ppm)    | 3407.6369     |
| 11/1/2017 22:36:08 | R1710088-004 | Tl (351.923 nm)    | 0.0061 (ppm)     | 43.38    | 0.0061 (ppm)    | 32.0351       |
| 11/1/2017 22:36:08 | R1710088-004 | V (292.401 nm)     | 0.0022 (ppm)     | 9.34     | 0.0022 (ppm)    | 189.8280      |
| 11/1/2017 22:36:08 | R1710088-004 | Y (360.074 nm)     | 0.86 (Ratio)     | 0.28     | 0.86 (Ratio)    | 804726.68     |
| 11/1/2017 22:36:08 | R1710088-004 | Y_R (360.074 nm)   | 0.86 (Ratio)     | 0.26     | 0.86 (Ratio)    | 805391.84     |
| 11/1/2017 22:36:08 | R1710088-004 | Zn (213.857 nm)    | 0.0088 (ppm)     | 2.18     | 0.0088 (ppm)    | 225.7510      |
| 11/1/2017 22:39:27 | R1710211-001 | Ag (328.068 nm)    | 0.0000 (ppm)     | > 100.00 | 0.0000 (ppm)    | -122.9484     |
| 11/1/2017 22:39:27 | R1710211-001 | Al (394.401 nm)    | 0.0230 (ppm)     | 0.88     | 0.0230 (ppm)    | 390.5712      |
| 11/1/2017 22:39:27 | R1710211-001 | As (188.980 nm)    | 0.0033 (ppm)     | 46.19    | 0.0033 (ppm)    | 0.1677        |
| 11/1/2017 22:39:27 | R1710211-001 | B (249.772 nm)     | 0.0262 (ppm)     | 1.34     | 0.0262 (ppm)    | 841.5782      |
| 11/1/2017 22:39:27 | R1710211-001 | Ba (230.424 nm)    | 0.0842 (ppm)     | 0.23     | 0.0842 (ppm)    | 2954.8086     |
| 11/1/2017 22:39:27 | R1710211-001 | Be (313.107 nm)    | 0.0000 (ppm)     | 90.43    | 0.0000 (ppm)    | -524.4854     |
| 11/1/2017 22:39:27 | R1710211-001 | Ca (227.547 nm)    | 69.9721 o (ppm)  | 0.70     | 69.9721 (ppm)   | 4115.4659     |
| 11/1/2017 22:39:27 | R1710211-001 | Cd (214.439 nm)    | -0.0001 u (ppm)  | > 100.00 | -0.0001 (ppm)   | 10.9875       |
| 11/1/2017 22:39:27 | R1710211-001 | Co (230.786 nm)    | 0.0000 u (ppm)   | > 100.00 | 0.0000 (ppm)    | -0.8057       |
| 11/1/2017 22:39:27 | R1710211-001 | Cr (267.716 nm)    | -0.0003 u (ppm)  | 62.80    | -0.0003 (ppm)   | -15.4708      |

| Date Time          | Label        | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity   |
|--------------------|--------------|--------------------|-----------------|----------|-----------------|-------------|
| 11/1/2017 22:39:27 | R1710211-001 | Cu (327.395 nm)    | 0.0001 (ppm)    | 67.78    | 0.0001 (ppm)    | 25.7527     |
| 11/1/2017 22:39:27 | R1710211-001 | Fe (234.350 nm)    | 0.7887 (ppm) *  | 0.26     | 0.7887 (ppm)    | 9235.6500   |
| 11/1/2017 22:39:27 | R1710211-001 | K (766.491 nm)     | 1.5340 (ppm)    | 0.89     | 1.5340 (ppm)    | 4793.9150   |
| 11/1/2017 22:39:27 | R1710211-001 | Mg (279.078 nm)    | 32.7375 (ppm)   | 0.17     | 32.7375 (ppm)   | 66950.0227  |
| 11/1/2017 22:39:27 | R1710211-001 | Mn (257.610 nm)    | 0.5226 (ppm)    | 0.98     | 0.5226 (ppm)    | 169122.4445 |
| 11/1/2017 22:39:27 | R1710211-001 | Mo (202.032 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | 15.6430     |
| 11/1/2017 22:39:27 | R1710211-001 | Na (588.995 nm)    | 17.3209 (ppm)   | 0.87     | 17.3209 (ppm)   | 788822.4921 |
| 11/1/2017 22:39:27 | R1710211-001 | Ni (230.299 nm)    | 0.0098 (ppm)    | 3.34     | 0.0098 (ppm)    | 41.6096     |
| 11/1/2017 22:39:27 | R1710211-001 | Pb (220.353 nm)    | -0.0015 u (ppm) | 77.59    | -0.0015 (ppm)   | 2.1915      |
| 11/1/2017 22:39:27 | R1710211-001 | Sb (217.582 nm)    | -0.0011 u (ppm) | 87.12    | -0.0011 (ppm)   | 2.5151      |
| 11/1/2017 22:39:27 | R1710211-001 | Se (196.026 nm)    | -0.0040 u (ppm) | 21.94    | -0.0040 (ppm)   | 2.0164      |
| 11/1/2017 22:39:27 | R1710211-001 | Sn (189.925 nm)    | -0.0020 u (ppm) | 32.94    | -0.0020 (ppm)   | -2.7495     |
| 11/1/2017 22:39:27 | R1710211-001 | Sr (216.596 nm)    | 0.3892 (ppm)    | 0.07     | 0.3892 (ppm)    | 5804.4115   |
| 11/1/2017 22:39:27 | R1710211-001 | Ti (336.122 nm)    | 0.0008 (ppm)    | 4.76     | 0.0008 (ppm)    | -254.0711   |
| 11/1/2017 22:39:27 | R1710211-001 | Ti (351.923 nm)    | -0.0040 u (ppm) | 7.78     | -0.0040 (ppm)   | 3.2790      |
| 11/1/2017 22:39:27 | R1710211-001 | V (292.401 nm)     | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | 111.6358    |
| 11/1/2017 22:39:27 | R1710211-001 | Y (360.074 nm)     | 0.98 (Ratio)    | 0.68     | 0.98 (Ratio)    | 921948.47   |
| 11/1/2017 22:39:27 | R1710211-001 | Y_R (360.074 nm)   | 0.99 (Ratio)    | 0.68     | 0.99 (Ratio)    | 922551.00   |
| 11/1/2017 22:39:27 | R1710211-001 | Zn (213.857 nm)    | 0.0017 (ppm)    | 5.11     | 0.0017 (ppm)    | 18.4514     |
| 11/1/2017 22:42:47 | R1710211-002 | Ag (328.068 nm)    | 0.0001 (ppm)    | 22.11    | 0.0001 (ppm)    | -118.5861   |
| 11/1/2017 22:42:47 | R1710211-002 | Al (394.401 nm)    | 0.0270 (ppm)    | 1.56     | 0.0270 (ppm)    | 443.9713    |
| 11/1/2017 22:42:47 | R1710211-002 | As (188.980 nm)    | 0.0019 u (ppm)  | > 100.00 | 0.0019 (ppm)    | -1.1052     |
| 11/1/2017 22:42:47 | R1710211-002 | B (249.772 nm)     | 0.0334 (ppm)    | 0.66     | 0.0334 (ppm)    | 1047.7234   |
| 11/1/2017 22:42:47 | R1710211-002 | Ba (230.424 nm)    | 0.1367 (ppm)    | 0.54     | 0.1367 (ppm)    | 4792.6043   |
| 11/1/2017 22:42:47 | R1710211-002 | Be (313.107 nm)    | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | -508.3829   |
| 11/1/2017 22:42:47 | R1710211-002 | Ca (227.547 nm)    | 65.3981 o (ppm) | 0.51     | 65.3981 (ppm)   | 3846.8441   |
| 11/1/2017 22:42:47 | R1710211-002 | Cd (214.439 nm)    | -0.0001 u (ppm) | 40.35    | -0.0001 (ppm)   | 9.7409      |
| 11/1/2017 22:42:47 | R1710211-002 | Co (230.786 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | -2.7145     |
| 11/1/2017 22:42:47 | R1710211-002 | Cr (267.716 nm)    | -0.0004 u (ppm) | 27.67    | -0.0004 (ppm)   | -19.9951    |
| 11/1/2017 22:42:47 | R1710211-002 | Cu (327.395 nm)    | 0.0002 (ppm)    | 88.98    | 0.0002 (ppm)    | 36.3157     |
| 11/1/2017 22:42:47 | R1710211-002 | Fe (234.350 nm)    | 0.1946 (ppm)    | 0.52     | 0.1946 (ppm)    | 2333.4658   |
| 11/1/2017 22:42:47 | R1710211-002 | K (766.491 nm)     | 1.4360 (ppm)    | 1.09     | 1.4360 (ppm)    | 4491.2292   |
| 11/1/2017 22:42:47 | R1710211-002 | Mg (279.078 nm)    | 29.2189 (ppm)   | 0.31     | 29.2189 (ppm)   | 58950.4289  |
| 11/1/2017 22:42:47 | R1710211-002 | Mn (257.610 nm)    | 0.4286 (ppm)    | 1.32     | 0.4286 (ppm)    | 138692.5470 |
| 11/1/2017 22:42:47 | R1710211-002 | Mo (202.032 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | 16.7703     |
| 11/1/2017 22:42:47 | R1710211-002 | Na (588.995 nm)    | 14.9353 (ppm)   | 0.58     | 14.9353 (ppm)   | 679354.7091 |
| 11/1/2017 22:42:47 | R1710211-002 | Ni (230.299 nm)    | 0.0079 (ppm)    | 9.81     | 0.0079 (ppm)    | 28.5557     |
| 11/1/2017 22:42:47 | R1710211-002 | Pb (220.353 nm)    | -0.0021 u (ppm) | 88.72    | -0.0021 (ppm)   | 0.9631      |
| 11/1/2017 22:42:47 | R1710211-002 | Sb (217.582 nm)    | -0.0036 u (ppm) | 73.72    | -0.0036 (ppm)   | -1.0412     |
| 11/1/2017 22:42:47 | R1710211-002 | Se (196.026 nm)    | -0.0016 u (ppm) | > 100.00 | -0.0016 (ppm)   | 4.1017      |
| 11/1/2017 22:42:47 | R1710211-002 | Sn (189.925 nm)    | -0.0013 u (ppm) | 33.56    | -0.0013 (ppm)   | -1.8177     |
| 11/1/2017 22:42:47 | R1710211-002 | Sr (216.596 nm)    | 0.3511 (ppm)    | 0.30     | 0.3511 (ppm)    | 5236.5710   |
| 11/1/2017 22:42:47 | R1710211-002 | Ti (336.122 nm)    | 0.0007 (ppm)    | 2.60     | 0.0007 (ppm)    | -258.7573   |
| 11/1/2017 22:42:47 | R1710211-002 | Ti (351.923 nm)    | -0.0044 u (ppm) | 50.36    | -0.0044 (ppm)   | 2.1036      |
| 11/1/2017 22:42:47 | R1710211-002 | V (292.401 nm)     | 0.0001 (ppm)    | > 100.00 | 0.0001 (ppm)    | 113.9562    |
| 11/1/2017 22:42:47 | R1710211-002 | Y (360.074 nm)     | 0.99 (Ratio)    | 0.67     | 0.99 (Ratio)    | 926350.91   |
| 11/1/2017 22:42:47 | R1710211-002 | Y_R (360.074 nm)   | 0.99 (Ratio)    | 0.67     | 0.99 (Ratio)    | 926966.28   |
| 11/1/2017 22:42:47 | R1710211-002 | Zn (213.857 nm)    | 0.0724 (ppm)    | 0.47     | 0.0724 (ppm)    | 2072.7000   |
| 11/1/2017 22:46:05 | R1710211-003 | Ag (328.068 nm)    | 0.0002 (ppm)    | 20.86    | 0.0002 (ppm)    | -114.2545   |
| 11/1/2017 22:46:05 | R1710211-003 | Al (394.401 nm)    | 0.0199 (ppm)    | 3.62     | 0.0199 (ppm)    | 349.4338    |
| 11/1/2017 22:46:05 | R1710211-003 | As (188.980 nm)    | 0.0016 (ppm)    | > 100.00 | 0.0016 (ppm)    | -1.3749     |



| Date Time          | Label        | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity   |
|--------------------|--------------|--------------------|-----------------|----------|-----------------|-------------|
| 11/1/2017 22:46:05 | R1710211-003 | B (249.772 nm)     | 0.0248 (ppm)    | 0.55     | 0.0248 (ppm)    | 801.4901    |
| 11/1/2017 22:46:05 | R1710211-003 | Ba (230.424 nm)    | 0.0694 (ppm)    | 0.13     | 0.0694 (ppm)    | 2435.9381   |
| 11/1/2017 22:46:05 | R1710211-003 | Be (313.107 nm)    | 0.0000 (ppm)    | 60.91    | 0.0000 (ppm)    | -520.2154   |
| 11/1/2017 22:46:05 | R1710211-003 | Ca (227.547 nm)    | 68.7002 o (ppm) | 0.45     | 68.7002 (ppm)   | 4040.7737   |
| 11/1/2017 22:46:05 | R1710211-003 | Cd (214.439 nm)    | -0.0002 u (ppm) | 9.74     | -0.0002 (ppm)   | 8.4958      |
| 11/1/2017 22:46:05 | R1710211-003 | Co (230.786 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | -2.0674     |
| 11/1/2017 22:46:05 | R1710211-003 | Cr (267.716 nm)    | -0.0003 u (ppm) | 24.87    | -0.0003 (ppm)   | -14.0712    |
| 11/1/2017 22:46:05 | R1710211-003 | Cu (327.395 nm)    | 0.0003 (ppm)    | 23.62    | 0.0003 (ppm)    | 37.5173     |
| 11/1/2017 22:46:05 | R1710211-003 | Fe (234.350 nm)    | 0.0064 (ppm)    | 6.10     | 0.0064 (ppm)    | 147.0392    |
| 11/1/2017 22:46:05 | R1710211-003 | K (766.491 nm)     | 1.4919 (ppm)    | 0.49     | 1.4919 (ppm)    | 4663.6957   |
| 11/1/2017 22:46:05 | R1710211-003 | Mg (279.078 nm)    | 32.5810 (ppm)   | 0.45     | 32.5810 (ppm)   | 65734.3080  |
| 11/1/2017 22:46:05 | R1710211-003 | Mn (257.610 nm)    | 0.0211 (ppm)    | 30.92    | 0.0211 (ppm)    | 6855.7766   |
| 11/1/2017 22:46:05 | R1710211-003 | Mo (202.032 nm)    | 0.0002 (ppm)    | > 100.00 | 0.0002 (ppm)    | 19.1791     |
| 11/1/2017 22:46:05 | R1710211-003 | Na (588.995 nm)    | 16.8812 (ppm)   | 0.67     | 16.8812 (ppm)   | 768643.7081 |
| 11/1/2017 22:46:05 | R1710211-003 | Ni (230.299 nm)    | 0.0108 (ppm)    | 8.33     | 0.0108 (ppm)    | 48.6522     |
| 11/1/2017 22:46:05 | R1710211-003 | Pb (220.353 nm)    | -0.0009 u (ppm) | > 100.00 | -0.0009 (ppm)   | 3.6857      |
| 11/1/2017 22:46:05 | R1710211-003 | Sb (217.582 nm)    | -0.0040 u (ppm) | 29.69    | -0.0040 (ppm)   | -1.5773     |
| 11/1/2017 22:46:05 | R1710211-003 | Se (196.026 nm)    | -0.0010 u (ppm) | > 100.00 | -0.0010 (ppm)   | 4.6292      |
| 11/1/2017 22:46:05 | R1710211-003 | Sn (189.925 nm)    | -0.0002 u (ppm) | > 100.00 | -0.0002 (ppm)   | -0.3639     |
| 11/1/2017 22:46:05 | R1710211-003 | Sr (216.596 nm)    | 0.3829 (ppm)    | 0.72     | 0.3829 (ppm)    | 5710.8033   |
| 11/1/2017 22:46:05 | R1710211-003 | Ti (336.122 nm)    | 0.0006 (ppm)    | 3.81     | 0.0006 (ppm)    | -280.2515   |
| 11/1/2017 22:46:05 | R1710211-003 | Tl (351.923 nm)    | -0.0028 u (ppm) | 62.82    | -0.0028 (ppm)   | 6.6691      |
| 11/1/2017 22:46:05 | R1710211-003 | V (292.401 nm)     | -0.0002 u (ppm) | > 100.00 | -0.0002 (ppm)   | 103.8444    |
| 11/1/2017 22:46:05 | R1710211-003 | Y (360.074 nm)     | 0.99 (Ratio)    | 0.77     | 0.99 (Ratio)    | 923208.50   |
| 11/1/2017 22:46:05 | R1710211-003 | Y_R (360.074 nm)   | 0.99 (Ratio)    | 0.77     | 0.99 (Ratio)    | 923906.21   |
| 11/1/2017 22:46:05 | R1710211-003 | Zn (213.857 nm)    | 0.0014 (ppm)    | 2.06     | 0.0014 (ppm)    | 9.0641      |
| 11/1/2017 22:49:24 | R1710211-004 | Ag (328.068 nm)    | 0.0001 (ppm)    | > 100.00 | 0.0001 (ppm)    | -119.7876   |
| 11/1/2017 22:49:24 | R1710211-004 | Al (394.401 nm)    | 0.0269 (ppm)    | 1.55     | 0.0269 (ppm)    | 442.9256    |
| 11/1/2017 22:49:24 | R1710211-004 | As (188.980 nm)    | 0.0011 u (ppm)  | > 100.00 | 0.0011 (ppm)    | -1.9230     |
| 11/1/2017 22:49:24 | R1710211-004 | B (249.772 nm)     | 0.0357 (ppm)    | 0.63     | 0.0357 (ppm)    | 1113.3843   |
| 11/1/2017 22:49:24 | R1710211-004 | Ba (230.424 nm)    | 0.1164 (ppm)    | 0.21     | 0.1164 (ppm)    | 4080.2125   |
| 11/1/2017 22:49:24 | R1710211-004 | Be (313.107 nm)    | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | -517.3377   |
| 11/1/2017 22:49:24 | R1710211-004 | Ca (227.547 nm)    | 66.7050 o (ppm) | 0.45     | 66.7050 (ppm)   | 3923.5989   |
| 11/1/2017 22:49:24 | R1710211-004 | Cd (214.439 nm)    | -0.0001 u (ppm) | 62.44    | -0.0001 (ppm)   | 9.9757      |
| 11/1/2017 22:49:24 | R1710211-004 | Co (230.786 nm)    | -0.0004 u (ppm) | > 100.00 | -0.0004 (ppm)   | -5.5163     |
| 11/1/2017 22:49:24 | R1710211-004 | Cr (267.716 nm)    | -0.0002 u (ppm) | 97.67    | -0.0002 (ppm)   | -8.3477     |
| 11/1/2017 22:49:24 | R1710211-004 | Cu (327.395 nm)    | 0.0003 (ppm)    | 29.26    | 0.0003 (ppm)    | 41.3872     |
| 11/1/2017 22:49:24 | R1710211-004 | Fe (234.350 nm)    | 0.0036 (ppm)    | 3.03     | 0.0036 (ppm)    | 114.1105    |
| 11/1/2017 22:49:24 | R1710211-004 | K (766.491 nm)     | 1.4508 (ppm)    | 0.60     | 1.4508 (ppm)    | 4537.0891   |
| 11/1/2017 22:49:24 | R1710211-004 | Mg (279.078 nm)    | 31.4671 (ppm)   | 0.36     | 31.4671 (ppm)   | 63486.7355  |
| 11/1/2017 22:49:24 | R1710211-004 | Mn (257.610 nm)    | 0.0209 (ppm)    | 30.88    | 0.0209 (ppm)    | 6803.0440   |
| 11/1/2017 22:49:24 | R1710211-004 | Mo (202.032 nm)    | 0.0002 (ppm)    | 86.58    | 0.0002 (ppm)    | 19.1533     |
| 11/1/2017 22:49:24 | R1710211-004 | Na (588.995 nm)    | 16.5607 (ppm)   | 0.66     | 16.5607 (ppm)   | 753938.4198 |
| 11/1/2017 22:49:24 | R1710211-004 | Ni (230.299 nm)    | 0.0107 (ppm)    | 11.23    | 0.0107 (ppm)    | 48.3493     |
| 11/1/2017 22:49:24 | R1710211-004 | Pb (220.353 nm)    | -0.0028 u (ppm) | 42.93    | -0.0028 (ppm)   | -0.6638     |
| 11/1/2017 22:49:24 | R1710211-004 | Sb (217.582 nm)    | -0.0046 u (ppm) | 81.91    | -0.0046 (ppm)   | -2.4600     |
| 11/1/2017 22:49:24 | R1710211-004 | Se (196.026 nm)    | -0.0012 u (ppm) | > 100.00 | -0.0012 (ppm)   | 4.4543      |
| 11/1/2017 22:49:24 | R1710211-004 | Sn (189.925 nm)    | -0.0017 u (ppm) | 42.75    | -0.0017 (ppm)   | -2.3362     |
| 11/1/2017 22:49:24 | R1710211-004 | Sr (216.596 nm)    | 0.3704 (ppm)    | 0.04     | 0.3704 (ppm)    | 5524.7299   |
| 11/1/2017 22:49:24 | R1710211-004 | Ti (336.122 nm)    | 0.0008 (ppm)    | 1.64     | 0.0008 (ppm)    | -251.4641   |
| 11/1/2017 22:49:24 | R1710211-004 | Tl (351.923 nm)    | -0.0029 u (ppm) | 10.17    | -0.0029 (ppm)   | 6.4236      |

| Date Time          | Label                                | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|--------------------------------------|--------------------|-----------------|----------|-----------------|--------------|
| 11/1/2017 22:49:24 | R1710211-004                         | V (292.401 nm)     | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | 106.0001     |
| 11/1/2017 22:49:24 | R1710211-004                         | Y (360.074 nm)     | 0.99 (Ratio)    | 0.67     | 0.99 (Ratio)    | 929022.54    |
| 11/1/2017 22:49:24 | R1710211-004                         | Y_R (360.074 nm)   | 0.99 (Ratio)    | 0.67     | 0.99 (Ratio)    | 929732.58    |
| 11/1/2017 22:49:24 | R1710211-004                         | Zn (213.857 nm)    | 0.0804 (ppm)    | 0.41     | 0.0804 (ppm)    | 2305.6883    |
| 11/1/2017 22:52:42 | Continuing Calibration Verification1 | Ag (328.068 nm)    | 0.4820 (ppm)    | 0.47     | 0.4820 (ppm)    | 35285.3552   |
| 11/1/2017 22:52:42 | Continuing Calibration Verification1 | Al (394.401 nm)    | 9.4740 (ppm)    | 0.63     | 9.4740 (ppm)    | 126594.4125  |
| 11/1/2017 22:52:42 | Continuing Calibration Verification1 | As (188.980 nm)    | 0.9492 (ppm)    | 0.77     | 0.9492 (ppm)    | 875.6414     |
| 11/1/2017 22:52:42 | Continuing Calibration Verification1 | B (249.772 nm)     | 2.3661 (ppm)    | 0.38     | 2.3661 (ppm)    | 67894.6366   |
| 11/1/2017 22:52:42 | Continuing Calibration Verification1 | Ba (230.424 nm)    | 10.0328 (ppm)   | 0.35     | 10.0328 (ppm)   | 351129.5675  |
| 11/1/2017 22:52:42 | Continuing Calibration Verification1 | Be (313.107 nm)    | 0.2489 (ppm)    | 0.35     | 0.2489 (ppm)    | 376966.0032  |
| 11/1/2017 22:52:42 | Continuing Calibration Verification1 | Ca (227.547 nm)    | 24.0616 (ppm)   | 0.68     | 24.0616 (ppm)   | 1419.2499    |
| 11/1/2017 22:52:42 | Continuing Calibration Verification1 | Cd (214.439 nm)    | 0.4822 (ppm)    | 0.44     | 0.4822 (ppm)    | 10978.1821   |
| 11/1/2017 22:52:42 | Continuing Calibration Verification1 | Co (230.786 nm)    | 2.5232 (ppm)    | 0.42     | 2.5232 (ppm)    | 25967.3438   |
| 11/1/2017 22:52:42 | Continuing Calibration Verification1 | Cr (267.716 nm)    | 0.4921 (ppm)    | 0.42     | 0.4921 (ppm)    | 25665.3773   |
| 11/1/2017 22:52:42 | Continuing Calibration Verification1 | Cu (327.395 nm)    | 1.1945 (ppm)    | 0.85     | 1.1945 (ppm)    | 75045.9444   |
| 11/1/2017 22:52:42 | Continuing Calibration Verification1 | Fe (234.350 nm)    | 4.7270 (ppm)    | 0.38     | 4.7270 (ppm)    | 54987.1268   |
| 11/1/2017 22:52:42 | Continuing Calibration Verification1 | K (766.491 nm)     | 24.7549 (ppm)   | 0.72     | 24.7549 (ppm)   | 76489.8872   |
| 11/1/2017 22:52:42 | Continuing Calibration Verification1 | Mg (279.078 nm)    | 24.3359 (ppm)   | 0.35     | 24.3359 (ppm)   | 49097.4702   |
| 11/1/2017 22:52:42 | Continuing Calibration Verification1 | Mn (257.610 nm)    | 0.7429 (ppm)    | 0.36     | 0.7429 (ppm)    | 240397.9230  |
| 11/1/2017 22:52:42 | Continuing Calibration Verification1 | Mo (202.032 nm)    | 2.3455 (ppm)    | 0.34     | 2.3455 (ppm)    | 25113.1108   |
| 11/1/2017 22:52:42 | Continuing Calibration Verification1 | Na (588.995 nm)    | 24.8643 (ppm)   | 0.79     | 24.8643 (ppm)   | 1134964.6228 |
| 11/1/2017 22:52:42 | Continuing Calibration Verification1 | Ni (230.299 nm)    | 1.9808 (ppm)    | 0.51     | 1.9808 (ppm)    | 13719.3041   |
| 11/1/2017 22:52:42 | Continuing Calibration Verification1 | Pb (220.353 nm)    | 0.4847 (ppm)    | 0.03     | 0.4847 (ppm)    | 1087.5496    |
| 11/1/2017 22:52:42 | Continuing Calibration Verification1 | Sb (217.582 nm)    | 4.8071 (ppm)    | 0.52     | 4.8071 (ppm)    | 6861.8970    |
| 11/1/2017 22:52:42 | Continuing Calibration Verification1 | Se (196.026 nm)    | 0.4697 (ppm)    | 0.82     | 0.4697 (ppm)    | 415.8042     |
| 11/1/2017 22:52:42 | Continuing Calibration Verification1 | Sn (189.925 nm)    | 4.9082 (ppm)    | 0.40     | 4.9082 (ppm)    | 6254.0392    |
| 11/1/2017 22:52:42 | Continuing Calibration Verification1 | Sr (216.596 nm)    | 2.4394 (ppm)    | 0.15     | 2.4394 (ppm)    | 36387.7011   |
| 11/1/2017 22:52:42 | Continuing Calibration Verification1 | Tl (336.122 nm)    | 2.4470 (ppm)    | 0.71     | 2.4470 (ppm)    | 536208.0925  |
| 11/1/2017 22:52:42 | Continuing Calibration Verification1 | Tl (351.923 nm)    | 0.9746 (ppm)    | 0.49     | 0.9746 (ppm)    | 2781.5615    |
| 11/1/2017 22:52:42 | Continuing Calibration Verification1 | V (292.401 nm)     | 2.4779 (ppm)    | 0.44     | 2.4779 (ppm)    | 89304.7722   |
| 11/1/2017 22:52:42 | Continuing Calibration Verification1 | Y (360.074 nm)     | 0.99 (Ratio)    | 0.86     | 0.99 (Ratio)    | 923609.13    |
| 11/1/2017 22:52:42 | Continuing Calibration Verification1 | Y_R (360.074 nm)   | 0.99 (Ratio)    | 0.86     | 0.99 (Ratio)    | 924222.77    |
| 11/1/2017 22:52:42 | Continuing Calibration Verification1 | Zn (213.857 nm)    | 0.9733 (ppm)    | 0.40     | 0.9733 (ppm)    | 28248.4824   |
| 11/1/2017 22:56:01 | Continuing Calibration Blank1        | Ag (328.068 nm)    | 0.0001 (ppm)    | > 100.00 | 0.0001 (ppm)    | -120.5999    |
| 11/1/2017 22:56:01 | Continuing Calibration Blank1        | Al (394.401 nm)    | -0.0003 u (ppm) | > 100.00 | -0.0003 (ppm)   | 79.6556      |
| 11/1/2017 22:56:01 | Continuing Calibration Blank1        | As (188.980 nm)    | 0.0015 u (ppm)  | > 100.00 | 0.0015 (ppm)    | -1.5498      |
| 11/1/2017 22:56:01 | Continuing Calibration Blank1        | B (249.772 nm)     | 0.0010 (ppm)    | 64.56    | 0.0010 (ppm)    | 118.1205     |
| 11/1/2017 22:56:01 | Continuing Calibration Blank1        | Ba (230.424 nm)    | 0.0001 (ppm)    | > 100.00 | 0.0001 (ppm)    | 12.8593      |
| 11/1/2017 22:56:01 | Continuing Calibration Blank1        | Be (313.107 nm)    | 0.0000 (ppm)    | 33.19    | 0.0000 (ppm)    | -484.5950    |
| 11/1/2017 22:56:01 | Continuing Calibration Blank1        | Ca (227.547 nm)    | 0.0058 u (ppm)  | > 100.00 | 0.0058 (ppm)    | 6.5083       |
| 11/1/2017 22:56:01 | Continuing Calibration Blank1        | Cd (214.439 nm)    | 0.0001 (ppm)    | > 100.00 | 0.0001 (ppm)    | 14.8407      |
| 11/1/2017 22:56:01 | Continuing Calibration Blank1        | Co (230.786 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | -2.0773      |
| 11/1/2017 22:56:01 | Continuing Calibration Blank1        | Cr (267.716 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | 0.4554       |
| 11/1/2017 22:56:01 | Continuing Calibration Blank1        | Cu (327.395 nm)    | -0.0001 u (ppm) | 60.87    | -0.0001 (ppm)   | 17.2540      |
| 11/1/2017 22:56:01 | Continuing Calibration Blank1        | Fe (234.350 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | 72.9000      |
| 11/1/2017 22:56:01 | Continuing Calibration Blank1        | K (766.491 nm)     | 0.0128 (ppm)    | 93.56    | 0.0128 (ppm)    | 97.1255      |
| 11/1/2017 22:56:01 | Continuing Calibration Blank1        | Mg (279.078 nm)    | 0.0032 (ppm)    | 31.19    | 0.0032 (ppm)    | -0.5442      |
| 11/1/2017 22:56:01 | Continuing Calibration Blank1        | Mn (257.610 nm)    | 0.0041 (ppm)    | 29.72    | 0.0041 (ppm)    | 1356.1212    |
| 11/1/2017 22:56:01 | Continuing Calibration Blank1        | Mo (202.032 nm)    | 0.0026 (ppm)    | 9.98     | 0.0026 (ppm)    | 44.6260      |
| 11/1/2017 22:56:01 | Continuing Calibration Blank1        | Na (588.995 nm)    | 0.0120 (ppm)    | 4.21     | 0.0120 (ppm)    | -5428.9061   |
| 11/1/2017 22:56:01 | Continuing Calibration Blank1        | Ni (230.299 nm)    | 0.0003 u (ppm)  | > 100.00 | 0.0003 (ppm)    | -24.1335     |

| Date Time          | Label                         | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity   |
|--------------------|-------------------------------|--------------------|-----------------|----------|-----------------|-------------|
| 11/1/2017 22:56:01 | Continuing Calibration Blank1 | Pb (220.353 nm)    | -0.0002 u (ppm) | > 100.00 | -0.0002 (ppm)   | 5.2739      |
| 11/1/2017 22:56:01 | Continuing Calibration Blank1 | Sb (217.582 nm)    | -0.0002 u (ppm) | > 100.00 | -0.0002 (ppm)   | 3.8160      |
| 11/1/2017 22:56:01 | Continuing Calibration Blank1 | Se (196.026 nm)    | 0.0004 u (ppm)  | > 100.00 | 0.0004 (ppm)    | 5.8591      |
| 11/1/2017 22:56:01 | Continuing Calibration Blank1 | Sn (189.925 nm)    | -0.0002 u (ppm) | > 100.00 | -0.0002 (ppm)   | -0.3666     |
| 11/1/2017 22:56:01 | Continuing Calibration Blank1 | Sr (216.596 nm)    | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | -0.5059     |
| 11/1/2017 22:56:01 | Continuing Calibration Blank1 | Ti (336.122 nm)    | 0.0007 (ppm)    | 8.65     | 0.0007 (ppm)    | -271.0700   |
| 11/1/2017 22:56:01 | Continuing Calibration Blank1 | Ti (351.923 nm)    | -0.0011 u (ppm) | > 100.00 | -0.0011 (ppm)   | 11.3763     |
| 11/1/2017 22:56:01 | Continuing Calibration Blank1 | V (292.401 nm)     | -0.0002 u (ppm) | 76.91    | -0.0002 (ppm)   | 102.4017    |
| 11/1/2017 22:56:01 | Continuing Calibration Blank1 | Y (360.074 nm)     | 1.03 (Ratio)    | 0.69     | 1.03 (Ratio)    | 962911.47   |
| 11/1/2017 22:56:01 | Continuing Calibration Blank1 | Y_R (360.074 nm)   | 1.03 (Ratio)    | 0.69     | 1.03 (Ratio)    | 963386.94   |
| 11/1/2017 22:56:01 | Continuing Calibration Blank1 | Zn (213.857 nm)    | 0.0002 (ppm)    | 22.86    | 0.0002 (ppm)    | -25.7142    |
| 11/1/2017 22:59:19 | R1710236-001                  | Ag (328.068 nm)    | 0.0001 (ppm)    | > 100.00 | 0.0001 (ppm)    | -120.1483   |
| 11/1/2017 22:59:19 | R1710236-001                  | Al (394.401 nm)    | 0.0481 (ppm)    | 0.46     | 0.0481 (ppm)    | 725.6818    |
| 11/1/2017 22:59:19 | R1710236-001                  | As (188.980 nm)    | 0.0015 u (ppm)  | > 100.00 | 0.0015 (ppm)    | -1.5308     |
| 11/1/2017 22:59:19 | R1710236-001                  | B (249.772 nm)     | 0.0037 (ppm)    | 4.40     | 0.0037 (ppm)    | 195.8663    |
| 11/1/2017 22:59:19 | R1710236-001                  | Ba (230.424 nm)    | 0.0238 (ppm)    | 0.84     | 0.0238 (ppm)    | 839.2612    |
| 11/1/2017 22:59:19 | R1710236-001                  | Be (313.107 nm)    | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | -507.0984   |
| 11/1/2017 22:59:19 | R1710236-001                  | Ca (227.547 nm)    | 10.9994 (ppm)   | 0.24     | 10.9994 (ppm)   | 652.1393    |
| 11/1/2017 22:59:19 | R1710236-001                  | Cd (214.439 nm)    | -0.0001 u (ppm) | 71.91    | -0.0001 (ppm)   | 10.3065     |
| 11/1/2017 22:59:19 | R1710236-001                  | Co (230.786 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | -1.7494     |
| 11/1/2017 22:59:19 | R1710236-001                  | Cr (267.716 nm)    | -0.0001 u (ppm) | 60.47    | -0.0001 (ppm)   | -5.9618     |
| 11/1/2017 22:59:19 | R1710236-001                  | Cu (327.395 nm)    | 0.0012 (ppm)    | 9.27     | 0.0012 (ppm)    | 98.4102     |
| 11/1/2017 22:59:19 | R1710236-001                  | Fe (234.350 nm)    | 0.2869 (ppm)    | 0.49     | 0.2869 (ppm)    | 3405.6661   |
| 11/1/2017 22:59:19 | R1710236-001                  | K (766.491 nm)     | 1.8183 (ppm)    | 0.79     | 1.8183 (ppm)    | 5671.6337   |
| 11/1/2017 22:59:19 | R1710236-001                  | Mg (279.078 nm)    | 1.4734 (ppm)    | 0.48     | 1.4734 (ppm)    | 2965.9093   |
| 11/1/2017 22:59:19 | R1710236-001                  | Mn (257.610 nm)    | 0.0477 (ppm)    | 8.84     | 0.0477 (ppm)    | 15478.2643  |
| 11/1/2017 22:59:19 | R1710236-001                  | Mo (202.032 nm)    | 0.0009 (ppm)    | 62.07    | 0.0009 (ppm)    | 26.5807     |
| 11/1/2017 22:59:19 | R1710236-001                  | Na (588.995 nm)    | 11.6574 (ppm)   | 0.62     | 11.6574 (ppm)   | 528942.6925 |
| 11/1/2017 22:59:19 | R1710236-001                  | Ni (230.299 nm)    | -0.0056 u (ppm) | 15.66    | -0.0056 (ppm)   | -64.6480    |
| 11/1/2017 22:59:19 | R1710236-001                  | Pb (220.353 nm)    | -0.0008 u (ppm) | > 100.00 | -0.0008 (ppm)   | 3.9262      |
| 11/1/2017 22:59:19 | R1710236-001                  | Sb (217.582 nm)    | -0.0019 u (ppm) | 97.67    | -0.0019 (ppm)   | 1.3556      |
| 11/1/2017 22:59:19 | R1710236-001                  | Se (196.026 nm)    | -0.0017 u (ppm) | > 100.00 | -0.0017 (ppm)   | 4.0620      |
| 11/1/2017 22:59:19 | R1710236-001                  | Sn (189.925 nm)    | 0.0003 u (ppm)  | > 100.00 | 0.0003 (ppm)    | 0.2404      |
| 11/1/2017 22:59:19 | R1710236-001                  | Sr (216.596 nm)    | 0.1027 (ppm)    | 1.08     | 0.1027 (ppm)    | 1531.0746   |
| 11/1/2017 22:59:19 | R1710236-001                  | Ti (336.122 nm)    | 0.0009 (ppm)    | 9.94     | 0.0009 (ppm)    | -219.8545   |
| 11/1/2017 22:59:19 | R1710236-001                  | Ti (351.923 nm)    | -0.0006 u (ppm) | > 100.00 | -0.0006 (ppm)   | 13.0178     |
| 11/1/2017 22:59:19 | R1710236-001                  | V (292.401 nm)     | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | 107.7903    |
| 11/1/2017 22:59:19 | R1710236-001                  | Y (360.074 nm)     | 1.02 (Ratio)    | 0.79     | 1.02 (Ratio)    | 955905.01   |
| 11/1/2017 22:59:19 | R1710236-001                  | Y_R (360.074 nm)   | 1.02 (Ratio)    | 0.79     | 1.02 (Ratio)    | 956582.46   |
| 11/1/2017 22:59:19 | R1710236-001                  | Zn (213.857 nm)    | 0.0021 (ppm)    | 2.82     | 0.0021 (ppm)    | 31.2745     |
| 11/1/2017 23:02:38 | R1710236-002                  | Ag (328.068 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | -123.9702   |
| 11/1/2017 23:02:38 | R1710236-002                  | Al (394.401 nm)    | 0.0366 (ppm)    | 2.43     | 0.0366 (ppm)    | 572.0116    |
| 11/1/2017 23:02:38 | R1710236-002                  | As (188.980 nm)    | 0.0021 (ppm)    | 93.13    | 0.0021 (ppm)    | -0.9914     |
| 11/1/2017 23:02:38 | R1710236-002                  | B (249.772 nm)     | 0.0036 (ppm)    | 0.48     | 0.0036 (ppm)    | 194.2363    |
| 11/1/2017 23:02:38 | R1710236-002                  | Ba (230.424 nm)    | 0.0226 (ppm)    | 1.06     | 0.0226 (ppm)    | 800.5539    |
| 11/1/2017 23:02:38 | R1710236-002                  | Be (313.107 nm)    | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | -504.0268   |
| 11/1/2017 23:02:38 | R1710236-002                  | Ca (227.547 nm)    | 10.8821 (ppm)   | 0.83     | 10.8821 (ppm)   | 645.2505    |
| 11/1/2017 23:02:38 | R1710236-002                  | Cd (214.439 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | 12.2137     |
| 11/1/2017 23:02:38 | R1710236-002                  | Co (230.786 nm)    | -0.0004 u (ppm) | 19.64    | -0.0004 (ppm)   | -5.3682     |
| 11/1/2017 23:02:38 | R1710236-002                  | Cr (267.716 nm)    | -0.0001 u (ppm) | 71.67    | -0.0001 (ppm)   | -6.4240     |
| 11/1/2017 23:02:38 | R1710236-002                  | Cu (327.395 nm)    | 0.0010 (ppm)    | 1.83     | 0.0010 (ppm)    | 85.6372     |

| Date Time          | Label        | Element Label (nm) | Conc             | %RSD     | Unadjusted Conc | Intensity     |
|--------------------|--------------|--------------------|------------------|----------|-----------------|---------------|
| 11/1/2017 23:02:38 | R1710236-002 | Fe (234.350 nm)    | 0.2360 (ppm)     | 0.49     | 0.2360 (ppm)    | 2814.5787     |
| 11/1/2017 23:02:38 | R1710236-002 | K (766.491 nm)     | 1.8071 (ppm)     | 0.67     | 1.8071 (ppm)    | 5636.9964     |
| 11/1/2017 23:02:38 | R1710236-002 | Mg (279.078 nm)    | 1.4544 (ppm)     | 0.50     | 1.4544 (ppm)    | 2927.6487     |
| 11/1/2017 23:02:38 | R1710236-002 | Mn (257.610 nm)    | 0.0454 (ppm)     | 9.53     | 0.0454 (ppm)    | 14719.2293    |
| 11/1/2017 23:02:38 | R1710236-002 | Mo (202.032 nm)    | 0.0006 (ppm)     | 66.03    | 0.0006 (ppm)    | 23.1388       |
| 11/1/2017 23:02:38 | R1710236-002 | Na (588.995 nm)    | 11.5979 (ppm)    | 0.83     | 11.5979 (ppm)   | 526210.2549   |
| 11/1/2017 23:02:38 | R1710236-002 | Ni (230.299 nm)    | -0.0052 u (ppm)  | 6.61     | -0.0052 (ppm)   | -61.8796      |
| 11/1/2017 23:02:38 | R1710236-002 | Pb (220.353 nm)    | -0.0007 u (ppm)  | > 100.00 | -0.0007 (ppm)   | 4.0430        |
| 11/1/2017 23:02:38 | R1710236-002 | Sb (217.582 nm)    | -0.0014 u (ppm)  | 80.53    | -0.0014 (ppm)   | 2.1060        |
| 11/1/2017 23:02:38 | R1710236-002 | Se (196.026 nm)    | -0.0016 u (ppm)  | > 100.00 | -0.0016 (ppm)   | 4.1104        |
| 11/1/2017 23:02:38 | R1710236-002 | Sn (189.925 nm)    | -0.0005 u (ppm)  | > 100.00 | -0.0005 (ppm)   | -0.7832       |
| 11/1/2017 23:02:38 | R1710236-002 | Sr (216.596 nm)    | 0.1008 (ppm)     | 0.28     | 0.1008 (ppm)    | 1502.7381     |
| 11/1/2017 23:02:38 | R1710236-002 | Tl (336.122 nm)    | 0.0004 (ppm)     | 4.51     | 0.0004 (ppm)    | -322.4495     |
| 11/1/2017 23:02:38 | R1710236-002 | Tl (351.923 nm)    | -0.0013 u (ppm)  | > 100.00 | -0.0013 (ppm)   | 10.8029       |
| 11/1/2017 23:02:38 | R1710236-002 | V (292.401 nm)     | 0.0001 (ppm)     | > 100.00 | 0.0001 (ppm)    | 115.3540      |
| 11/1/2017 23:02:38 | R1710236-002 | Y (360.074 nm)     | 1.02 (Ratio)     | 0.84     | 1.02 (Ratio)    | 954623.52     |
| 11/1/2017 23:02:38 | R1710236-002 | Y_R (360.074 nm)   | 1.02 (Ratio)     | 0.84     | 1.02 (Ratio)    | 955269.49     |
| 11/1/2017 23:02:38 | R1710236-002 | Zn (213.857 nm)    | 0.0029 (ppm)     | 2.19     | 0.0029 (ppm)    | 52.2972       |
| 11/1/2017 23:05:56 | R1710236-003 | Ag (328.068 nm)    | 0.0001 (ppm)     | 52.28    | 0.0001 (ppm)    | -114.9849     |
| 11/1/2017 23:05:56 | R1710236-003 | Al (394.401 nm)    | 0.0556 (ppm)     | 1.65     | 0.0556 (ppm)    | 825.3741      |
| 11/1/2017 23:05:56 | R1710236-003 | As (188.980 nm)    | 0.0095 (ppm)     | 9.54     | 0.0095 (ppm)    | 5.8758        |
| 11/1/2017 23:05:56 | R1710236-003 | B (249.772 nm)     | 1.6015 (ppm)     | 0.41     | 1.6015 (ppm)    | 45983.4600    |
| 11/1/2017 23:05:56 | R1710236-003 | Ba (230.424 nm)    | 0.3137 (ppm)     | 0.80     | 0.3137 (ppm)    | 10988.0444    |
| 11/1/2017 23:05:56 | R1710236-003 | Be (313.107 nm)    | 0.0002 (ppm)     | 1.57     | 0.0002 (ppm)    | -234.2896     |
| 11/1/2017 23:05:56 | R1710236-003 | Ca (227.547 nm)    | 77.0020 u (ppm)  | 0.61     | 77.0020 (ppm)   | 4528.3161     |
| 11/1/2017 23:05:56 | R1710236-003 | Cd (214.439 nm)    | 0.0003 (ppm)     | 39.45    | 0.0003 (ppm)    | 20.0185       |
| 11/1/2017 23:05:56 | R1710236-003 | Co (230.786 nm)    | 0.0008 (ppm)     | 41.90    | 0.0008 (ppm)    | 7.1693        |
| 11/1/2017 23:05:56 | R1710236-003 | Cr (267.716 nm)    | 0.0021 (ppm)     | 1.73     | 0.0021 (ppm)    | 109.6524      |
| 11/1/2017 23:05:56 | R1710236-003 | Cu (327.395 nm)    | 0.0004 (ppm)     | 9.44     | 0.0004 (ppm)    | 47.5965       |
| 11/1/2017 23:05:56 | R1710236-003 | Fe (234.350 nm)    | 20.2879 u (ppm)  | 0.38     | 20.2879 (ppm)   | 235758.7455   |
| 11/1/2017 23:05:56 | R1710236-003 | K (766.491 nm)     | 59.4973 u (ppm)  | 0.59     | 59.4973 (ppm)   | 183759.1819   |
| 11/1/2017 23:05:56 | R1710236-003 | Mg (279.078 nm)    | 20.7403 (ppm)    | 0.40     | 20.7403 (ppm)   | 41842.4290    |
| 11/1/2017 23:05:56 | R1710236-003 | Mn (257.610 nm)    | 0.0928 (ppm)     | 12.54    | 0.0928 (ppm)    | 30065.6403    |
| 11/1/2017 23:05:56 | R1710236-003 | Mo (202.032 nm)    | -0.0003 u (ppm)  | > 100.00 | -0.0003 (ppm)   | 13.7904       |
| 11/1/2017 23:05:56 | R1710236-003 | Na (588.995 nm)    | 245.6674 u (ppm) | 0.88     | 245.6674 (ppm)  | 11266912.6315 |
| 11/1/2017 23:05:56 | R1710236-003 | Ni (230.299 nm)    | 0.0417 (ppm)     | 4.18     | 0.0417 (ppm)    | 263.5704      |
| 11/1/2017 23:05:56 | R1710236-003 | Pb (220.353 nm)    | -0.0016 u (ppm)  | 67.54    | -0.0016 (ppm)   | 1.9602        |
| 11/1/2017 23:05:56 | R1710236-003 | Sb (217.582 nm)    | -0.0045 u (ppm)  | 21.04    | -0.0045 (ppm)   | -2.2786       |
| 11/1/2017 23:05:56 | R1710236-003 | Se (196.026 nm)    | 0.0014 u (ppm)   | > 100.00 | 0.0014 (ppm)    | 6.7510        |
| 11/1/2017 23:05:56 | R1710236-003 | Sn (189.925 nm)    | -0.0003 u (ppm)  | > 100.00 | -0.0003 (ppm)   | -0.5231       |
| 11/1/2017 23:05:56 | R1710236-003 | Sr (216.596 nm)    | 0.4086 (ppm)     | 0.50     | 0.4086 (ppm)    | 6094.6427     |
| 11/1/2017 23:05:56 | R1710236-003 | Tl (336.122 nm)    | 0.0030 (ppm)     | 1.61     | 0.0030 (ppm)    | 243.8831      |
| 11/1/2017 23:05:56 | R1710236-003 | Tl (351.923 nm)    | -0.0009 u (ppm)  | 94.58    | -0.0009 (ppm)   | 11.9697       |
| 11/1/2017 23:05:56 | R1710236-003 | V (292.401 nm)     | 0.0039 (ppm)     | 1.35     | 0.0039 (ppm)    | 250.6357      |
| 11/1/2017 23:05:56 | R1710236-003 | Y (360.074 nm)     | 0.93 (Ratio)     | 0.75     | 0.93 (Ratio)    | 873316.79     |
| 11/1/2017 23:05:56 | R1710236-003 | Y_R (360.074 nm)   | 0.93 (Ratio)     | 0.75     | 0.93 (Ratio)    | 874053.25     |
| 11/1/2017 23:05:56 | R1710236-003 | Zn (213.857 nm)    | 0.0059 (ppm)     | 1.78     | 0.0059 (ppm)    | 139.8204      |
| 11/1/2017 23:09:15 | R1710236-004 | Ag (328.068 nm)    | 0.0000 u (ppm)   | > 100.00 | 0.0000 (ppm)    | -127.8289     |
| 11/1/2017 23:09:15 | R1710236-004 | Al (394.401 nm)    | 0.0259 (ppm)     | 1.27     | 0.0259 (ppm)    | 428.5419      |
| 11/1/2017 23:09:15 | R1710236-004 | As (188.980 nm)    | 0.0106 (ppm)     | 37.10    | 0.0106 (ppm)    | 6.8951        |
| 11/1/2017 23:09:15 | R1710236-004 | B (249.772 nm)     | 1.6097 (ppm)     | 0.37     | 1.6097 (ppm)    | 46219.5188    |

| Date Time          | Label        | Element Label (nm) | Conc             | %RSD     | Unadjusted Conc | Intensity     |
|--------------------|--------------|--------------------|------------------|----------|-----------------|---------------|
| 11/1/2017 23:09:15 | R1710236-004 | Ba (230.424 nm)    | 0.3161 (ppm)     | 0.22     | 0.3161 (ppm)    | 11069.7178    |
| 11/1/2017 23:09:15 | R1710236-004 | Be (313.107 nm)    | 0.0002 (ppm)     | 6.01     | 0.0002 (ppm)    | -266.8790     |
| 11/1/2017 23:09:15 | R1710236-004 | Ca (227.547 nm)    | 77.9395 o (ppm)  | 0.67     | 77.9395 (ppm)   | 4583.3758     |
| 11/1/2017 23:09:15 | R1710236-004 | Cd (214.439 nm)    | 0.0001 (ppm)     | 26.12    | 0.0001 (ppm)    | 15.1224       |
| 11/1/2017 23:09:15 | R1710236-004 | Co (230.786 nm)    | 0.0008 (ppm)     | 12.33    | 0.0008 (ppm)    | 7.1761        |
| 11/1/2017 23:09:15 | R1710236-004 | Cr (267.716 nm)    | 0.0021 (ppm)     | 1.19     | 0.0021 (ppm)    | 108.4520      |
| 11/1/2017 23:09:15 | R1710236-004 | Cu (327.395 nm)    | 0.0002 (ppm)     | 37.44    | 0.0002 (ppm)    | 36.0685       |
| 11/1/2017 23:09:15 | R1710236-004 | Fe (234.350 nm)    | 20.3967 o (ppm)  | 0.34     | 20.3967 (ppm)   | 237023.0496   |
| 11/1/2017 23:09:15 | R1710236-004 | K (766.491 nm)     | 60.2950 o (ppm)  | 0.54     | 60.2950 (ppm)   | 186222.3218   |
| 11/1/2017 23:09:15 | R1710236-004 | Mg (279.078 nm)    | 20.9693 (ppm)    | 0.26     | 20.9693 (ppm)   | 42304.4225    |
| 11/1/2017 23:09:15 | R1710236-004 | Mn (257.610 nm)    | 0.0970 (ppm)     | 12.66    | 0.0970 (ppm)    | 31403.1760    |
| 11/1/2017 23:09:15 | R1710236-004 | Mo (202.032 nm)    | -0.0002 u (ppm)  | > 100.00 | -0.0002 (ppm)   | 14.4768       |
| 11/1/2017 23:09:15 | R1710236-004 | Na (588.995 nm)    | 247.9508 o (ppm) | 0.73     | 247.9508 (ppm)  | 11371686.8998 |
| 11/1/2017 23:09:15 | R1710236-004 | Ni (230.299 nm)    | 0.0435 (ppm)     | 3.79     | 0.0435 (ppm)    | 276.0906      |
| 11/1/2017 23:09:15 | R1710236-004 | Pb (220.353 nm)    | -0.0024 u (ppm)  | 17.97    | -0.0024 (ppm)   | 0.3263        |
| 11/1/2017 23:09:15 | R1710236-004 | Sb (217.582 nm)    | -0.0054 u (ppm)  | 22.38    | -0.0054 (ppm)   | -3.5122       |
| 11/1/2017 23:09:15 | R1710236-004 | Se (196.026 nm)    | -0.0041 u (ppm)  | 45.94    | -0.0041 (ppm)   | 1.9137        |
| 11/1/2017 23:09:15 | R1710236-004 | Sn (189.925 nm)    | -0.0013 u (ppm)  | 65.69    | -0.0013 (ppm)   | -1.8185       |
| 11/1/2017 23:09:15 | R1710236-004 | Sr (216.596 nm)    | 0.4122 (ppm)     | 0.50     | 0.4122 (ppm)    | 6147.8916     |
| 11/1/2017 23:09:15 | R1710236-004 | Ti (336.122 nm)    | 0.0018 (ppm)     | 3.94     | 0.0018 (ppm)    | -35.5636      |
| 11/1/2017 23:09:15 | R1710236-004 | Tl (351.923 nm)    | -0.0037 u (ppm)  | 71.15    | -0.0037 (ppm)   | 4.1976        |
| 11/1/2017 23:09:15 | R1710236-004 | V (292.401 nm)     | 0.0039 (ppm)     | 2.41     | 0.0039 (ppm)    | 251.2286      |
| 11/1/2017 23:09:15 | R1710236-004 | Y (360.074 nm)     | 0.94 (Ratio)     | 0.59     | 0.94 (Ratio)    | 880083.56     |
| 11/1/2017 23:09:15 | R1710236-004 | Y_R (360.074 nm)   | 0.94 (Ratio)     | 0.59     | 0.94 (Ratio)    | 880776.98     |
| 11/1/2017 23:09:15 | R1710236-004 | Zn (213.857 nm)    | 0.0063 (ppm)     | 1.09     | 0.0063 (ppm)    | 152.7733      |
| 11/1/2017 23:12:34 | R1710236-005 | Ag (328.068 nm)    | 0.0001 (ppm)     | 11.26    | 0.0001 (ppm)    | -115.8101     |
| 11/1/2017 23:12:34 | R1710236-005 | Al (394.401 nm)    | 0.0236 (ppm)     | 3.44     | 0.0236 (ppm)    | 398.3201      |
| 11/1/2017 23:12:34 | R1710236-005 | As (188.980 nm)    | 0.1788 (ppm)     | 0.90     | 0.1788 (ppm)    | 162.5550      |
| 11/1/2017 23:12:34 | R1710236-005 | B (249.772 nm)     | 0.1508 (ppm)     | 0.51     | 0.1508 (ppm)    | 4412.2388     |
| 11/1/2017 23:12:34 | R1710236-005 | Ba (230.424 nm)    | 0.0642 (ppm)     | 0.73     | 0.0642 (ppm)    | 2256.4492     |
| 11/1/2017 23:12:34 | R1710236-005 | Be (313.107 nm)    | 0.0000 (ppm)     | 85.59    | 0.0000 (ppm)    | -519.5437     |
| 11/1/2017 23:12:34 | R1710236-005 | Ca (227.547 nm)    | 33.7138 (ppm)    | 0.55     | 33.7138 (ppm)   | 1986.1025     |
| 11/1/2017 23:12:34 | R1710236-005 | Cd (214.439 nm)    | 0.0005 (ppm)     | 31.30    | 0.0005 (ppm)    | 23.3675       |
| 11/1/2017 23:12:34 | R1710236-005 | Co (230.786 nm)    | 0.0022 (ppm)     | 19.54    | 0.0022 (ppm)    | 21.1136       |
| 11/1/2017 23:12:34 | R1710236-005 | Cr (267.716 nm)    | -0.0008 u (ppm)  | 15.61    | -0.0008 (ppm)   | -4.7163       |
| 11/1/2017 23:12:34 | R1710236-005 | Cu (327.395 nm)    | 0.0000 u (ppm)   | > 100.00 | 0.0000 (ppm)    | 18.8586       |
| 11/1/2017 23:12:34 | R1710236-005 | Fe (234.350 nm)    | 31.3662 o (ppm)  | 0.26     | 31.3662 (ppm)   | 364457.3557   |
| 11/1/2017 23:12:34 | R1710236-005 | K (766.491 nm)     | 16.6832 (ppm)    | 0.53     | 16.6832 (ppm)   | 51567.9516    |
| 11/1/2017 23:12:34 | R1710236-005 | Mg (279.078 nm)    | 9.5716 (ppm)     | 0.34     | 9.5716 (ppm)    | 19306.3286    |
| 11/1/2017 23:12:34 | R1710236-005 | Mn (257.610 nm)    | 2.1736 o (ppm)   | 0.07     | 2.1736 (ppm)    | 703267.5976   |
| 11/1/2017 23:12:34 | R1710236-005 | Mo (202.032 nm)    | 0.0012 (ppm)     | 32.84    | 0.0012 (ppm)    | 30.0479       |
| 11/1/2017 23:12:34 | R1710236-005 | Na (588.995 nm)    | 80.1198 o (ppm)  | 0.75     | 80.1198 (ppm)   | 3670460.1981  |
| 11/1/2017 23:12:34 | R1710236-005 | Ni (230.299 nm)    | -0.0049 u (ppm)  | 29.47    | -0.0049 (ppm)   | -60.2796      |
| 11/1/2017 23:12:34 | R1710236-005 | Pb (220.353 nm)    | -0.0012 u (ppm)  | 29.18    | -0.0012 (ppm)   | 2.8891        |
| 11/1/2017 23:12:34 | R1710236-005 | Sb (217.582 nm)    | -0.0040 u (ppm)  | 65.47    | -0.0040 (ppm)   | -1.6467       |
| 11/1/2017 23:12:34 | R1710236-005 | Se (196.026 nm)    | 0.0000 u (ppm)   | > 100.00 | 0.0000 (ppm)    | 5.5078        |
| 11/1/2017 23:12:34 | R1710236-005 | Sn (189.925 nm)    | -0.0008 u (ppm)  | > 100.00 | -0.0008 (ppm)   | -1.1618       |
| 11/1/2017 23:12:34 | R1710236-005 | Sr (216.596 nm)    | 0.1463 (ppm)     | 0.70     | 0.1463 (ppm)    | 2180.9294     |
| 11/1/2017 23:12:34 | R1710236-005 | Ti (336.122 nm)    | 0.0006 (ppm)     | 4.06     | 0.0006 (ppm)    | -279.5094     |
| 11/1/2017 23:12:34 | R1710236-005 | Tl (351.923 nm)    | -0.0014 u (ppm)  | 47.37    | -0.0014 (ppm)   | 10.7532       |
| 11/1/2017 23:12:34 | R1710236-005 | V (292.401 nm)     | 0.0011 (ppm)     | 12.62    | 0.0011 (ppm)    | 150.0617      |

| Date Time          | Label        | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|--------------|--------------------|-----------------|----------|-----------------|--------------|
| 11/1/2017 23:12:34 | R1710236-005 | Y (360.074 nm)     | 0.97 (Ratio)    | 0.85     | 0.97 (Ratio)    | 911669.73    |
| 11/1/2017 23:12:34 | R1710236-005 | Y_R (360.074 nm)   | 0.97 (Ratio)    | 0.85     | 0.97 (Ratio)    | 912189.08    |
| 11/1/2017 23:12:34 | R1710236-005 | Zn (213.857 nm)    | 0.0065 (ppm)    | 1.24     | 0.0065 (ppm)    | 158.4667     |
| 11/1/2017 23:15:53 | R1710236-006 | Ag (328.068 nm)    | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | -125.7220    |
| 11/1/2017 23:15:53 | R1710236-006 | Al (394.401 nm)    | 0.0160 (ppm)    | 3.03     | 0.0160 (ppm)    | 297.1258     |
| 11/1/2017 23:15:53 | R1710236-006 | As (188.980 nm)    | 0.1612 (ppm)    | 0.73     | 0.1612 (ppm)    | 146.2840     |
| 11/1/2017 23:15:53 | R1710236-006 | B (249.772 nm)     | 0.1482 (ppm)    | 0.51     | 0.1482 (ppm)    | 4338.1894    |
| 11/1/2017 23:15:53 | R1710236-006 | Ba (230.424 nm)    | 0.0639 (ppm)    | 0.50     | 0.0639 (ppm)    | 2245.2897    |
| 11/1/2017 23:15:53 | R1710236-006 | Be (313.107 nm)    | 0.0000 (ppm)    | 31.84    | 0.0000 (ppm)    | -524.4580    |
| 11/1/2017 23:15:53 | R1710236-006 | Ca (227.547 nm)    | 33.5190 (ppm)   | 0.55     | 33.5190 (ppm)   | 1974.6629    |
| 11/1/2017 23:15:53 | R1710236-006 | Cd (214.439 nm)    | 0.0002 (ppm)    | 70.73    | 0.0002 (ppm)    | 17.4644      |
| 11/1/2017 23:15:53 | R1710236-006 | Co (230.786 nm)    | 0.0022 (ppm)    | 15.13    | 0.0022 (ppm)    | 21.4392      |
| 11/1/2017 23:15:53 | R1710236-006 | Cr (267.716 nm)    | -0.0009 u (ppm) | 11.07    | -0.0009 (ppm)   | -45.4495     |
| 11/1/2017 23:15:53 | R1710236-006 | Cu (327.395 nm)    | 0.0001 (ppm)    | 28.60    | 0.0001 (ppm)    | 27.4977      |
| 11/1/2017 23:15:53 | R1710236-006 | Fe (234.350 nm)    | 29.7851 o (ppm) | 0.37     | 29.7851 (ppm)   | 346089.2265  |
| 11/1/2017 23:15:53 | R1710236-006 | K (766.491 nm)     | 16.5984 (ppm)   | 0.61     | 16.5984 (ppm)   | 51306.0728   |
| 11/1/2017 23:15:53 | R1710236-006 | Mg (279.078 nm)    | 9.4476 (ppm)    | 0.47     | 9.4476 (ppm)    | 19056.1849   |
| 11/1/2017 23:15:53 | R1710236-006 | Mn (257.610 nm)    | 2.1020 o (ppm)  | 0.12     | 2.1020 (ppm)    | 680098.5458  |
| 11/1/2017 23:15:53 | R1710236-006 | Mo (202.032 nm)    | 0.0008 (ppm)    | 17.52    | 0.0008 (ppm)    | 25.5039      |
| 11/1/2017 23:15:53 | R1710236-006 | Na (588.995 nm)    | 78.4901 o (ppm) | 0.60     | 78.4901 (ppm)   | 3595680.1525 |
| 11/1/2017 23:15:53 | R1710236-006 | Ni (230.299 nm)    | -0.0048 u (ppm) | 23.10    | -0.0048 (ppm)   | -59.3612     |
| 11/1/2017 23:15:53 | R1710236-006 | Pb (220.353 nm)    | -0.0005 u (ppm) | > 100.00 | -0.0005 (ppm)   | 4.4805       |
| 11/1/2017 23:15:53 | R1710236-006 | Sb (217.582 nm)    | -0.0025 u (ppm) | > 100.00 | -0.0025 (ppm)   | 0.6230       |
| 11/1/2017 23:15:53 | R1710236-006 | Se (196.026 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | 5.5410       |
| 11/1/2017 23:15:53 | R1710236-006 | Sn (189.925 nm)    | 0.0001 u (ppm)  | > 100.00 | 0.0001 (ppm)    | 0.0369       |
| 11/1/2017 23:15:53 | R1710236-006 | Sr (216.596 nm)    | 0.1455 (ppm)    | 0.38     | 0.1455 (ppm)    | 2168.9131    |
| 11/1/2017 23:15:53 | R1710236-006 | Ti (336.122 nm)    | 0.0005 (ppm)    | 12.89    | 0.0005 (ppm)    | -319.0335    |
| 11/1/2017 23:15:53 | R1710236-006 | Tl (351.923 nm)    | -0.0025 u (ppm) | 54.36    | -0.0025 (ppm)   | 7.5683       |
| 11/1/2017 23:15:53 | R1710236-006 | V (292.401 nm)     | 0.0010 (ppm)    | 20.72    | 0.0010 (ppm)    | 147.3828     |
| 11/1/2017 23:15:53 | R1710236-006 | Y (360.074 nm)     | 0.98 (Ratio)    | 0.83     | 0.98 (Ratio)    | 915642.20    |
| 11/1/2017 23:15:53 | R1710236-006 | Y_R (360.074 nm)   | 0.98 (Ratio)    | 0.83     | 0.98 (Ratio)    | 916185.04    |
| 11/1/2017 23:15:53 | R1710236-006 | Zn (213.857 nm)    | 0.0068 (ppm)    | 0.74     | 0.0068 (ppm)    | 167.7600     |
| 11/1/2017 23:19:11 | R1710236-007 | Ag (328.068 nm)    | 0.0001 (ppm)    | 72.42    | 0.0001 (ppm)    | -117.8960    |
| 11/1/2017 23:19:11 | R1710236-007 | Al (394.401 nm)    | 0.1213 (ppm)    | 0.66     | 0.1213 (ppm)    | 1703.3186    |
| 11/1/2017 23:19:11 | R1710236-007 | As (188.980 nm)    | 0.1445 (ppm)    | 1.29     | 0.1445 (ppm)    | 130.8586     |
| 11/1/2017 23:19:11 | R1710236-007 | B (249.772 nm)     | 0.1562 (ppm)    | 0.12     | 0.1562 (ppm)    | 4565.6783    |
| 11/1/2017 23:19:11 | R1710236-007 | Ba (230.424 nm)    | 0.1532 (ppm)    | 0.22     | 0.1532 (ppm)    | 5368.4101    |
| 11/1/2017 23:19:11 | R1710236-007 | Be (313.107 nm)    | 0.0000 (ppm)    | 21.83    | 0.0000 (ppm)    | -450.5605    |
| 11/1/2017 23:19:11 | R1710236-007 | Ca (227.547 nm)    | 39.9363 (ppm)   | 0.70     | 39.9363 (ppm)   | 2351.5352    |
| 11/1/2017 23:19:11 | R1710236-007 | Cd (214.439 nm)    | 0.0004 (ppm)    | 23.46    | 0.0004 (ppm)    | 20.5289      |
| 11/1/2017 23:19:11 | R1710236-007 | Co (230.786 nm)    | -0.0004 u (ppm) | > 100.00 | -0.0004 (ppm)   | -5.6792      |
| 11/1/2017 23:19:11 | R1710236-007 | Cr (267.716 nm)    | 0.0002 (ppm)    | 76.08    | 0.0002 (ppm)    | 7.8496       |
| 11/1/2017 23:19:11 | R1710236-007 | Cu (327.395 nm)    | 0.0004 (ppm)    | 3.15     | 0.0004 (ppm)    | 45.3022      |
| 11/1/2017 23:19:11 | R1710236-007 | Fe (234.350 nm)    | 17.3420 o (ppm) | 0.46     | 17.3420 (ppm)   | 201536.5472  |
| 11/1/2017 23:19:11 | R1710236-007 | K (766.491 nm)     | 18.0979 (ppm)   | 0.73     | 18.0979 (ppm)   | 55936.0517   |
| 11/1/2017 23:19:11 | R1710236-007 | Mg (279.078 nm)    | 11.3735 (ppm)   | 0.39     | 11.3735 (ppm)   | 22942.2226   |
| 11/1/2017 23:19:11 | R1710236-007 | Mn (257.610 nm)    | 0.2595 (ppm)    | 1.29     | 0.2595 (ppm)    | 83979.0839   |
| 11/1/2017 23:19:11 | R1710236-007 | Mo (202.032 nm)    | 0.0010 (ppm)    | 29.98    | 0.0010 (ppm)    | 27.6967      |
| 11/1/2017 23:19:11 | R1710236-007 | Na (588.995 nm)    | 80.8685 o (ppm) | 0.51     | 80.8685 (ppm)   | 3704815.6519 |
| 11/1/2017 23:19:11 | R1710236-007 | Ni (230.299 nm)    | -0.0094 u (ppm) | 11.22    | -0.0094 (ppm)   | -91.2101     |
| 11/1/2017 23:19:11 | R1710236-007 | Pb (220.353 nm)    | -0.0027 u (ppm) | 34.00    | -0.0027 (ppm)   | -0.4474      |

| Date Time          | Label        | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|--------------|--------------------|-----------------|----------|-----------------|--------------|
| 11/1/2017 23:19:11 | R1710236-007 | Sb (217.582 nm)    | -0.0036 u (ppm) | 91.68    | -0.0036 (ppm)   | -0.9470      |
| 11/1/2017 23:19:11 | R1710236-007 | Se (196.026 nm)    | 0.0002 u (ppm)  | > 100.00 | 0.0002 (ppm)    | 5.6934       |
| 11/1/2017 23:19:11 | R1710236-007 | Sn (189.925 nm)    | -0.0005 u (ppm) | > 100.00 | -0.0005 (ppm)   | -0.8440      |
| 11/1/2017 23:19:11 | R1710236-007 | Sr (216.596 nm)    | 0.3105 (ppm)    | 0.51     | 0.3105 (ppm)    | 4630.8012    |
| 11/1/2017 23:19:11 | R1710236-007 | Tl (336.122 nm)    | 0.0066 (ppm)    | 1.76     | 0.0066 (ppm)    | 1017.2508    |
| 11/1/2017 23:19:11 | R1710236-007 | Tl (351.923 nm)    | -0.0037 u (ppm) | 12.47    | -0.0037 (ppm)   | 4.1890       |
| 11/1/2017 23:19:11 | R1710236-007 | V (292.401 nm)     | 0.0008 (ppm)    | 13.22    | 0.0008 (ppm)    | 138.6560     |
| 11/1/2017 23:19:11 | R1710236-007 | Y (360.074 nm)     | 0.98 (Ratio)    | 0.93     | 0.98 (Ratio)    | 913919.92    |
| 11/1/2017 23:19:11 | R1710236-007 | Y_R (360.074 nm)   | 0.98 (Ratio)    | 0.92     | 0.98 (Ratio)    | 914490.74    |
| 11/1/2017 23:19:11 | R1710236-007 | Zn (213.857 nm)    | 0.0052 (ppm)    | 1.04     | 0.0052 (ppm)    | 121.5079     |
| 11/1/2017 23:22:30 | R1710236-008 | Ag (328.068 nm)    | 0.0001 (ppm)    | > 100.00 | 0.0001 (ppm)    | -120.0448    |
| 11/1/2017 23:22:30 | R1710236-008 | Al (394.401 nm)    | 0.0227 (ppm)    | 1.93     | 0.0227 (ppm)    | 386.6849     |
| 11/1/2017 23:22:30 | R1710236-008 | As (188.980 nm)    | 0.1438 (ppm)    | 1.41     | 0.1438 (ppm)    | 130.2346     |
| 11/1/2017 23:22:30 | R1710236-008 | B (249.772 nm)     | 0.1576 (ppm)    | 0.65     | 0.1576 (ppm)    | 4608.4132    |
| 11/1/2017 23:22:30 | R1710236-008 | Ba (230.424 nm)    | 0.1515 (ppm)    | 0.75     | 0.1515 (ppm)    | 5310.5351    |
| 11/1/2017 23:22:30 | R1710236-008 | Be (313.107 nm)    | 0.0000 (ppm)    | 71.75    | 0.0000 (ppm)    | -479.9033    |
| 11/1/2017 23:22:30 | R1710236-008 | Ca (227.547 nm)    | 40.2197 (ppm)   | 0.77     | 40.2197 (ppm)   | 2368.1755    |
| 11/1/2017 23:22:30 | R1710236-008 | Cd (214.439 nm)    | 0.0001 u (ppm)  | > 100.00 | 0.0001 (ppm)    | 15.4117      |
| 11/1/2017 23:22:30 | R1710236-008 | Co (230.786 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | -1.3104      |
| 11/1/2017 23:22:30 | R1710236-008 | Cr (267.716 nm)    | -0.0001 u (ppm) | 61.36    | -0.0001 (ppm)   | -7.8557      |
| 11/1/2017 23:22:30 | R1710236-008 | Cu (327.395 nm)    | 0.0003 (ppm)    | 36.93    | 0.0003 (ppm)    | 39.1437      |
| 11/1/2017 23:22:30 | R1710236-008 | Fe (234.350 nm)    | 16.8190 u (ppm) | 0.54     | 16.8190 (ppm)   | 195460.5219  |
| 11/1/2017 23:22:30 | R1710236-008 | K (766.491 nm)     | 18.2097 (ppm)   | 1.08     | 18.2097 (ppm)   | 56281.1605   |
| 11/1/2017 23:22:30 | R1710236-008 | Mg (279.078 nm)    | 11.4433 (ppm)   | 0.57     | 11.4433 (ppm)   | 23083.1248   |
| 11/1/2017 23:22:30 | R1710236-008 | Mn (257.610 nm)    | 0.2536 (ppm)    | 1.01     | 0.2536 (ppm)    | 82090.9834   |
| 11/1/2017 23:22:30 | R1710236-008 | Mo (202.032 nm)    | 0.0010 (ppm)    | 27.17    | 0.0010 (ppm)    | 27.5146      |
| 11/1/2017 23:22:30 | R1710236-008 | Na (588.995 nm)    | 81.6105 u (ppm) | 0.80     | 81.6105 (ppm)   | 3738867.2889 |
| 11/1/2017 23:22:30 | R1710236-008 | Ni (230.299 nm)    | -0.0092 u (ppm) | 19.49    | -0.0092 (ppm)   | -80.0734     |
| 11/1/2017 23:22:30 | R1710236-008 | Pb (220.353 nm)    | -0.0018 u (ppm) | 35.82    | -0.0018 (ppm)   | 1.6187       |
| 11/1/2017 23:22:30 | R1710236-008 | Sb (217.582 nm)    | -0.0034 u (ppm) | 77.02    | -0.0034 (ppm)   | -0.7792      |
| 11/1/2017 23:22:30 | R1710236-008 | Se (196.026 nm)    | -0.0033 u (ppm) | 26.33    | -0.0033 (ppm)   | 2.6710       |
| 11/1/2017 23:22:30 | R1710236-008 | Sn (189.925 nm)    | -0.0006 u (ppm) | > 100.00 | -0.0006 (ppm)   | -0.9249      |
| 11/1/2017 23:22:30 | R1710236-008 | Sr (216.596 nm)    | 0.3123 (ppm)    | 0.53     | 0.3123 (ppm)    | 4657.7492    |
| 11/1/2017 23:22:30 | R1710236-008 | Tl (336.122 nm)    | 0.0012 (ppm)    | 4.76     | 0.0012 (ppm)    | -163.1807    |
| 11/1/2017 23:22:30 | R1710236-008 | Tl (351.923 nm)    | -0.0029 u (ppm) | 27.76    | -0.0029 (ppm)   | 6.4457       |
| 11/1/2017 23:22:30 | R1710236-008 | V (292.401 nm)     | 0.0007 (ppm)    | 30.46    | 0.0007 (ppm)    | 136.7395     |
| 11/1/2017 23:22:30 | R1710236-008 | Y (360.074 nm)     | 0.98 (Ratio)    | 0.89     | 0.98 (Ratio)    | 913173.58    |
| 11/1/2017 23:22:30 | R1710236-008 | Y_R (360.074 nm)   | 0.98 (Ratio)    | 0.88     | 0.98 (Ratio)    | 913722.65    |
| 11/1/2017 23:22:30 | R1710236-008 | Zn (213.857 nm)    | 0.0056 (ppm)    | 1.89     | 0.0056 (ppm)    | 131.9061     |
| 11/1/2017 23:25:49 | R1710236-009 | Ag (328.068 nm)    | 0.0001 (ppm)    | > 100.00 | 0.0001 (ppm)    | -119.4647    |
| 11/1/2017 23:25:49 | R1710236-009 | Al (394.401 nm)    | 0.1476 (ppm)    | 0.74     | 0.1476 (ppm)    | 2054.7879    |
| 11/1/2017 23:25:49 | R1710236-009 | As (188.980 nm)    | 0.0081 (ppm)    | 31.34    | 0.0081 (ppm)    | 4.6131       |
| 11/1/2017 23:25:49 | R1710236-009 | B (249.772 nm)     | 0.0038 (ppm)    | 5.28     | 0.0038 (ppm)    | 201.0691     |
| 11/1/2017 23:25:49 | R1710236-009 | Be (230.424 nm)    | 0.0148 (ppm)    | 2.55     | 0.0148 (ppm)    | 526.9745     |
| 11/1/2017 23:25:49 | R1710236-009 | Be (313.107 nm)    | 0.0000 (ppm)    | 8.22     | 0.0000 (ppm)    | -490.3539    |
| 11/1/2017 23:25:49 | R1710236-009 | Ca (227.547 nm)    | 16.6788 (ppm)   | 0.83     | 16.6788 (ppm)   | 985.6760     |
| 11/1/2017 23:25:49 | R1710236-009 | Cd (214.439 nm)    | 0.0002 (ppm)    | 29.42    | 0.0002 (ppm)    | 16.0006      |
| 11/1/2017 23:25:49 | R1710236-009 | Co (230.786 nm)    | 0.0067 (ppm)    | 2.36     | 0.0067 (ppm)    | 67.4267      |
| 11/1/2017 23:25:49 | R1710236-009 | Cr (267.716 nm)    | -0.0003 u (ppm) | 28.60    | -0.0003 (ppm)   | -15.5765     |
| 11/1/2017 23:25:49 | R1710236-009 | Cu (327.395 nm)    | 0.0015 (ppm)    | 2.35     | 0.0015 (ppm)    | 117.6774     |
| 11/1/2017 23:25:49 | R1710236-009 | Fe (234.350 nm)    | 0.5151 (ppm)    | 0.57     | 0.5151 (ppm)    | 6056.3719    |

| Date Time          | Label                                | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity   |
|--------------------|--------------------------------------|--------------------|-----------------|----------|-----------------|-------------|
| 11/1/2017 23:25:49 | R1710236-009                         | K (766.491 nm)     | 2.6745 (ppm)    | 0.71     | 2.6745 (ppm)    | 8315.2312   |
| 11/1/2017 23:25:49 | R1710236-009                         | Mg (279.078 nm)    | 12.9982 (ppm)   | 0.44     | 12.9982 (ppm)   | 26220.4293  |
| 11/1/2017 23:25:49 | R1710236-009                         | Mn (257.610 nm)    | 1.3284 (ppm)    | 0.35     | 1.3284 (ppm)    | 429810.5137 |
| 11/1/2017 23:25:49 | R1710236-009                         | Mo (202.032 nm)    | 0.0010 (ppm)    | 8.51     | 0.0010 (ppm)    | 27.9788     |
| 11/1/2017 23:25:49 | R1710236-009                         | Na (588.995 nm)    | 13.3769 (ppm)   | 0.76     | 13.3769 (ppm)   | 607846.4354 |
| 11/1/2017 23:25:49 | R1710236-009                         | Ni (230.299 nm)    | -0.0125 u (ppm) | 10.62    | -0.0125 (ppm)   | -112.4675   |
| 11/1/2017 23:25:49 | R1710236-009                         | Pb (220.353 nm)    | -0.0015 u (ppm) | 31.76    | -0.0015 (ppm)   | 2.2187      |
| 11/1/2017 23:25:49 | R1710236-009                         | Sb (217.582 nm)    | -0.0050 u (ppm) | 39.86    | -0.0050 (ppm)   | -3.0028     |
| 11/1/2017 23:25:49 | R1710236-009                         | Se (196.026 nm)    | -0.0013 u (ppm) | > 100.00 | -0.0013 (ppm)   | 4.3482      |
| 11/1/2017 23:25:49 | R1710236-009                         | Sn (189.925 nm)    | -0.0010 u (ppm) | > 100.00 | -0.0010 (ppm)   | -1.4365     |
| 11/1/2017 23:25:49 | R1710236-009                         | Sr (216.596 nm)    | 0.1638 (ppm)    | 0.66     | 0.1638 (ppm)    | 2442.5126   |
| 11/1/2017 23:25:49 | R1710236-009                         | Ti (336.122 nm)    | 0.0075 (ppm)    | 1.77     | 0.0075 (ppm)    | 1226.4532   |
| 11/1/2017 23:25:49 | R1710236-009                         | Tl (351.923 nm)    | -0.0041 u (ppm) | 21.84    | -0.0041 (ppm)   | 3.0791      |
| 11/1/2017 23:25:49 | R1710236-009                         | V (292.401 nm)     | 0.0003 (ppm)    | 44.69    | 0.0003 (ppm)    | 120.8374    |
| 11/1/2017 23:25:49 | R1710236-009                         | Y (360.074 nm)     | 1.00 (Ratio)    | 0.80     | 1.00 (Ratio)    | 939309.71   |
| 11/1/2017 23:25:49 | R1710236-009                         | Y_R (360.074 nm)   | 1.00 (Ratio)    | 0.80     | 1.00 (Ratio)    | 939675.27   |
| 11/1/2017 23:25:49 | R1710236-009                         | Zn (213.857 nm)    | 0.0051 (ppm)    | 1.79     | 0.0051 (ppm)    | 117.5892    |
| 11/1/2017 23:29:08 | R1710236-010                         | Ag (328.068 nm)    | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | -125.3724   |
| 11/1/2017 23:29:08 | R1710236-010                         | Al (394.401 nm)    | 0.0153 (ppm)    | 2.05     | 0.0153 (ppm)    | 287.6709    |
| 11/1/2017 23:29:08 | R1710236-010                         | As (188.980 nm)    | 0.0080 (ppm)    | 32.12    | 0.0080 (ppm)    | 4.4894      |
| 11/1/2017 23:29:08 | R1710236-010                         | B (249.772 nm)     | 0.0041 (ppm)    | 1.27     | 0.0041 (ppm)    | 208.1911    |
| 11/1/2017 23:29:08 | R1710236-010                         | Ba (230.424 nm)    | 0.0135 (ppm)    | 1.73     | 0.0135 (ppm)    | 479.7808    |
| 11/1/2017 23:29:08 | R1710236-010                         | Be (313.107 nm)    | 0.0000 (ppm)    | 73.57    | 0.0000 (ppm)    | -494.8124   |
| 11/1/2017 23:29:08 | R1710236-010                         | Ca (227.547 nm)    | 16.6684 (ppm)   | 0.63     | 16.6684 (ppm)   | 985.0651    |
| 11/1/2017 23:29:08 | R1710236-010                         | Cd (214.439 nm)    | -0.0001 u (ppm) | 45.69    | -0.0001 (ppm)   | 11.2534     |
| 11/1/2017 23:29:08 | R1710236-010                         | Co (230.786 nm)    | 0.0064 (ppm)    | 3.10     | 0.0064 (ppm)    | 64.3388     |
| 11/1/2017 23:29:08 | R1710236-010                         | Cr (267.716 nm)    | 0.0002 (ppm)    | 46.98    | 0.0002 (ppm)    | 7.5308      |
| 11/1/2017 23:29:08 | R1710236-010                         | Cu (327.395 nm)    | 0.0003 (ppm)    | 18.49    | 0.0003 (ppm)    | 40.8211     |
| 11/1/2017 23:29:08 | R1710236-010                         | Fe (234.350 nm)    | 0.4125 (ppm)    | 0.54     | 0.4125 (ppm)    | 4865.1707   |
| 11/1/2017 23:29:08 | R1710236-010                         | K (766.491 nm)     | 2.6331 (ppm)    | 0.43     | 2.6331 (ppm)    | 8187.2599   |
| 11/1/2017 23:29:08 | R1710236-010                         | Mg (279.078 nm)    | 12.8948 (ppm)   | 0.55     | 12.8948 (ppm)   | 26011.9606  |
| 11/1/2017 23:29:08 | R1710236-010                         | Mn (257.610 nm)    | 1.3025 (ppm)    | 0.32     | 1.3025 (ppm)    | 421429.4992 |
| 11/1/2017 23:29:08 | R1710236-010                         | Mo (202.032 nm)    | 0.0016 (ppm)    | 9.44     | 0.0016 (ppm)    | 34.1544     |
| 11/1/2017 23:29:08 | R1710236-010                         | Na (588.995 nm)    | 13.4004 (ppm)   | 0.93     | 13.4004 (ppm)   | 608921.3035 |
| 11/1/2017 23:29:08 | R1710236-010                         | Ni (230.299 nm)    | -0.0081 u (ppm) | 17.62    | -0.0081 (ppm)   | -82.1442    |
| 11/1/2017 23:29:08 | R1710236-010                         | Pb (220.353 nm)    | -0.0020 u (ppm) | 45.56    | -0.0020 (ppm)   | 1.2202      |
| 11/1/2017 23:29:08 | R1710236-010                         | Sb (217.582 nm)    | -0.0026 u (ppm) | 53.85    | -0.0026 (ppm)   | 0.3993      |
| 11/1/2017 23:29:08 | R1710236-010                         | Se (196.026 nm)    | -0.0006 u (ppm) | > 100.00 | -0.0006 (ppm)   | 4.9652      |
| 11/1/2017 23:29:08 | R1710236-010                         | Sn (189.925 nm)    | -0.0009 u (ppm) | 78.73    | -0.0009 (ppm)   | -1.2924     |
| 11/1/2017 23:29:08 | R1710236-010                         | Sr (216.596 nm)    | 0.1627 (ppm)    | 0.88     | 0.1627 (ppm)    | 2425.5412   |
| 11/1/2017 23:29:08 | R1710236-010                         | Ti (336.122 nm)    | 0.0006 (ppm)    | 4.84     | 0.0006 (ppm)    | -282.6869   |
| 11/1/2017 23:29:08 | R1710236-010                         | Tl (351.923 nm)    | -0.0035 u (ppm) | 47.80    | -0.0035 (ppm)   | 4.6453      |
| 11/1/2017 23:29:08 | R1710236-010                         | V (292.401 nm)     | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | 109.8962    |
| 11/1/2017 23:29:08 | R1710236-010                         | Y (360.074 nm)     | 1.01 (Ratio)    | 0.79     | 1.01 (Ratio)    | 946047.98   |
| 11/1/2017 23:29:08 | R1710236-010                         | Y_R (360.074 nm)   | 1.01 (Ratio)    | 0.79     | 1.01 (Ratio)    | 946378.47   |
| 11/1/2017 23:29:08 | R1710236-010                         | Zn (213.857 nm)    | 0.0041 (ppm)    | 1.83     | 0.0041 (ppm)    | 88.4869     |
| 11/1/2017 23:32:27 | Continuing Calibration Verification1 | Ag (328.068 nm)    | 0.4835 (ppm)    | 0.47     | 0.4835 (ppm)    | 35392.9203  |
| 11/1/2017 23:32:27 | Continuing Calibration Verification1 | Al (394.401 nm)    | 9.4637 (ppm)    | 0.67     | 9.4637 (ppm)    | 126456.4240 |
| 11/1/2017 23:32:27 | Continuing Calibration Verification1 | As (188.980 nm)    | 0.9441 (ppm)    | 0.62     | 0.9441 (ppm)    | 870.8995    |
| 11/1/2017 23:32:27 | Continuing Calibration Verification1 | B (249.772 nm)     | 2.3719 (ppm)    | 0.52     | 2.3719 (ppm)    | 68063.2288  |
| 11/1/2017 23:32:27 | Continuing Calibration Verification1 | Ba (230.424 nm)    | 10.0731 (ppm)   | 0.61     | 10.0731 (ppm)   | 352541.9392 |



| Date Time          | Label                                 | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|---------------------------------------|--------------------|-----------------|----------|-----------------|--------------|
| 11/1/2017 23:32:27 | Continuing Calibration Verification 1 | Be (313.107 nm)    | 0.2496 (ppm)    | 0.53     | 0.2496 (ppm)    | 378076.1155  |
| 11/1/2017 23:32:27 | Continuing Calibration Verification 1 | Cs (227.547 nm)    | 24.0349 (ppm)   | 0.80     | 24.0349 (ppm)   | 1417.6834    |
| 11/1/2017 23:32:27 | Continuing Calibration Verification 1 | Cd (214.439 nm)    | 0.4849 (ppm)    | 0.42     | 0.4849 (ppm)    | 11038.8638   |
| 11/1/2017 23:32:27 | Continuing Calibration Verification 1 | Co (230.786 nm)    | 2.5316 (ppm)    | 0.51     | 2.5316 (ppm)    | 26054.1183   |
| 11/1/2017 23:32:27 | Continuing Calibration Verification 1 | Cr (267.716 nm)    | 0.4934 (ppm)    | 0.43     | 0.4934 (ppm)    | 25731.2219   |
| 11/1/2017 23:32:27 | Continuing Calibration Verification 1 | Cu (327.395 nm)    | 1.1962 (ppm)    | 0.92     | 1.1962 (ppm)    | 75151.4687   |
| 11/1/2017 23:32:27 | Continuing Calibration Verification 1 | Fe (234.350 nm)    | 4.7447 (ppm)    | 0.48     | 4.7447 (ppm)    | 55192.8448   |
| 11/1/2017 23:32:27 | Continuing Calibration Verification 1 | K (766.491 nm)     | 24.7187 (ppm)   | 0.78     | 24.7187 (ppm)   | 76378.0630   |
| 11/1/2017 23:32:27 | Continuing Calibration Verification 1 | Mg (279.078 nm)    | 24.4151 (ppm)   | 0.49     | 24.4151 (ppm)   | 49257.2251   |
| 11/1/2017 23:32:27 | Continuing Calibration Verification 1 | Mn (257.610 nm)    | 0.7438 (ppm)    | 0.35     | 0.7438 (ppm)    | 240689.9045  |
| 11/1/2017 23:32:27 | Continuing Calibration Verification 1 | Mo (202.032 nm)    | 2.3556 (ppm)    | 0.48     | 2.3556 (ppm)    | 25221.2437   |
| 11/1/2017 23:32:27 | Continuing Calibration Verification 1 | Na (588.995 nm)    | 24.8784 (ppm)   | 0.81     | 24.8784 (ppm)   | 1135612.7563 |
| 11/1/2017 23:32:27 | Continuing Calibration Verification 1 | Ni (230.299 nm)    | 1.9890 (ppm)    | 0.47     | 1.9890 (ppm)    | 13775.8517   |
| 11/1/2017 23:32:27 | Continuing Calibration Verification 1 | Pb (220.353 nm)    | 0.4876 (ppm)    | 0.55     | 0.4876 (ppm)    | 1093.9754    |
| 11/1/2017 23:32:27 | Continuing Calibration Verification 1 | Sb (217.582 nm)    | 4.8194 (ppm)    | 0.65     | 4.8194 (ppm)    | 6879.4519    |
| 11/1/2017 23:32:27 | Continuing Calibration Verification 1 | Se (196.026 nm)    | 0.4715 (ppm)    | 0.48     | 0.4715 (ppm)    | 417.4363     |
| 11/1/2017 23:32:27 | Continuing Calibration Verification 1 | Sn (189.925 nm)    | 4.9359 (ppm)    | 0.33     | 4.9359 (ppm)    | 6289.3860    |
| 11/1/2017 23:32:27 | Continuing Calibration Verification 1 | Sr (216.596 nm)    | 2.4477 (ppm)    | 0.14     | 2.4477 (ppm)    | 36511.2214   |
| 11/1/2017 23:32:27 | Continuing Calibration Verification 1 | Ti (336.122 nm)    | 2.4431 (ppm)    | 0.62     | 2.4431 (ppm)    | 535355.6885  |
| 11/1/2017 23:32:27 | Continuing Calibration Verification 1 | Tl (351.923 nm)    | 0.9789 (ppm)    | 0.75     | 0.9789 (ppm)    | 2793.8015    |
| 11/1/2017 23:32:27 | Continuing Calibration Verification 1 | V (292.401 nm)     | 2.4812 (ppm)    | 0.55     | 2.4812 (ppm)    | 89426.3123   |
| 11/1/2017 23:32:27 | Continuing Calibration Verification 1 | Y (360.074 nm)     | 0.98 (Ratio)    | 1.01     | 0.98 (Ratio)    | 920581.54    |
| 11/1/2017 23:32:27 | Continuing Calibration Verification 1 | Y_R (360.074 nm)   | 0.98 (Ratio)    | 1.01     | 0.98 (Ratio)    | 920846.50    |
| 11/1/2017 23:32:27 | Continuing Calibration Verification 1 | Zn (213.857 nm)    | 0.9777 (ppm)    | 0.49     | 0.9777 (ppm)    | 28377.1092   |
| 11/1/2017 23:35:46 | Continuing Calibration Blank 1        | Ag (328.068 nm)    | 0.0001 (ppm)    | 93.51    | 0.0001 (ppm)    | -117.0521    |
| 11/1/2017 23:35:46 | Continuing Calibration Blank 1        | Al (394.401 nm)    | -0.0007 u (ppm) | 15.29    | -0.0007 (ppm)   | 73.9685      |
| 11/1/2017 23:35:46 | Continuing Calibration Blank 1        | As (188.980 nm)    | 0.0018 (ppm)    | 68.94    | 0.0018 (ppm)    | -1.2711      |
| 11/1/2017 23:35:46 | Continuing Calibration Blank 1        | B (249.772 nm)     | 0.0009 (ppm)    | 70.34    | 0.0009 (ppm)    | 116.8793     |
| 11/1/2017 23:35:46 | Continuing Calibration Blank 1        | Ba (230.424 nm)    | 0.0002 (ppm)    | 28.05    | 0.0002 (ppm)    | 16.4116      |
| 11/1/2017 23:35:46 | Continuing Calibration Blank 1        | Be (313.107 nm)    | 0.0000 (ppm)    | 27.57    | 0.0000 (ppm)    | -486.4629    |
| 11/1/2017 23:35:46 | Continuing Calibration Blank 1        | Ca (227.547 nm)    | -0.0426 u (ppm) | 59.11    | -0.0426 (ppm)   | 3.6700       |
| 11/1/2017 23:35:46 | Continuing Calibration Blank 1        | Cd (214.439 nm)    | 0.0001 (ppm)    | 32.24    | 0.0001 (ppm)    | 14.4837      |
| 11/1/2017 23:35:46 | Continuing Calibration Blank 1        | Co (230.786 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | -2.4610      |
| 11/1/2017 23:35:46 | Continuing Calibration Blank 1        | Cr (267.716 nm)    | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | 1.9001       |
| 11/1/2017 23:35:46 | Continuing Calibration Blank 1        | Cu (327.395 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | 19.5618      |
| 11/1/2017 23:35:46 | Continuing Calibration Blank 1        | Fe (234.350 nm)    | 0.0003 u (ppm)  | > 100.00 | 0.0003 (ppm)    | 75.8270      |
| 11/1/2017 23:35:46 | Continuing Calibration Blank 1        | K (766.491 nm)     | 0.0172 (ppm)    | 63.84    | 0.0172 (ppm)    | 110.6180     |
| 11/1/2017 23:35:46 | Continuing Calibration Blank 1        | Mg (279.078 nm)    | 0.0015 u (ppm)  | > 100.00 | 0.0015 (ppm)    | -3.9388      |
| 11/1/2017 23:35:46 | Continuing Calibration Blank 1        | Mn (257.610 nm)    | 0.0030 (ppm)    | 30.01    | 0.0030 (ppm)    | 1016.4554    |
| 11/1/2017 23:35:46 | Continuing Calibration Blank 1        | Mo (202.032 nm)    | 0.0022 (ppm)    | 20.10    | 0.0022 (ppm)    | 40.1459      |
| 11/1/2017 23:35:46 | Continuing Calibration Blank 1        | Na (588.995 nm)    | 0.0115 (ppm)    | 10.87    | 0.0115 (ppm)    | -5449.0618   |
| 11/1/2017 23:35:46 | Continuing Calibration Blank 1        | Ni (230.299 nm)    | 0.0002 (ppm)    | > 100.00 | 0.0002 (ppm)    | -24.5017     |
| 11/1/2017 23:35:46 | Continuing Calibration Blank 1        | Pb (220.353 nm)    | -0.0003 u (ppm) | 84.82    | -0.0003 (ppm)   | 4.9688       |
| 11/1/2017 23:35:46 | Continuing Calibration Blank 1        | Sb (217.582 nm)    | -0.0009 u (ppm) | > 100.00 | -0.0009 (ppm)   | 2.7879       |
| 11/1/2017 23:35:46 | Continuing Calibration Blank 1        | Se (196.026 nm)    | -0.0012 u (ppm) | > 100.00 | -0.0012 (ppm)   | 4.5039       |
| 11/1/2017 23:35:46 | Continuing Calibration Blank 1        | Sn (189.925 nm)    | 0.0010 u (ppm)  | > 100.00 | 0.0010 (ppm)    | 1.1812       |
| 11/1/2017 23:35:46 | Continuing Calibration Blank 1        | Sr (216.596 nm)    | 0.0001 u (ppm)  | > 100.00 | 0.0001 (ppm)    | 0.1476       |
| 11/1/2017 23:35:46 | Continuing Calibration Blank 1        | Ti (336.122 nm)    | 0.0007 (ppm)    | 1.90     | 0.0007 (ppm)    | -265.2180    |
| 11/1/2017 23:35:46 | Continuing Calibration Blank 1        | Tl (351.923 nm)    | -0.0031 u (ppm) | > 100.00 | -0.0031 (ppm)   | 5.8969       |
| 11/1/2017 23:35:46 | Continuing Calibration Blank 1        | V (292.401 nm)     | -0.0002 u (ppm) | > 100.00 | -0.0002 (ppm)   | 103.5180     |
| 11/1/2017 23:35:46 | Continuing Calibration Blank 1        | Y (360.074 nm)     | 1.03 (Ratio)    | 0.92     | 1.03 (Ratio)    | 963187.60    |

| Date Time          | Label                          | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity   |
|--------------------|--------------------------------|--------------------|-----------------|----------|-----------------|-------------|
| 11/1/2017 23:35:46 | Continuing Calibration Blank 1 | Y_R (360.074 nm)   | 1.03 (Ratio)    | 0.91     | 1.03 (Ratio)    | 963233.91   |
| 11/1/2017 23:35:46 | Continuing Calibration Blank 1 | Zn (213.857 nm)    | 0.0003 (ppm)    | 39.44    | 0.0003 (ppm)    | -23.1040    |
| 11/1/2017 23:39:05 | R1710236-010L                  | Ag (328.068 nm)    | 0.0000 (ppm)    | 32.59    | 0.0000 (ppm)    | -122.1316   |
| 11/1/2017 23:39:05 | R1710236-010L                  | Al (394.401 nm)    | 0.0027 (ppm)    | 10.25    | 0.0027 (ppm)    | 119.4038    |
| 11/1/2017 23:39:05 | R1710236-010L                  | As (188.980 nm)    | 0.0030 (ppm)    | 56.75    | 0.0030 (ppm)    | -0.1153     |
| 11/1/2017 23:39:05 | R1710236-010L                  | B (249.772 nm)     | 0.0003 (ppm)    | 54.47    | 0.0003 (ppm)    | 98.9420     |
| 11/1/2017 23:39:05 | R1710236-010L                  | Ba (230.424 nm)    | 0.0026 (ppm)    | 3.21     | 0.0026 (ppm)    | 100.3059    |
| 11/1/2017 23:39:05 | R1710236-010L                  | Be (313.107 nm)    | 0.0000 (ppm)    | 84.68    | 0.0000 (ppm)    | -496.6556   |
| 11/1/2017 23:39:05 | R1710236-010L                  | Ca (227.547 nm)    | 3.1109 (ppm)    | 0.64     | 3.1109 (ppm)    | 188.8635    |
| 11/1/2017 23:39:05 | R1710236-010L                  | Cd (214.439 nm)    | 0.0001 (ppm)    | 81.25    | 0.0001 (ppm)    | 13.8860     |
| 11/1/2017 23:39:05 | R1710236-010L                  | Co (230.786 nm)    | 0.0011 (ppm)    | 15.85    | 0.0011 (ppm)    | 9.8322      |
| 11/1/2017 23:39:05 | R1710236-010L                  | Cr (267.716 nm)    | 0.0001 (ppm)    | > 100.00 | 0.0001 (ppm)    | 3.7267      |
| 11/1/2017 23:39:05 | R1710236-010L                  | Cu (327.395 nm)    | 0.0001 (ppm)    | > 100.00 | 0.0001 (ppm)    | 25.3545     |
| 11/1/2017 23:39:05 | R1710236-010L                  | Fe (234.350 nm)    | 0.0777 (ppm)    | 1.64     | 0.0777 (ppm)    | 974.8724    |
| 11/1/2017 23:39:05 | R1710236-010L                  | K (766.491 nm)     | 0.4853 (ppm)    | 1.21     | 0.4853 (ppm)    | 1555.9588   |
| 11/1/2017 23:39:05 | R1710236-010L                  | Mg (279.078 nm)    | 2.4553 (ppm)    | 1.09     | 2.4553 (ppm)    | 4947.2608   |
| 11/1/2017 23:39:05 | R1710236-010L                  | Mn (257.610 nm)    | 0.2565 (ppm)    | 1.45     | 0.2565 (ppm)    | 83014.7328  |
| 11/1/2017 23:39:05 | R1710236-010L                  | Mo (202.032 nm)    | 0.0004 (ppm)    | 60.90    | 0.0004 (ppm)    | 21.0022     |
| 11/1/2017 23:39:05 | R1710236-010L                  | Na (588.995 nm)    | 2.6118 (ppm)    | 0.77     | 2.6118 (ppm)    | 113866.4258 |
| 11/1/2017 23:39:05 | R1710236-010L                  | Ni (230.299 nm)    | -0.0010 u (ppm) | 79.73    | -0.0010 (ppm)   | -33.0984    |
| 11/1/2017 23:39:05 | R1710236-010L                  | Pb (220.353 nm)    | -0.0006 u (ppm) | 42.35    | -0.0006 (ppm)   | 4.3261      |
| 11/1/2017 23:39:05 | R1710236-010L                  | Sb (217.582 nm)    | -0.0023 u (ppm) | 33.97    | -0.0023 (ppm)   | 0.8591      |
| 11/1/2017 23:39:05 | R1710236-010L                  | Se (196.026 nm)    | 0.0022 (ppm)    | 95.25    | 0.0022 (ppm)    | 7.4572      |
| 11/1/2017 23:39:05 | R1710236-010L                  | Sn (189.925 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | -0.2021     |
| 11/1/2017 23:39:05 | R1710236-010L                  | Sr (216.596 nm)    | 0.0314 (ppm)    | 2.67     | 0.0314 (ppm)    | 467.3079    |
| 11/1/2017 23:39:05 | R1710236-010L                  | Tl (336.122 nm)    | 0.0001 (ppm)    | 61.34    | 0.0001 (ppm)    | -390.1635   |
| 11/1/2017 23:39:05 | R1710236-010L                  | Tl (351.923 nm)    | -0.0026 u (ppm) | > 100.00 | -0.0026 (ppm)   | 7.1818      |
| 11/1/2017 23:39:05 | R1710236-010L                  | V (292.401 nm)     | -0.0003 u (ppm) | 35.41    | -0.0003 (ppm)   | 99.3534     |
| 11/1/2017 23:39:05 | R1710236-010L                  | Y (360.074 nm)     | 1.03 (Ratio)    | 0.96     | 1.03 (Ratio)    | 963444.70   |
| 11/1/2017 23:39:05 | R1710236-010L                  | Y_R (360.074 nm)   | 1.03 (Ratio)    | 0.96     | 1.03 (Ratio)    | 963488.48   |
| 11/1/2017 23:39:05 | R1710236-010L                  | Zn (213.857 nm)    | 0.0010 (ppm)    | 5.00     | 0.0010 (ppm)    | -0.5796     |
| 11/1/2017 23:42:23 | PBW-302021 RPT                 | Ag (328.068 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | -122.8584   |
| 11/1/2017 23:42:23 | PBW-302021 RPT                 | Al (394.401 nm)    | 0.0002 u (ppm)  | > 100.00 | 0.0002 (ppm)    | 85.6659     |
| 11/1/2017 23:42:23 | PBW-302021 RPT                 | As (188.980 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | -2.9258     |
| 11/1/2017 23:42:23 | PBW-302021 RPT                 | B (249.772 nm)     | -0.0008 u (ppm) | 4.47     | -0.0008 (ppm)   | 66.6584     |
| 11/1/2017 23:42:23 | PBW-302021 RPT                 | Ba (230.424 nm)    | -0.0001 u (ppm) | 69.59    | -0.0001 (ppm)   | 3.3303      |
| 11/1/2017 23:42:23 | PBW-302021 RPT                 | Be (313.107 nm)    | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | -504.5012   |
| 11/1/2017 23:42:23 | PBW-302021 RPT                 | Ca (227.547 nm)    | -0.0258 u (ppm) | > 100.00 | -0.0258 (ppm)   | 4.6552      |
| 11/1/2017 23:42:23 | PBW-302021 RPT                 | Cd (214.439 nm)    | -0.0001 u (ppm) | 56.01    | -0.0001 (ppm)   | 10.9581     |
| 11/1/2017 23:42:23 | PBW-302021 RPT                 | Co (230.786 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | -1.2811     |
| 11/1/2017 23:42:23 | PBW-302021 RPT                 | Cr (267.716 nm)    | -0.0001 u (ppm) | 56.60    | -0.0001 (ppm)   | -5.2061     |
| 11/1/2017 23:42:23 | PBW-302021 RPT                 | Cu (327.395 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | 18.2361     |
| 11/1/2017 23:42:23 | PBW-302021 RPT                 | Fe (234.350 nm)    | -0.0053 u (ppm) | 2.49     | -0.0053 (ppm)   | 11.2826     |
| 11/1/2017 23:42:23 | PBW-302021 RPT                 | K (766.491 nm)     | -0.0046 u (ppm) | > 100.00 | -0.0046 (ppm)   | 43.4400     |
| 11/1/2017 23:42:23 | PBW-302021 RPT                 | Mg (279.078 nm)    | 0.0025 (ppm)    | 62.32    | 0.0025 (ppm)    | -1.8901     |
| 11/1/2017 23:42:23 | PBW-302021 RPT                 | Mn (257.610 nm)    | 0.0078 (ppm)    | 35.25    | 0.0078 (ppm)    | 2546.1229   |
| 11/1/2017 23:42:23 | PBW-302021 RPT                 | Mo (202.032 nm)    | -0.0005 u (ppm) | 20.07    | -0.0005 (ppm)   | 11.1579     |
| 11/1/2017 23:42:23 | PBW-302021 RPT                 | Na (588.995 nm)    | 0.0160 (ppm)    | 9.36     | 0.0160 (ppm)    | -5246.4705  |
| 11/1/2017 23:42:23 | PBW-302021 RPT                 | Ni (230.299 nm)    | 0.0011 (ppm)    | 24.78    | 0.0011 (ppm)    | -18.6645    |
| 11/1/2017 23:42:23 | PBW-302021 RPT                 | Pb (220.353 nm)    | -0.0008 u (ppm) | > 100.00 | -0.0008 (ppm)   | 3.9322      |
| 11/1/2017 23:42:23 | PBW-302021 RPT                 | Sb (217.582 nm)    | -0.0017 u (ppm) | 36.22    | -0.0017 (ppm)   | 1.6755      |

| Date Time          | Label                                | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|--------------------------------------|--------------------|-----------------|----------|-----------------|--------------|
| 11/1/2017 23:42:23 | PBW-302021 RPT                       | Se (196.026 nm)    | -0.0033 u (ppm) | 98.52    | -0.0033 (ppm)   | 2.6763       |
| 11/1/2017 23:42:23 | PBW-302021 RPT                       | Sn (189.925 nm)    | 0.0003 (ppm)    | 79.72    | 0.0003 (ppm)    | 0.2676       |
| 11/1/2017 23:42:23 | PBW-302021 RPT                       | Sr (216.596 nm)    | 0.0002 u (ppm)  | > 100.00 | 0.0002 (ppm)    | 1.0838       |
| 11/1/2017 23:42:23 | PBW-302021 RPT                       | Tl (336.122 nm)    | 0.0004 (ppm)    | 17.46    | 0.0004 (ppm)    | -328.6581    |
| 11/1/2017 23:42:23 | PBW-302021 RPT                       | Tl (351.923 nm)    | -0.0016 u (ppm) | > 100.00 | -0.0016 (ppm)   | 10.0354      |
| 11/1/2017 23:42:23 | PBW-302021 RPT                       | V (292.401 nm)     | -0.0003 u (ppm) | 34.85    | -0.0003 (ppm)   | 97.8505      |
| 11/1/2017 23:42:23 | PBW-302021 RPT                       | Y (360.074 nm)     | 1.04 (Ratio)    | 0.81     | 1.04 (Ratio)    | 976144.52    |
| 11/1/2017 23:42:23 | PBW-302021 RPT                       | Y_R (360.074 nm)   | 1.04 (Ratio)    | 0.80     | 1.04 (Ratio)    | 976063.36    |
| 11/1/2017 23:42:23 | PBW-302021 RPT                       | Zn (213.857 nm)    | 0.0012 (ppm)    | 8.02     | 0.0012 (ppm)    | 4.0576       |
| 11/1/2017 23:45:43 | Continuing Calibration Verification1 | Ag (328.068 nm)    | 0.4835 (ppm)    | 0.35     | 0.4835 (ppm)    | 35393.8375   |
| 11/1/2017 23:45:43 | Continuing Calibration Verification1 | Al (394.401 nm)    | 9.4732 (ppm)    | 0.29     | 9.4732 (ppm)    | 126582.5776  |
| 11/1/2017 23:45:43 | Continuing Calibration Verification1 | As (188.980 nm)    | 0.9478 (ppm)    | 0.65     | 0.9478 (ppm)    | 874.3428     |
| 11/1/2017 23:45:43 | Continuing Calibration Verification1 | B (249.772 nm)     | 2.3730 (ppm)    | 0.24     | 2.3730 (ppm)    | 68093.6765   |
| 11/1/2017 23:45:43 | Continuing Calibration Verification1 | Ba (230.424 nm)    | 10.0546 (ppm)   | 0.17     | 10.0546 (ppm)   | 351894.0631  |
| 11/1/2017 23:45:43 | Continuing Calibration Verification1 | Be (313.107 nm)    | 0.2493 (ppm)    | 0.24     | 0.2493 (ppm)    | 377580.3777  |
| 11/1/2017 23:45:43 | Continuing Calibration Verification1 | Ca (227.547 nm)    | 24.1021 (ppm)   | 0.41     | 24.1021 (ppm)   | 1421.6323    |
| 11/1/2017 23:45:43 | Continuing Calibration Verification1 | Cd (214.439 nm)    | 0.4838 (ppm)    | 0.23     | 0.4838 (ppm)    | 11015.6048   |
| 11/1/2017 23:45:43 | Continuing Calibration Verification1 | Co (230.786 nm)    | 2.5303 (ppm)    | 0.17     | 2.5303 (ppm)    | 26040.8339   |
| 11/1/2017 23:45:43 | Continuing Calibration Verification1 | Cr (267.716 nm)    | 0.4924 (ppm)    | 0.19     | 0.4924 (ppm)    | 25679.4813   |
| 11/1/2017 23:45:43 | Continuing Calibration Verification1 | Cu (327.395 nm)    | 1.1996 (ppm)    | 0.61     | 1.1996 (ppm)    | 75366.1103   |
| 11/1/2017 23:45:43 | Continuing Calibration Verification1 | Fe (234.350 nm)    | 4.7363 (ppm)    | 0.26     | 4.7363 (ppm)    | 55094.6499   |
| 11/1/2017 23:45:43 | Continuing Calibration Verification1 | K (766.491 nm)     | 24.7431 (ppm)   | 0.42     | 24.7431 (ppm)   | 76453.5496   |
| 11/1/2017 23:45:43 | Continuing Calibration Verification1 | Mg (279.078 nm)    | 24.3854 (ppm)   | 0.28     | 24.3854 (ppm)   | 49197.4895   |
| 11/1/2017 23:45:43 | Continuing Calibration Verification1 | Mn (257.610 nm)    | 0.7421 (ppm)    | 0.16     | 0.7421 (ppm)    | 240125.3642  |
| 11/1/2017 23:45:43 | Continuing Calibration Verification1 | Mo (202.032 nm)    | 2.3537 (ppm)    | 0.19     | 2.3537 (ppm)    | 25201.2856   |
| 11/1/2017 23:45:43 | Continuing Calibration Verification1 | Na (588.995 nm)    | 25.0164 (ppm)   | 0.73     | 25.0164 (ppm)   | 1141942.1634 |
| 11/1/2017 23:45:43 | Continuing Calibration Verification1 | Ni (230.299 nm)    | 1.9893 (ppm)    | 0.06     | 1.9893 (ppm)    | 13778.1641   |
| 11/1/2017 23:45:43 | Continuing Calibration Verification1 | Pb (220.353 nm)    | 0.4865 (ppm)    | 0.76     | 0.4865 (ppm)    | 1091.6609    |
| 11/1/2017 23:45:43 | Continuing Calibration Verification1 | Sb (217.582 nm)    | 4.8156 (ppm)    | 0.46     | 4.8156 (ppm)    | 6874.0363    |
| 11/1/2017 23:45:43 | Continuing Calibration Verification1 | Se (196.026 nm)    | 0.4757 (ppm)    | 0.46     | 0.4757 (ppm)    | 421.0205     |
| 11/1/2017 23:45:43 | Continuing Calibration Verification1 | Sn (189.925 nm)    | 4.9276 (ppm)    | 0.19     | 4.9276 (ppm)    | 6278.7876    |
| 11/1/2017 23:45:43 | Continuing Calibration Verification1 | Sr (216.596 nm)    | 2.4432 (ppm)    | 0.31     | 2.4432 (ppm)    | 36445.4959   |
| 11/1/2017 23:45:43 | Continuing Calibration Verification1 | Tl (336.122 nm)    | 2.4544 (ppm)    | 0.61     | 2.4544 (ppm)    | 537843.3612  |
| 11/1/2017 23:45:43 | Continuing Calibration Verification1 | Tl (351.923 nm)    | 0.9815 (ppm)    | 0.46     | 0.9815 (ppm)    | 2801.0929    |
| 11/1/2017 23:45:43 | Continuing Calibration Verification1 | V (292.401 nm)     | 2.4775 (ppm)    | 0.10     | 2.4775 (ppm)    | 89293.3171   |
| 11/1/2017 23:45:43 | Continuing Calibration Verification1 | Y (360.074 nm)     | 0.98 (Ratio)    | 0.73     | 0.98 (Ratio)    | 919590.82    |
| 11/1/2017 23:45:43 | Continuing Calibration Verification1 | Y_R (360.074 nm)   | 0.98 (Ratio)    | 0.73     | 0.98 (Ratio)    | 919636.15    |
| 11/1/2017 23:45:43 | Continuing Calibration Verification1 | Zn (213.857 nm)    | 0.9768 (ppm)    | 0.22     | 0.9768 (ppm)    | 28351.1956   |
| 11/1/2017 23:49:02 | Continuing Calibration Blank1        | Ag (328.068 nm)    | 0.0002 (ppm)    | 12.34    | 0.0002 (ppm)    | -113.0721    |
| 11/1/2017 23:49:02 | Continuing Calibration Blank1        | Al (394.401 nm)    | -0.0005 u (ppm) | 28.18    | -0.0005 (ppm)   | 76.8992      |
| 11/1/2017 23:49:02 | Continuing Calibration Blank1        | As (188.980 nm)    | 0.0018 (ppm)    | 55.42    | 0.0018 (ppm)    | -1.2294      |
| 11/1/2017 23:49:02 | Continuing Calibration Blank1        | B (249.772 nm)     | 0.0009 (ppm)    | 67.98    | 0.0009 (ppm)    | 115.3095     |
| 11/1/2017 23:49:02 | Continuing Calibration Blank1        | Ba (230.424 nm)    | 0.0002 (ppm)    | 45.15    | 0.0002 (ppm)    | 15.2294      |
| 11/1/2017 23:49:02 | Continuing Calibration Blank1        | Be (313.107 nm)    | 0.0000 (ppm)    | 84.29    | 0.0000 (ppm)    | -490.4637    |
| 11/1/2017 23:49:02 | Continuing Calibration Blank1        | Ca (227.547 nm)    | 0.0286 (ppm)    | 79.88    | 0.0286 (ppm)    | 7.8484       |
| 11/1/2017 23:49:02 | Continuing Calibration Blank1        | Cd (214.439 nm)    | 0.0001 (ppm)    | 22.33    | 0.0001 (ppm)    | 15.4075      |
| 11/1/2017 23:49:02 | Continuing Calibration Blank1        | Co (230.786 nm)    | 0.0001 (ppm)    | > 100.00 | 0.0001 (ppm)    | -0.3537      |
| 11/1/2017 23:49:02 | Continuing Calibration Blank1        | Cr (267.716 nm)    | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | -0.4455      |
| 11/1/2017 23:49:02 | Continuing Calibration Blank1        | Cu (327.395 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | 22.0692      |
| 11/1/2017 23:49:02 | Continuing Calibration Blank1        | Fe (234.350 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | 72.9226      |
| 11/1/2017 23:49:02 | Continuing Calibration Blank1        | K (766.491 nm)     | 0.0175 (ppm)    | 11.90    | 0.0175 (ppm)    | 111.5496     |

| Date Time          | Label                             | Element Label (nm)   | Conc             | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|-----------------------------------|----------------------|------------------|----------|-----------------|--------------|
| 11/1/2017 23:49:02 | Continuing Calibration Blank 1    | Mg (279.078 nm)      | 0.0025 (ppm)     | 8.01     | 0.0025 (ppm)    | -2.0361      |
| 11/1/2017 23:49:02 | Continuing Calibration Blank 1    | Mn (257.610 nm)      | 0.0028 (ppm)     | 30.38    | 0.0028 (ppm)    | 947.9513     |
| 11/1/2017 23:49:02 | Continuing Calibration Blank 1    | Mo (202.032 nm)      | 0.0025 (ppm)     | 5.01     | 0.0025 (ppm)    | 43.6450      |
| 11/1/2017 23:49:02 | Continuing Calibration Blank 1    | Na (588.995 nm)      | 0.0117 (ppm)     | 11.11    | 0.0117 (ppm)    | -5442.4280   |
| 11/1/2017 23:49:02 | Continuing Calibration Blank 1    | Ni (230.299 nm)      | 0.0006 (ppm)     | 55.01    | 0.0006 (ppm)    | -21.7359     |
| 11/1/2017 23:49:02 | Continuing Calibration Blank 1    | Pb (220.353 nm)      | -0.0004 u (ppm)  | > 100.00 | -0.0004 (ppm)   | 4.7641       |
| 11/1/2017 23:49:02 | Continuing Calibration Blank 1    | Sb (217.582 nm)      | -0.0003 u (ppm)  | > 100.00 | -0.0003 (ppm)   | 3.6704       |
| 11/1/2017 23:49:02 | Continuing Calibration Blank 1    | Se (196.026 nm)      | -0.0016 u (ppm)  | 65.09    | -0.0016 (ppm)   | 4.1515       |
| 11/1/2017 23:49:02 | Continuing Calibration Blank 1    | Sn (189.925 nm)      | 0.0006 (ppm)     | 59.86    | 0.0006 (ppm)    | 0.6270       |
| 11/1/2017 23:49:02 | Continuing Calibration Blank 1    | Sr (216.596 nm)      | 0.0000 u (ppm)   | > 100.00 | 0.0000 (ppm)    | -0.7215      |
| 11/1/2017 23:49:02 | Continuing Calibration Blank 1    | Ti (336.122 nm)      | 0.0008 (ppm)     | 10.22    | 0.0008 (ppm)    | -244.7954    |
| 11/1/2017 23:49:02 | Continuing Calibration Blank 1    | Ti (351.923 nm)      | -0.0019 u (ppm)  | > 100.00 | -0.0019 (ppm)   | 9.1574       |
| 11/1/2017 23:49:02 | Continuing Calibration Blank 1    | V (292.401 nm)       | 0.0000 u (ppm)   | > 100.00 | 0.0000 (ppm)    | 108.5323     |
| 11/1/2017 23:49:02 | Continuing Calibration Blank 1    | Y (360.074 nm)       | 1.03 (Ratio)     | 0.76     | 1.03 (Ratio)    | 964285.09    |
| 11/1/2017 23:49:02 | Continuing Calibration Blank 1    | Y_R (360.074 nm)     | 1.03 (Ratio)     | 0.75     | 1.03 (Ratio)    | 963901.36    |
| 11/1/2017 23:49:02 | Continuing Calibration Blank 1    | Zn (213.857 nm)      | 0.0001 (ppm)     | 73.73    | 0.0001 (ppm)    | -27.3274     |
| 11/1/2017 23:52:21 | Contract Required Detection Limit | Ag (328.068 nm)      | 0.0096 (ppm)     | 0.59     | 0.0096 (ppm)    | 577.2529     |
| 11/1/2017 23:52:21 | Contract Required Detection Limit | Al (394.401 nm)      | 0.1714 (ppm)     | 0.48     | 0.1714 (ppm)    | 2372.3601    |
| 11/1/2017 23:52:21 | Contract Required Detection Limit | As (188.980 nm)      | 0.0183 (ppm)     | 2.00     | 0.0183 (ppm)    | 14.0108      |
| 11/1/2017 23:52:21 | Contract Required Detection Limit | B (249.772 nm)       | 0.1832 (ppm)     | 0.24     | 0.1832 (ppm)    | 5341.5271    |
| 11/1/2017 23:52:21 | Contract Required Detection Limit | Ba (230.424 nm)      | 0.2051 (ppm)     | 0.65     | 0.2051 (ppm)    | 7184.8976    |
| 11/1/2017 23:52:21 | Contract Required Detection Limit | Be (313.107 nm)      | 0.0047 (ppm)     | 0.09     | 0.0047 (ppm)    | 6676.7003    |
| 11/1/2017 23:52:21 | Contract Required Detection Limit | Ca (227.547 nm)      | 0.9516 (ppm)     | 3.87     | 0.9516 (ppm)    | 62.0541      |
| 11/1/2017 23:52:21 | Contract Required Detection Limit | Cd (214.439 nm)      | 0.0098 (ppm)     | 1.28     | 0.0098 (ppm)    | 235.5706     |
| 11/1/2017 23:52:21 | Contract Required Detection Limit | Co (230.786 nm)      | 0.0492 (ppm)     | 0.55     | 0.0492 (ppm)    | 504.8368     |
| 11/1/2017 23:52:21 | Contract Required Detection Limit | Cr (267.716 nm)      | 0.0098 (ppm)     | 1.69     | 0.0098 (ppm)    | 510.6440     |
| 11/1/2017 23:52:21 | Contract Required Detection Limit | Cu (327.395 nm)      | 0.0239 (ppm)     | 1.33     | 0.0239 (ppm)    | 1521.8857    |
| 11/1/2017 23:52:21 | Contract Required Detection Limit | Fe (234.350 nm)      | 0.0937 (ppm)     | 0.51     | 0.0937 (ppm)    | 1161.8505    |
| 11/1/2017 23:52:21 | Contract Required Detection Limit | K (766.491 nm)       | 0.9261 (ppm)     | 1.52     | 0.9261 (ppm)    | 2916.8995    |
| 11/1/2017 23:52:21 | Contract Required Detection Limit | Mg (279.078 nm)      | 0.9638 (ppm)     | 0.47     | 0.9638 (ppm)    | 1937.6147    |
| 11/1/2017 23:52:21 | Contract Required Detection Limit | Mn (257.610 nm) 151% | 0.0227 R (ppm)   | 11.58    | 0.0227 (ppm)    | 7366.9957 R  |
| 11/1/2017 23:52:21 | Contract Required Detection Limit | Mo (202.032 nm)      | 0.0244 (ppm)     | 0.77     | 0.0244 (ppm)    | 277.4188     |
| 11/1/2017 23:52:21 | Contract Required Detection Limit | Na (588.995 nm)      | 1.0206 (ppm)     | 0.75     | 1.0206 (ppm)    | 40852.0095   |
| 11/1/2017 23:52:21 | Contract Required Detection Limit | Ni (230.299 nm)      | 0.0400 (ppm)     | 0.72     | 0.0400 (ppm)    | 251.7203     |
| 11/1/2017 23:52:21 | Contract Required Detection Limit | Pb (220.353 nm)      | 0.0093 (ppm)     | 6.92     | 0.0093 (ppm)    | 26.4039      |
| 11/1/2017 23:52:21 | Contract Required Detection Limit | Sb (217.582 nm)      | 0.0557 (ppm)     | 2.29     | 0.0557 (ppm)    | 83.5279      |
| 11/1/2017 23:52:21 | Contract Required Detection Limit | Se (196.026 nm)      | 0.0073 R (ppm)   | 17.45    | 0.0073 (ppm)    | 11.8921 R    |
| 11/1/2017 23:52:21 | Contract Required Detection Limit | Sn (189.925 nm)      | 0.4876 (ppm)     | 0.52     | 0.4876 (ppm)    | 621.2110     |
| 11/1/2017 23:52:21 | Contract Required Detection Limit | Sr (216.596 nm)      | 0.0978 (ppm)     | 0.43     | 0.0978 (ppm)    | 1457.5586    |
| 11/1/2017 23:52:21 | Contract Required Detection Limit | Ti (336.122 nm)      | 0.0496 (ppm)     | 0.34     | 0.0496 (ppm)    | 10460.6226   |
| 11/1/2017 23:52:21 | Contract Required Detection Limit | Ti (351.923 nm)      | 0.0173 (ppm)     | 24.31    | 0.0173 (ppm)    | 63.7504      |
| 11/1/2017 23:52:21 | Contract Required Detection Limit | V (292.401 nm)       | 0.0481 (ppm)     | 0.66     | 0.0481 (ppm)    | 1841.3133    |
| 11/1/2017 23:52:21 | Contract Required Detection Limit | Y (360.074 nm)       | 1.03 (Ratio)     | 0.75     | 1.03 (Ratio)    | 967351.19    |
| 11/1/2017 23:52:21 | Contract Required Detection Limit | Y_R (360.074 nm)     | 1.03 (Ratio)     | 0.74     | 1.03 (Ratio)    | 966993.64    |
| 11/1/2017 23:52:21 | Contract Required Detection Limit | Zn (213.857 nm)      | 0.0187 (ppm)     | 0.32     | 0.0187 (ppm)    | 513.7263     |
| 11/1/2017 23:55:40 | Interference Check Solution A     | Ag (328.068 nm)      | 0.0002 (ppm)     | 61.85    | 0.0002 (ppm)    | -114.6466    |
| 11/1/2017 23:55:40 | Interference Check Solution A     | Al (394.401 nm)      | 261.0833 o (ppm) | 0.23     | 261.0833 (ppm)  | 3486448.2244 |
| 11/1/2017 23:55:40 | Interference Check Solution A     | As (188.980 nm)      | 0.0008 u (ppm)   | > 100.00 | 0.0008 (ppm)    | -2.1633      |
| 11/1/2017 23:55:40 | Interference Check Solution A     | B (249.772 nm)       | 0.0363 (ppm)     | 0.82     | 0.0363 (ppm)    | 1131.0216    |
| 11/1/2017 23:55:40 | Interference Check Solution A     | Ba (230.424 nm)      | 0.0003 (ppm)     | 11.18    | 0.0003 (ppm)    | 18.7265      |
| 11/1/2017 23:55:40 | Interference Check Solution A     | Be (313.107 nm)      | -0.0001 u (ppm)  | 13.40    | -0.0001 (ppm)   | -589.3725    |

| Date Time          | Label                          | Element Label (nm) | Conc             | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|--------------------------------|--------------------|------------------|----------|-----------------|--------------|
| 11/1/2017 23:55:40 | Interference Check Solution A  | Ca (227.547 nm)    | 266.2313 o (ppm) | 0.20     | 266.2313 (ppm)  | 15641.3103   |
| 11/1/2017 23:55:40 | Interference Check Solution A  | Cd (214.439 nm)    | -0.0012 Ku (ppm) | 20.52    | -0.0012 (ppm)   | -14.8207 K   |
| 11/1/2017 23:55:40 | Interference Check Solution A  | Co (230.786 nm)    | -0.0023 u (ppm)  | 17.69    | -0.0023 (ppm)   | -25.4432     |
| 11/1/2017 23:55:40 | Interference Check Solution A  | Cr (267.716 nm)    | -0.0001 u (ppm)  | > 100.00 | -0.0001 (ppm)   | -3.8343      |
| 11/1/2017 23:55:40 | Interference Check Solution A  | Cu (327.395 nm)    | 0.0006 (ppm)     | 28.30    | 0.0006 (ppm)    | 61.0204      |
| 11/1/2017 23:55:40 | Interference Check Solution A  | Fe (234.350 nm)    | 86.0445 o (ppm)  | 0.15     | 86.0445 (ppm)   | 999659.9473  |
| 11/1/2017 23:55:40 | Interference Check Solution A  | K (766.491 nm)     | 0.0253 (ppm)     | 80.92    | 0.0253 (ppm)    | 135.4811     |
| 11/1/2017 23:55:40 | Interference Check Solution A  | Mg (279.078 nm)    | 255.0636 o (ppm) | 0.50     | 255.0636 (ppm)  | 514655.7971  |
| 11/1/2017 23:55:40 | Interference Check Solution A  | Mn (257.610 nm)    | 0.0096 (ppm)     | 28.40    | 0.0096 (ppm)    | 3147.7899    |
| 11/1/2017 23:55:40 | Interference Check Solution A  | Mo (202.032 nm)    | 0.0010 (ppm)     | 42.22    | 0.0010 (ppm)    | 27.4533      |
| 11/1/2017 23:55:40 | Interference Check Solution A  | Na (588.995 nm)    | 0.0156 (ppm)     | 4.70     | 0.0156 (ppm)    | -5261.3060   |
| 11/1/2017 23:55:40 | Interference Check Solution A  | Ni (230.299 nm)    | -0.0022 u (ppm)  | 35.50    | -0.0022 (ppm)   | -41.5767     |
| 11/1/2017 23:55:40 | Interference Check Solution A  | Pb (220.353 nm)    | -0.0014 u (ppm)  | > 100.00 | -0.0014 (ppm)   | 2.5181       |
| 11/1/2017 23:55:40 | Interference Check Solution A  | Sb (217.582 nm)    | -0.0031 u (ppm)  | 4.88     | -0.0031 (ppm)   | -0.2619      |
| 11/1/2017 23:55:40 | Interference Check Solution A  | Se (196.026 nm)    | 0.0011 u (ppm)   | > 100.00 | 0.0011 (ppm)    | 6.5085       |
| 11/1/2017 23:55:40 | Interference Check Solution A  | Sn (189.925 nm)    | -0.0019 u (ppm)  | 96.28    | -0.0019 (ppm)   | -2.5853      |
| 11/1/2017 23:55:40 | Interference Check Solution A  | Sr (216.596 nm)    | 0.0186 (ppm)     | 3.68     | 0.0186 (ppm)    | 276.9852     |
| 11/1/2017 23:55:40 | Interference Check Solution A  | Ti (336.122 nm)    | 0.0014 (ppm)     | 1.69     | 0.0014 (ppm)    | -117.5521    |
| 11/1/2017 23:55:40 | Interference Check Solution A  | Tl (351.923 nm)    | 0.0013 (ppm)     | 59.66    | 0.0013 (ppm)    | 18.3951      |
| 11/1/2017 23:55:40 | Interference Check Solution A  | V (292.401 nm)     | 0.0031 K (ppm)   | 2.98     | 0.0031 (ppm)    | 222.5774 K   |
| 11/1/2017 23:55:40 | Interference Check Solution A  | Y (360.074 nm)     | 0.90 (Ratio)     | 0.52     | 0.90 (Ratio)    | 842679.41    |
| 11/1/2017 23:55:40 | Interference Check Solution A  | Y_R (360.074 nm)   | 0.90 (Ratio)     | 0.52     | 0.90 (Ratio)    | 842680.32    |
| 11/1/2017 23:55:40 | Interference Check Solution A  | Zn (213.857 nm)    | 0.0114 K (ppm)   | 0.05     | 0.0114 (ppm)    | 300.9452 K   |
| 11/1/2017 23:58:59 | Interference Check Solution AB | Ag (328.068 nm)    | 0.2121 (ppm)     | 0.35     | 0.2121 (ppm)    | 15452.8349   |
| 11/1/2017 23:58:59 | Interference Check Solution AB | Al (394.401 nm)    | 262.0551 o (ppm) | 0.44     | 262.0551 (ppm)  | 3499424.3699 |
| 11/1/2017 23:58:59 | Interference Check Solution AB | As (188.980 nm)    | 0.1017 (ppm)     | 1.89     | 0.1017 (ppm)    | 91.2322      |
| 11/1/2017 23:58:59 | Interference Check Solution AB | B (249.772 nm)     | 0.0368 (ppm)     | 0.19     | 0.0368 (ppm)    | 1146.1694    |
| 11/1/2017 23:58:59 | Interference Check Solution AB | Ba (230.424 nm)    | 0.5138 (ppm)     | 0.20     | 0.5138 (ppm)    | 17990.9849   |
| 11/1/2017 23:58:59 | Interference Check Solution AB | Be (313.107 nm)    | 0.4961 (ppm)     | 0.30     | 0.4961 (ppm)    | 751884.6287  |
| 11/1/2017 23:58:59 | Interference Check Solution AB | Ca (227.547 nm)    | 265.5071 o (ppm) | 0.56     | 265.5071 (ppm)  | 15598.7792   |
| 11/1/2017 23:58:59 | Interference Check Solution AB | Cd (214.439 nm)    | 0.9285 (ppm)     | 0.10     | 0.9285 (ppm)    | 21128.1043   |
| 11/1/2017 23:58:59 | Interference Check Solution AB | Co (230.786 nm)    | 0.4820 (ppm)     | 0.24     | 0.4820 (ppm)    | 4959.5782    |
| 11/1/2017 23:58:59 | Interference Check Solution AB | Cr (267.716 nm)    | 0.4789 (ppm)     | 0.16     | 0.4789 (ppm)    | 24977.3464   |
| 11/1/2017 23:58:59 | Interference Check Solution AB | Cu (327.395 nm)    | 0.5287 (ppm)     | 0.71     | 0.5287 (ppm)    | 33229.1437   |
| 11/1/2017 23:58:59 | Interference Check Solution AB | Fe (234.350 nm)    | 86.3113 o (ppm)  | 0.17     | 86.3113 (ppm)   | 1002758.9346 |
| 11/1/2017 23:58:59 | Interference Check Solution AB | K (766.491 nm)     | 0.0036 u (ppm)   | > 100.00 | 0.0036 (ppm)    | 68.4758      |
| 11/1/2017 23:58:59 | Interference Check Solution AB | Mg (279.078 nm)    | 256.2526 o (ppm) | 0.43     | 256.2526 (ppm)  | 517054.8175  |
| 11/1/2017 23:58:59 | Interference Check Solution AB | Mn (257.610 nm)    | 0.5014 (ppm)     | 1.07     | 0.5014 (ppm)    | 162259.6866  |
| 11/1/2017 23:58:59 | Interference Check Solution AB | Mo (202.032 nm)    | 0.0004 (ppm)     | > 100.00 | 0.0004 (ppm)    | 21.2824      |
| 11/1/2017 23:58:59 | Interference Check Solution AB | Na (588.995 nm)    | 0.0230 (ppm)     | 6.86     | 0.0230 (ppm)    | -4923.8716   |
| 11/1/2017 23:58:59 | Interference Check Solution AB | Ni (230.299 nm)    | 0.9286 (ppm)     | 0.19     | 0.9286 (ppm)    | 6417.3221    |
| 11/1/2017 23:58:59 | Interference Check Solution AB | Pb (220.353 nm)    | 0.0456 (ppm)     | 6.33     | 0.0456 (ppm)    | 107.3901     |
| 11/1/2017 23:58:59 | Interference Check Solution AB | Sb (217.582 nm)    | 0.5976 (ppm)     | 0.86     | 0.5976 (ppm)    | 856.7006     |
| 11/1/2017 23:58:59 | Interference Check Solution AB | Se (196.026 nm)    | 0.0479 (ppm)     | 3.87     | 0.0479 (ppm)    | 47.3243      |
| 11/1/2017 23:58:59 | Interference Check Solution AB | Sn (189.925 nm)    | 0.0023 u (ppm)   | > 100.00 | 0.0023 (ppm)    | 2.8056       |
| 11/1/2017 23:58:59 | Interference Check Solution AB | Sr (216.596 nm)    | 0.0190 (ppm)     | 0.59     | 0.0190 (ppm)    | 281.9354     |
| 11/1/2017 23:58:59 | Interference Check Solution AB | Ti (336.122 nm)    | 0.0013 (ppm)     | 0.66     | 0.0013 (ppm)    | -137.0334    |
| 11/1/2017 23:58:59 | Interference Check Solution AB | Tl (351.923 nm)    | 0.1124 (ppm)     | 2.03     | 0.1124 (ppm)    | 333.7109     |
| 11/1/2017 23:58:59 | Interference Check Solution AB | V (292.401 nm)     | 0.4968 (ppm)     | 0.31     | 0.4968 (ppm)    | 17991.9907   |
| 11/1/2017 23:58:59 | Interference Check Solution AB | Y (360.074 nm)     | 0.90 (Ratio)     | 0.73     | 0.90 (Ratio)    | 840102.68    |
| 11/1/2017 23:58:59 | Interference Check Solution AB | Y_R (360.074 nm)   | 0.90 (Ratio)     | 0.73     | 0.90 (Ratio)    | 839999.12    |

| Date Time          | Label                               | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|-------------------------------------|--------------------|-----------------|----------|-----------------|--------------|
| 11/1/2017 23:58:59 | Interference Check Solution AB      | Zn (213.857 nm)    | 0.9986 (ppm)    | 0.19     | 0.9986 (ppm)    | 28983.9552   |
| 11/2/2017 00:02:18 | Continuing Calibration Verification | Ag (328.068 nm)    | 0.4799 (ppm)    | 0.31     | 0.4799 (ppm)    | 35127.4877   |
| 11/2/2017 00:02:18 | Continuing Calibration Verification | Al (394.401 nm)    | 9.4051 (ppm)    | 0.51     | 9.4051 (ppm)    | 125673.6366  |
| 11/2/2017 00:02:18 | Continuing Calibration Verification | As (188.980 nm)    | 0.9467 (ppm)    | 0.28     | 0.9467 (ppm)    | 873.3254     |
| 11/2/2017 00:02:18 | Continuing Calibration Verification | B (249.772 nm)     | 2.3586 (ppm)    | 0.31     | 2.3586 (ppm)    | 67681.6050   |
| 11/2/2017 00:02:18 | Continuing Calibration Verification | Ba (230.424 nm)    | 10.0257 (ppm)   | 0.54     | 10.0257 (ppm)   | 350882.0286  |
| 11/2/2017 00:02:18 | Continuing Calibration Verification | Be (313.107 nm)    | 0.2480 (ppm)    | 0.36     | 0.2480 (ppm)    | 375673.4452  |
| 11/2/2017 00:02:18 | Continuing Calibration Verification | Ca (227.547 nm)    | 23.9163 (ppm)   | 0.63     | 23.9163 (ppm)   | 1410.7208    |
| 11/2/2017 00:02:18 | Continuing Calibration Verification | Cd (214.439 nm)    | 0.4808 (ppm)    | 0.34     | 0.4808 (ppm)    | 10945.6520   |
| 11/2/2017 00:02:18 | Continuing Calibration Verification | Co (230.786 nm)    | 2.5094 (ppm)    | 0.28     | 2.5094 (ppm)    | 25825.4993   |
| 11/2/2017 00:02:18 | Continuing Calibration Verification | Cr (267.716 nm)    | 0.4877 (ppm)    | 0.32     | 0.4877 (ppm)    | 25433.7504   |
| 11/2/2017 00:02:18 | Continuing Calibration Verification | Cu (327.395 nm)    | 1.1949 (ppm)    | 0.45     | 1.1949 (ppm)    | 75072.3611   |
| 11/2/2017 00:02:18 | Continuing Calibration Verification | Fe (234.350 nm)    | 4.7155 (ppm)    | 0.29     | 4.7155 (ppm)    | 54852.8701   |
| 11/2/2017 00:02:18 | Continuing Calibration Verification | K (766.491 nm)     | 24.5798 (ppm)   | 0.54     | 24.5798 (ppm)   | 75949.1540   |
| 11/2/2017 00:02:18 | Continuing Calibration Verification | Mg (279.078 nm)    | 24.1929 (ppm)   | 0.32     | 24.1929 (ppm)   | 48809.0073   |
| 11/2/2017 00:02:18 | Continuing Calibration Verification | Mn (257.610 nm)    | 0.7357 (ppm)    | 0.37     | 0.7357 (ppm)    | 238055.4968  |
| 11/2/2017 00:02:18 | Continuing Calibration Verification | Mo (202.032 nm)    | 2.3376 (ppm)    | 0.31     | 2.3376 (ppm)    | 25029.2937   |
| 11/2/2017 00:02:18 | Continuing Calibration Verification | Na (588.995 nm)    | 24.7647 (ppm)   | 0.46     | 24.7647 (ppm)   | 1130393.6018 |
| 11/2/2017 00:02:18 | Continuing Calibration Verification | Ni (230.299 nm)    | 1.9731 (ppm)    | 0.26     | 1.9731 (ppm)    | 13665.7849   |
| 11/2/2017 00:02:18 | Continuing Calibration Verification | Pb (220.353 nm)    | 0.4816 (ppm)    | 0.57     | 0.4816 (ppm)    | 1080.5697    |
| 11/2/2017 00:02:18 | Continuing Calibration Verification | Sb (217.582 nm)    | 4.7788 (ppm)    | 0.40     | 4.7788 (ppm)    | 6821.5366    |
| 11/2/2017 00:02:18 | Continuing Calibration Verification | Se (196.026 nm)    | 0.4694 (ppm)    | 0.67     | 0.4694 (ppm)    | 415.5205     |
| 11/2/2017 00:02:18 | Continuing Calibration Verification | Sn (189.925 nm)    | 4.8896 (ppm)    | 0.20     | 4.8896 (ppm)    | 6230.2955    |
| 11/2/2017 00:02:18 | Continuing Calibration Verification | Sr (216.596 nm)    | 2.4263 (ppm)    | 0.30     | 2.4263 (ppm)    | 36192.5400   |
| 11/2/2017 00:02:18 | Continuing Calibration Verification | Ti (336.122 nm)    | 2.4394 (ppm)    | 0.89     | 2.4394 (ppm)    | 534534.3805  |
| 11/2/2017 00:02:18 | Continuing Calibration Verification | Tl (351.923 nm)    | 0.9718 (ppm)    | 0.41     | 0.9718 (ppm)    | 2773.7162    |
| 11/2/2017 00:02:18 | Continuing Calibration Verification | V (292.401 nm)     | 2.4567 (ppm)    | 0.33     | 2.4567 (ppm)    | 88543.8971   |
| 11/2/2017 00:02:18 | Continuing Calibration Verification | Y (360.074 nm)     | 0.99 (Ratio)    | 0.78     | 0.99 (Ratio)    | 924854.23    |
| 11/2/2017 00:02:18 | Continuing Calibration Verification | Y_R (360.074 nm)   | 0.99 (Ratio)    | 0.78     | 0.99 (Ratio)    | 924527.46    |
| 11/2/2017 00:02:18 | Continuing Calibration Verification | Zn (213.857 nm)    | 0.9687 (ppm)    | 0.28     | 0.9687 (ppm)    | 28115.5836   |
| 11/2/2017 00:05:37 | Continuing Calibration Blank        | Ag (328.068 nm)    | 0.0001 (ppm)    | 72.12    | 0.0001 (ppm)    | -116.9123    |
| 11/2/2017 00:05:37 | Continuing Calibration Blank        | Al (394.401 nm)    | -0.0002 u (ppm) | > 100.00 | -0.0002 (ppm)   | 80.6769      |
| 11/2/2017 00:05:37 | Continuing Calibration Blank        | As (188.980 nm)    | -0.0004 u (ppm) | > 100.00 | -0.0004 (ppm)   | -3.2794      |
| 11/2/2017 00:05:37 | Continuing Calibration Blank        | B (249.772 nm)     | 0.0009 (ppm)    | 68.71    | 0.0009 (ppm)    | 117.1605     |
| 11/2/2017 00:05:37 | Continuing Calibration Blank        | Ba (230.424 nm)    | 0.0004 (ppm)    | 5.00     | 0.0004 (ppm)    | 21.6028      |
| 11/2/2017 00:05:37 | Continuing Calibration Blank        | Be (313.107 nm)    | 0.0000 (ppm)    | 15.76    | 0.0000 (ppm)    | -481.3006    |
| 11/2/2017 00:05:37 | Continuing Calibration Blank        | Ca (227.547 nm)    | -0.0221 u (ppm) | > 100.00 | -0.0221 (ppm)   | 4.8698       |
| 11/2/2017 00:05:37 | Continuing Calibration Blank        | Cd (214.439 nm)    | 0.0001 (ppm)    | 74.82    | 0.0001 (ppm)    | 15.6711      |
| 11/2/2017 00:05:37 | Continuing Calibration Blank        | Co (230.786 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | -2.7590      |
| 11/2/2017 00:05:37 | Continuing Calibration Blank        | Cr (267.716 nm)    | 0.0000 (ppm)    | 76.26    | 0.0000 (ppm)    | 2.0793       |
| 11/2/2017 00:05:37 | Continuing Calibration Blank        | Cu (327.395 nm)    | 0.0001 u (ppm)  | > 100.00 | 0.0001 (ppm)    | 25.9289      |
| 11/2/2017 00:05:37 | Continuing Calibration Blank        | Fe (234.350 nm)    | 0.0047 (ppm)    | 6.17     | 0.0047 (ppm)    | 127.5806     |
| 11/2/2017 00:05:37 | Continuing Calibration Blank        | K (766.491 nm)     | 0.0054 (ppm)    | 83.69    | 0.0054 (ppm)    | 74.2399      |
| 11/2/2017 00:05:37 | Continuing Calibration Blank        | Mg (279.078 nm)    | 0.0023 (ppm)    | 19.51    | 0.0023 (ppm)    | -2.3939      |
| 11/2/2017 00:05:37 | Continuing Calibration Blank        | Mn (257.610 nm)    | 0.0024 (ppm)    | 30.40    | 0.0024 (ppm)    | 821.7079     |
| 11/2/2017 00:05:37 | Continuing Calibration Blank        | Mo (202.032 nm)    | 0.0026 (ppm)    | 1.49     | 0.0026 (ppm)    | 44.8674      |
| 11/2/2017 00:05:37 | Continuing Calibration Blank        | Na (588.995 nm)    | 0.0102 (ppm)    | 15.38    | 0.0102 (ppm)    | -5510.4941   |
| 11/2/2017 00:05:37 | Continuing Calibration Blank        | Ni (230.299 nm)    | 0.0007 (ppm)    | 60.19    | 0.0007 (ppm)    | -21.0183     |
| 11/2/2017 00:05:37 | Continuing Calibration Blank        | Pb (220.353 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | 5.5970       |
| 11/2/2017 00:05:37 | Continuing Calibration Blank        | Sb (217.582 nm)    | 0.0004 u (ppm)  | > 100.00 | 0.0004 (ppm)    | 4.6376       |
| 11/2/2017 00:05:37 | Continuing Calibration Blank        | Se (196.026 nm)    | -0.0034 u (ppm) | 86.06    | -0.0034 (ppm)   | 2.5610       |

| Date Time          | Label                        | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity  |
|--------------------|------------------------------|--------------------|-----------------|----------|-----------------|------------|
| 11/2/2017 00:05:37 | Continuing Calibration Blank | Sn (189.925 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | -0.1460    |
| 11/2/2017 00:05:37 | Continuing Calibration Blank | Sr (216.596 nm)    | 0.0001 (ppm)    | > 100.00 | 0.0001 (ppm)    | -0.3287    |
| 11/2/2017 00:05:37 | Continuing Calibration Blank | Ti (336.122 nm)    | 0.0008 (ppm)    | 8.08     | 0.0008 (ppm)    | -242.5647  |
| 11/2/2017 00:05:37 | Continuing Calibration Blank | Tl (351.923 nm)    | -0.0012 u (ppm) | > 100.00 | -0.0012 (ppm)   | 11.2911    |
| 11/2/2017 00:05:37 | Continuing Calibration Blank | V (292.401 nm)     | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | 109.8796   |
| 11/2/2017 00:05:37 | Continuing Calibration Blank | Y (360.074 nm)     | 1.03 (Ratio)    | 0.73     | 1.03 (Ratio)    | 967594.04  |
| 11/2/2017 00:05:37 | Continuing Calibration Blank | Y_R (360.074 nm)   | 1.03 (Ratio)    | 0.72     | 1.03 (Ratio)    | 967101.24  |
| 11/2/2017 00:05:37 | Continuing Calibration Blank | Zn (213.857 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | -29.3039   |
| 11/2/2017 00:08:56 | PBW-302022                   | Ag (328.068 nm)    | 0.0001 (ppm)    | > 100.00 | 0.0001 (ppm)    | -115.8748  |
| 11/2/2017 00:08:56 | PBW-302022                   | Al (394.401 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | 83.3444    |
| 11/2/2017 00:08:56 | PBW-302022                   | As (188.980 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | -2.9788    |
| 11/2/2017 00:08:56 | PBW-302022                   | B (249.772 nm)     | -0.0003 u (ppm) | 40.91    | -0.0003 (ppm)   | 81.2228    |
| 11/2/2017 00:08:56 | PBW-302022                   | Ba (230.424 nm)    | -0.0002 u (ppm) | 57.23    | -0.0002 (ppm)   | 0.9397     |
| 11/2/2017 00:08:56 | PBW-302022                   | Be (313.107 nm)    | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | -503.0765  |
| 11/2/2017 00:08:56 | PBW-302022                   | Cn (227.547 nm)    | -0.0141 u (ppm) | > 100.00 | -0.0141 (ppm)   | 5.3422     |
| 11/2/2017 00:08:56 | PBW-302022                   | Cd (214.439 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | 9.7515     |
| 11/2/2017 00:08:56 | PBW-302022                   | Co (230.786 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | -2.2680    |
| 11/2/2017 00:08:56 | PBW-302022                   | Cr (267.716 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | -3.4302    |
| 11/2/2017 00:08:56 | PBW-302022                   | Cu (327.395 nm)    | -0.0001 u (ppm) | 62.42    | -0.0001 (ppm)   | 13.0930    |
| 11/2/2017 00:08:56 | PBW-302022                   | Fe (234.350 nm)    | -0.0046 u (ppm) | 7.94     | -0.0046 (ppm)   | 19.5371    |
| 11/2/2017 00:08:56 | PBW-302022                   | K (766.491 nm)     | -0.0063 u (ppm) | 23.62    | -0.0063 (ppm)   | 37.9127    |
| 11/2/2017 00:08:56 | PBW-302022                   | Mg (279.078 nm)    | 0.0021 (ppm)    | 27.29    | 0.0021 (ppm)    | -2.8644    |
| 11/2/2017 00:08:56 | PBW-302022                   | Mn (257.610 nm)    | 0.0077 (ppm)    | 36.71    | 0.0077 (ppm)    | 2528.4534  |
| 11/2/2017 00:08:56 | PBW-302022                   | Mo (202.032 nm)    | 0.0001 u (ppm)  | > 100.00 | 0.0001 (ppm)    | 17.8344    |
| 11/2/2017 00:08:56 | PBW-302022                   | Na (588.995 nm)    | 0.0133 (ppm)    | 12.70    | 0.0133 (ppm)    | -5368.0255 |
| 11/2/2017 00:08:56 | PBW-302022                   | Ni (230.299 nm)    | 0.0017 (ppm)    | 36.48    | 0.0017 (ppm)    | -14.5069   |
| 11/2/2017 00:08:56 | PBW-302022                   | Pb (220.353 nm)    | -0.0003 u (ppm) | > 100.00 | -0.0003 (ppm)   | 4.9124     |
| 11/2/2017 00:08:56 | PBW-302022                   | Sb (217.582 nm)    | -0.0017 u (ppm) | 64.35    | -0.0017 (ppm)   | 1.7492     |
| 11/2/2017 00:08:56 | PBW-302022                   | Se (196.026 nm)    | -0.0002 u (ppm) | > 100.00 | -0.0002 (ppm)   | 5.3454     |
| 11/2/2017 00:08:56 | PBW-302022                   | Sn (189.925 nm)    | 0.0006 u (ppm)  | > 100.00 | 0.0006 (ppm)    | 0.6265     |
| 11/2/2017 00:08:56 | PBW-302022                   | Sr (216.596 nm)    | -0.0002 u (ppm) | > 100.00 | -0.0002 (ppm)   | -3.6552    |
| 11/2/2017 00:08:56 | PBW-302022                   | Ti (336.122 nm)    | 0.0005 (ppm)    | 15.44    | 0.0005 (ppm)    | -302.2957  |
| 11/2/2017 00:08:56 | PBW-302022                   | Tl (351.923 nm)    | -0.0009 u (ppm) | > 100.00 | -0.0009 (ppm)   | 12.0236    |
| 11/2/2017 00:08:56 | PBW-302022                   | V (292.401 nm)     | -0.0004 u (ppm) | 21.77    | -0.0004 (ppm)   | 96.6443    |
| 11/2/2017 00:08:56 | PBW-302022                   | Y (360.074 nm)     | 1.05 (Ratio)    | 0.83     | 1.05 (Ratio)    | 982473.40  |
| 11/2/2017 00:08:56 | PBW-302022                   | Y_R (360.074 nm)   | 1.05 (Ratio)    | 0.83     | 1.05 (Ratio)    | 982092.39  |
| 11/2/2017 00:08:56 | PBW-302022                   | Zn (213.857 nm)    | 0.0012 (ppm)    | 6.60     | 0.0012 (ppm)    | 2.7630     |
| 11/2/2017 00:12:14 | LCSW-302022                  | Ag (328.068 nm)    | 0.0492 (ppm)    | 0.33     | 0.0492 (ppm)    | 3490.7266  |
| 11/2/2017 00:12:14 | LCSW-302022                  | Al (394.401 nm)    | 1.8520 (ppm)    | 0.54     | 1.8520 (ppm)    | 24814.3542 |
| 11/2/2017 00:12:14 | LCSW-302022                  | As (188.980 nm)    | 0.0419 (ppm)    | 2.46     | 0.0419 (ppm)    | 35.8522    |
| 11/2/2017 00:12:14 | LCSW-302022                  | B (249.772 nm)     | 0.9522 (ppm)    | 0.29     | 0.9522 (ppm)    | 27378.0842 |
| 11/2/2017 00:12:14 | LCSW-302022                  | Ba (230.424 nm)    | 2.0428 (ppm)    | 0.26     | 2.0428 (ppm)    | 71502.6737 |
| 11/2/2017 00:12:14 | LCSW-302022                  | Be (313.107 nm)    | 0.0498 (ppm)    | 0.29     | 0.0498 (ppm)    | 75001.2945 |
| 11/2/2017 00:12:14 | LCSW-302022                  | Cn (227.547 nm)    | 1.9056 (ppm)    | 1.27     | 1.9056 (ppm)    | 118.0791   |
| 11/2/2017 00:12:14 | LCSW-302022                  | Cd (214.439 nm)    | 0.0498 (ppm)    | 0.41     | 0.0498 (ppm)    | 1145.7148  |
| 11/2/2017 00:12:14 | LCSW-302022                  | Co (230.786 nm)    | 0.5053 (ppm)    | 0.42     | 0.5053 (ppm)    | 5198.9588  |
| 11/2/2017 00:12:14 | LCSW-302022                  | Cr (267.716 nm)    | 0.1949 (ppm)    | 0.30     | 0.1949 (ppm)    | 10166.2521 |
| 11/2/2017 00:12:14 | LCSW-302022                  | Cu (327.395 nm)    | 0.2455 (ppm)    | 0.73     | 0.2455 (ppm)    | 15440.0121 |
| 11/2/2017 00:12:14 | LCSW-302022                  | Fe (234.350 nm)    | 0.9514 (ppm)    | 0.29     | 0.9514 (ppm)    | 11125.4248 |
| 11/2/2017 00:12:14 | LCSW-302022                  | K (766.491 nm)     | 19.4194 (ppm)   | 0.50     | 19.4194 (ppm)   | 60016.0952 |
| 11/2/2017 00:12:14 | LCSW-302022                  | Mg (279.078 nm)    | 1.9608 (ppm)    | 0.38     | 1.9608 (ppm)    | 3949.3507  |

| Date Time          | Label         | Element Label (nm) | Conc             | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|---------------|--------------------|------------------|----------|-----------------|--------------|
| 11/2/2017 00:12:14 | LCSW-302022   | Mn (257.610 nm)    | 0.4931 (ppm)     | 0.26     | 0.4931 (ppm)    | 159579.0278  |
| 11/2/2017 00:12:14 | LCSW-302022   | Mo (202.032 nm)    | 0.4715 (ppm)     | 0.40     | 0.4715 (ppm)    | 5062.0854    |
| 11/2/2017 00:12:14 | LCSW-302022   | Na (588.995 nm)    | 19.8375 (ppm)    | 0.57     | 19.8375 (ppm)   | 904301.4085  |
| 11/2/2017 00:12:14 | LCSW-302022   | Ni (230.299 nm)    | 0.5027 (ppm)     | 0.37     | 0.5027 (ppm)    | 3462.5358    |
| 11/2/2017 00:12:14 | LCSW-302022   | Pb (220.353 nm)    | 0.5048 (ppm)     | 0.19     | 0.5048 (ppm)    | 1132.4741    |
| 11/2/2017 00:12:14 | LCSW-302022   | Sb (217.582 nm)    | 0.4925 (ppm)     | 0.27     | 0.4925 (ppm)    | 706.7240     |
| 11/2/2017 00:12:14 | LCSW-302022   | Se (196.026 nm)    | 1.0225 (ppm)     | 0.53     | 1.0225 (ppm)    | 898.6973     |
| 11/2/2017 00:12:14 | LCSW-302022   | Sn (189.925 nm)    | 4.9577 (ppm)     | 0.58     | 4.9577 (ppm)    | 6317.1441    |
| 11/2/2017 00:12:14 | LCSW-302022   | Sr (216.596 nm)    | 1.9968 (ppm)     | 0.36     | 1.9968 (ppm)    | 29785.8032   |
| 11/2/2017 00:12:14 | LCSW-302022   | Ti (336.122 nm)    | 0.4921 (ppm)     | 0.37     | 0.4921 (ppm)    | 107504.5319  |
| 11/2/2017 00:12:14 | LCSW-302022   | Tl (351.923 nm)    | 1.8745 (ppm)     | 0.54     | 1.8745 (ppm)    | 5336.4615    |
| 11/2/2017 00:12:14 | LCSW-302022   | V (292.401 nm)     | 0.4928 (ppm)     | 0.35     | 0.4928 (ppm)    | 17848.4177   |
| 11/2/2017 00:12:14 | LCSW-302022   | Y (360.074 nm)     | 1.01 (Ratio)     | 0.76     | 1.01 (Ratio)    | 945642.82    |
| 11/2/2017 00:12:14 | LCSW-302022   | Y_R (360.074 nm)   | 1.01 (Ratio)     | 0.76     | 1.01 (Ratio)    | 945473.72    |
| 11/2/2017 00:12:14 | LCSW-302022   | Zn (213.857 nm)    | 0.4959 (ppm)     | 0.42     | 0.4959 (ppm)    | 14376.9935   |
| 11/2/2017 00:15:33 | R1710078-002  | Ag (328.068 nm)    | 0.0003 (ppm)     | 37.61    | 0.0003 (ppm)    | -106.3475    |
| 11/2/2017 00:15:33 | R1710078-002  | Al (394.401 nm)    | 0.0314 (ppm)     | 2.47     | 0.0314 (ppm)    | 502.2706     |
| 11/2/2017 00:15:33 | R1710078-002  | As (188.980 nm)    | 0.0010 u (ppm)   | > 100.00 | 0.0010 (ppm)    | -1.9956      |
| 11/2/2017 00:15:33 | R1710078-002  | B (249.772 nm)     | 0.7294 (ppm)     | 0.38     | 0.7294 (ppm)    | 20993.3281   |
| 11/2/2017 00:15:33 | R1710078-002  | Ba (230.424 nm)    | 0.0086 (ppm)     | 0.48     | 0.0086 (ppm)    | 309.8532     |
| 11/2/2017 00:15:33 | R1710078-002  | Be (313.107 nm)    | 0.0000 (ppm)     | > 100.00 | 0.0000 (ppm)    | -508.7956    |
| 11/2/2017 00:15:33 | R1710078-002  | Ca (227.547 nm)    | 433.9163 o (ppm) | 0.70     | 433.9163 (ppm)  | 25489.0558   |
| 11/2/2017 00:15:33 | R1710078-002  | Cd (214.439 nm)    | -0.0001 u (ppm)  | > 100.00 | -0.0001 (ppm)   | 9.8623       |
| 11/2/2017 00:15:33 | R1710078-002  | Co (230.786 nm)    | 0.0005 (ppm)     | 30.98    | 0.0005 (ppm)    | 4.2068       |
| 11/2/2017 00:15:33 | R1710078-002  | Cr (267.716 nm)    | -0.0001 u (ppm)  | > 100.00 | -0.0001 (ppm)   | -4.2190      |
| 11/2/2017 00:15:33 | R1710078-002  | Cu (327.395 nm)    | 0.0002 (ppm)     | 27.30    | 0.0002 (ppm)    | 35.0327      |
| 11/2/2017 00:15:33 | R1710078-002  | Fe (234.350 nm)    | 0.3643 (ppm)     | 0.36     | 0.3643 (ppm)    | 4304.5766    |
| 11/2/2017 00:15:33 | R1710078-002  | K (766.491 nm)     | 7.7859 (ppm)     | 1.08     | 7.7859 (ppm)    | 24097.0441   |
| 11/2/2017 00:15:33 | R1710078-002  | Mg (279.078 nm)    | 102.5903 o (ppm) | 0.35     | 102.5903 (ppm)  | 206997.9278  |
| 11/2/2017 00:15:33 | R1710078-002  | Mn (257.610 nm)    | 0.0193 (ppm)     | 8.39     | 0.0193 (ppm)    | 6286.3771    |
| 11/2/2017 00:15:33 | R1710078-002  | Mo (202.032 nm)    | 0.0043 (ppm)     | 2.30     | 0.0043 (ppm)    | 63.1062      |
| 11/2/2017 00:15:33 | R1710078-002  | Na (588.995 nm)    | 166.6008 o (ppm) | 0.95     | 166.6008 (ppm)  | 7638796.8526 |
| 11/2/2017 00:15:33 | R1710078-002  | Ni (230.299 nm)    | -0.0030 u (ppm)  | 33.08    | -0.0030 (ppm)   | -47.0108     |
| 11/2/2017 00:15:33 | R1710078-002  | Pb (220.353 nm)    | -0.0029 u (ppm)  | 73.50    | -0.0029 (ppm)   | -0.7711      |
| 11/2/2017 00:15:33 | R1710078-002  | Sb (217.582 nm)    | -0.0041 u (ppm)  | 26.86    | -0.0041 (ppm)   | -1.6655      |
| 11/2/2017 00:15:33 | R1710078-002  | Se (196.026 nm)    | -0.0019 u (ppm)  | > 100.00 | -0.0019 (ppm)   | 3.8386       |
| 11/2/2017 00:15:33 | R1710078-002  | Sn (189.925 nm)    | -0.0021 u (ppm)  | 85.76    | -0.0021 (ppm)   | -2.8529      |
| 11/2/2017 00:15:33 | R1710078-002  | Sr (216.596 nm)    | 15.0129 o (ppm)  | 2.03     | 15.0129 (ppm)   | 223951.2331  |
| 11/2/2017 00:15:33 | R1710078-002  | Ti (336.122 nm)    | 0.0029 (ppm)     | 2.95     | 0.0029 (ppm)    | 222.0117     |
| 11/2/2017 00:15:33 | R1710078-002  | Tl (351.923 nm)    | 0.0101 (ppm)     | 31.55    | 0.0101 (ppm)    | 43.3710      |
| 11/2/2017 00:15:33 | R1710078-002  | V (292.401 nm)     | 0.0001 (ppm)     | 32.73    | 0.0001 (ppm)    | 112.5519     |
| 11/2/2017 00:15:33 | R1710078-002  | Y (360.074 nm)     | 0.91 (Ratio)     | 0.75     | 0.91 (Ratio)    | 849433.75    |
| 11/2/2017 00:15:33 | R1710078-002  | Y_R (360.074 nm)   | 0.91 (Ratio)     | 0.75     | 0.91 (Ratio)    | 849440.31    |
| 11/2/2017 00:15:33 | R1710078-002  | Zn (213.857 nm)    | 0.0066 (ppm)     | 1.11     | 0.0066 (ppm)    | 160.5752     |
| 11/2/2017 00:18:52 | R1710078-002S | Ag (328.068 nm)    | 0.0533 (ppm)     | 0.26     | 0.0533 (ppm)    | 3790.8430    |
| 11/2/2017 00:18:52 | R1710078-002S | Al (394.401 nm)    | 2.2490 (ppm)     | 0.44     | 2.2490 (ppm)    | 30114.6144   |
| 11/2/2017 00:18:52 | R1710078-002S | As (188.980 nm)    | 0.0435 (ppm)     | 12.60    | 0.0435 (ppm)    | 37.3989      |
| 11/2/2017 00:18:52 | R1710078-002S | B (249.772 nm)     | 1.7866 (ppm)     | 0.32     | 1.7866 (ppm)    | 51289.6415   |
| 11/2/2017 00:18:52 | R1710078-002S | Ba (230.424 nm)    | 2.0183 (ppm)     | 0.28     | 2.0183 (ppm)    | 70642.4764   |
| 11/2/2017 00:18:52 | R1710078-002S | Be (313.107 nm)    | 0.0494 (ppm)     | 0.32     | 0.0494 (ppm)    | 74385.4908   |
| 11/2/2017 00:18:52 | R1710078-002S | Ca (227.547 nm)    | 449.0610 o (ppm) | 0.56     | 449.0610 (ppm)  | 26378.4692   |



| Date Time          | Label          | Element Label (nm) | Conc           | %RSD  | Unadjusted Conc | Intensity    |
|--------------------|----------------|--------------------|----------------|-------|-----------------|--------------|
| 11/2/2017 00:18:52 | R1710078-002S  | Cd (214.439 nm)    | 0.0470 (ppm)   | 0.53  | 0.0470 (ppm)    | 1082.2385    |
| 11/2/2017 00:18:52 | R1710078-002S  | Co (230.786 nm)    | 0.4890 (ppm)   | 0.45  | 0.4890 (ppm)    | 5031.1808    |
| 11/2/2017 00:18:52 | R1710078-002S  | Cr (267.716 nm)    | 0.1922 (ppm)   | 0.35  | 0.1922 (ppm)    | 10023.5312   |
| 11/2/2017 00:18:52 | R1710078-002S  | Cu (327.395 nm)    | 0.2674 (ppm)   | 0.54  | 0.2674 (ppm)    | 16814.5015   |
| 11/2/2017 00:18:52 | R1710078-002S  | Fe (234.350 nm)    | 1.3237 (ppm)   | 0.38  | 1.3237 (ppm)    | 15449.7773   |
| 11/2/2017 00:18:52 | R1710078-002S  | K (766.491 nm)     | 31.9937 (ppm)  | 0.50  | 31.9937 (ppm)   | 98840.0538   |
| 11/2/2017 00:18:52 | R1710078-002S  | Mg (279.078 nm)    | 106.9765 (ppm) | 0.39  | 106.9765 (ppm)  | 215848.2739  |
| 11/2/2017 00:18:52 | R1710078-002S  | Mn (257.610 nm)    | 0.5079 (ppm)   | 0.08  | 0.5079 (ppm)    | 164351.7651  |
| 11/2/2017 00:18:52 | R1710078-002S  | Mo (202.032 nm)    | 0.4805 (ppm)   | 0.12  | 0.4805 (ppm)    | 5157.7008    |
| 11/2/2017 00:18:52 | R1710078-002S  | Na (588.995 nm)    | 189.5389 (ppm) | 0.69  | 189.5389 (ppm)  | 8691352.4857 |
| 11/2/2017 00:18:52 | R1710078-002S  | Ni (230.299 nm)    | 0.4826 (ppm)   | 0.34  | 0.4826 (ppm)    | 3322.9610    |
| 11/2/2017 00:18:52 | R1710078-002S  | Pb (220.353 nm)    | 0.4825 (ppm)   | 0.16  | 0.4825 (ppm)    | 1082.7422    |
| 11/2/2017 00:18:52 | R1710078-002S  | Sb (217.582 nm)    | 0.5319 (ppm)   | 0.68  | 0.5319 (ppm)    | 762.9816     |
| 11/2/2017 00:18:52 | R1710078-002S  | Se (196.026 nm)    | 1.1305 (ppm)   | 0.43  | 1.1305 (ppm)    | 993.0811     |
| 11/2/2017 00:18:52 | R1710078-002S  | Sn (189.925 nm)    | 4.9508 (ppm)   | 0.43  | 4.9508 (ppm)    | 6308.3461    |
| 11/2/2017 00:18:52 | R1710078-002S  | Sr (216.596 nm)    | 17.3527 (ppm)  | 0.19  | 17.3527 (ppm)   | 258853.9079  |
| 11/2/2017 00:18:52 | R1710078-002S  | Ti (336.122 nm)    | 0.5055 (ppm)   | 0.40  | 0.5055 (ppm)    | 110439.1494  |
| 11/2/2017 00:18:52 | R1710078-002S  | Tl (351.923 nm)    | 2.1655 (ppm)   | 0.55  | 2.1655 (ppm)    | 6162.4498    |
| 11/2/2017 00:18:52 | R1710078-002S  | V (292.401 nm)     | 0.5064 (ppm)   | 0.39  | 0.5064 (ppm)    | 18337.6775   |
| 11/2/2017 00:18:52 | R1710078-002S  | Y (360.074 nm)     | 0.90 (Ratio)   | 0.76  | 0.90 (Ratio)    | 844709.79    |
| 11/2/2017 00:18:52 | R1710078-002S  | Y_R (360.074 nm)   | 0.90 (Ratio)   | 0.75  | 0.90 (Ratio)    | 844762.18    |
| 11/2/2017 00:18:52 | R1710078-002S  | Zn (213.857 nm)    | 0.5113 (ppm)   | 0.30  | 0.5113 (ppm)    | 14825.0670   |
| 11/2/2017 00:22:11 | R1710078-002SD | Ag (328.068 nm)    | 0.0527 (ppm)   | 0.13  | 0.0527 (ppm)    | 3744.2360    |
| 11/2/2017 00:22:11 | R1710078-002SD | Al (394.401 nm)    | 2.2199 (ppm)   | 0.41  | 2.2199 (ppm)    | 29727.1134   |
| 11/2/2017 00:22:11 | R1710078-002SD | As (188.980 nm)    | 0.0416 (ppm)   | 20.14 | 0.0416 (ppm)    | 35.6067      |
| 11/2/2017 00:22:11 | R1710078-002SD | B (249.772 nm)     | 1.7536 (ppm)   | 0.24  | 1.7536 (ppm)    | 50344.0772   |
| 11/2/2017 00:22:11 | R1710078-002SD | Ba (230.424 nm)    | 2.0037 (ppm)   | 0.61  | 2.0037 (ppm)    | 70134.1186   |
| 11/2/2017 00:22:11 | R1710078-002SD | Be (313.107 nm)    | 0.0489 (ppm)   | 0.32  | 0.0489 (ppm)    | 73862.5874   |
| 11/2/2017 00:22:11 | R1710078-002SD | Ca (227.547 nm)    | 434.3836 (ppm) | 0.52  | 434.3836 (ppm)  | 25516.4975   |
| 11/2/2017 00:22:11 | R1710078-002SD | Cd (214.439 nm)    | 0.0468 (ppm)   | 0.87  | 0.0468 (ppm)    | 1077.5650    |
| 11/2/2017 00:22:11 | R1710078-002SD | Co (230.786 nm)    | 0.4841 (ppm)   | 0.24  | 0.4841 (ppm)    | 4980.6925    |
| 11/2/2017 00:22:11 | R1710078-002SD | Cr (267.716 nm)    | 0.1903 (ppm)   | 0.48  | 0.1903 (ppm)    | 9926.5630    |
| 11/2/2017 00:22:11 | R1710078-002SD | Cu (327.395 nm)    | 0.2641 (ppm)   | 0.49  | 0.2641 (ppm)    | 16610.0048   |
| 11/2/2017 00:22:11 | R1710078-002SD | Fe (234.350 nm)    | 1.2997 (ppm)   | 0.46  | 1.2997 (ppm)    | 15171.2184   |
| 11/2/2017 00:22:11 | R1710078-002SD | K (766.491 nm)     | 31.4742 (ppm)  | 0.51  | 31.4742 (ppm)   | 97236.2624   |
| 11/2/2017 00:22:11 | R1710078-002SD | Mg (279.078 nm)    | 103.7134 (ppm) | 0.47  | 103.7134 (ppm)  | 209263.9641  |
| 11/2/2017 00:22:11 | R1710078-002SD | Mn (257.610 nm)    | 0.5019 (ppm)   | 0.26  | 0.5019 (ppm)    | 162404.1729  |
| 11/2/2017 00:22:11 | R1710078-002SD | Mo (202.032 nm)    | 0.4763 (ppm)   | 0.37  | 0.4763 (ppm)    | 5113.4022    |
| 11/2/2017 00:22:11 | R1710078-002SD | Na (588.995 nm)    | 184.1094 (ppm) | 0.62  | 184.1094 (ppm)  | 8442210.8174 |
| 11/2/2017 00:22:11 | R1710078-002SD | Ni (230.299 nm)    | 0.4774 (ppm)   | 0.28  | 0.4774 (ppm)    | 3286.7996    |
| 11/2/2017 00:22:11 | R1710078-002SD | Pb (220.353 nm)    | 0.4789 (ppm)   | 0.72  | 0.4789 (ppm)    | 1074.7262    |
| 11/2/2017 00:22:11 | R1710078-002SD | Sb (217.582 nm)    | 0.5239 (ppm)   | 0.98  | 0.5239 (ppm)    | 751.5767     |
| 11/2/2017 00:22:11 | R1710078-002SD | Se (196.026 nm)    | 1.1220 (ppm)   | 0.72  | 1.1220 (ppm)    | 985.6287     |
| 11/2/2017 00:22:11 | R1710078-002SD | Sn (189.925 nm)    | 4.9039 (ppm)   | 0.28  | 4.9039 (ppm)    | 6248.5321    |
| 11/2/2017 00:22:11 | R1710078-002SD | Sr (216.596 nm)    | 16.7784 (ppm)  | 1.27  | 16.7784 (ppm)   | 250286.8402  |
| 11/2/2017 00:22:11 | R1710078-002SD | Ti (336.122 nm)    | 0.5001 (ppm)   | 0.44  | 0.5001 (ppm)    | 109251.2907  |
| 11/2/2017 00:22:11 | R1710078-002SD | Tl (351.923 nm)    | 2.1384 (ppm)   | 0.46  | 2.1384 (ppm)    | 6085.5368    |
| 11/2/2017 00:22:11 | R1710078-002SD | V (292.401 nm)     | 0.5017 (ppm)   | 0.35  | 0.5017 (ppm)    | 18168.1392   |
| 11/2/2017 00:22:11 | R1710078-002SD | Y (360.074 nm)     | 0.90 (Ratio)   | 0.66  | 0.90 (Ratio)    | 845956.52    |
| 11/2/2017 00:22:11 | R1710078-002SD | Y_R (360.074 nm)   | 0.90 (Ratio)   | 0.65  | 0.90 (Ratio)    | 846013.31    |
| 11/2/2017 00:22:11 | R1710078-002SD | Zn (213.857 nm)    | 0.5053 (ppm)   | 0.68  | 0.5053 (ppm)    | 14651.0630   |

| Date Time          | Label         | Element Label (nm) | Conc             | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|---------------|--------------------|------------------|----------|-----------------|--------------|
| 11/2/2017 00:25:29 | R1710078-002A | Ag (328.068 nm)    | 0.0501 (ppm)     | 0.47     | 0.0501 (ppm)    | 3554.5919    |
| 11/2/2017 00:25:29 | R1710078-002A | Al (394.401 nm)    | 2.1496 (ppm)     | 0.52     | 2.1496 (ppm)    | 28787.6721   |
| 11/2/2017 00:25:29 | R1710078-002A | As (188.980 nm)    | 0.0418 (ppm)     | 4.08     | 0.0418 (ppm)    | 35.8143      |
| 11/2/2017 00:25:29 | R1710078-002A | B (249.772 nm)     | 1.8865 (ppm)     | 0.21     | 1.8865 (ppm)    | 54151.9873   |
| 11/2/2017 00:25:29 | R1710078-002A | Ba (230.424 nm)    | 1.9083 (ppm)     | 0.34     | 1.9083 (ppm)    | 66794.9758   |
| 11/2/2017 00:25:29 | R1710078-002A | Be (313.107 nm)    | 0.0468 (ppm)     | 0.34     | 0.0468 (ppm)    | 70438.3117   |
| 11/2/2017 00:25:29 | R1710078-002A | Ca (227.547 nm)    | 426.1743 o (ppm) | 0.48     | 426.1743 (ppm)  | 25034.3870   |
| 11/2/2017 00:25:29 | R1710078-002A | Cd (214.439 nm)    | 0.0446 (ppm)     | 0.19     | 0.0446 (ppm)    | 1026.3354    |
| 11/2/2017 00:25:29 | R1710078-002A | Co (230.786 nm)    | 0.4630 (ppm)     | 0.19     | 0.4630 (ppm)    | 4763.4648    |
| 11/2/2017 00:25:29 | R1710078-002A | Cr (267.716 nm)    | 0.1818 (ppm)     | 0.33     | 0.1818 (ppm)    | 9481.0657    |
| 11/2/2017 00:25:29 | R1710078-002A | Cu (327.395 nm)    | 0.2542 (ppm)     | 0.41     | 0.2542 (ppm)    | 15988.6454   |
| 11/2/2017 00:25:29 | R1710078-002A | Fe (234.350 nm)    | 1.2504 (ppm)     | 0.36     | 1.2504 (ppm)    | 14598.3709   |
| 11/2/2017 00:25:29 | R1710078-002A | K (766.491 nm)     | 30.2609 (ppm)    | 0.60     | 30.2609 (ppm)   | 93490.0815   |
| 11/2/2017 00:25:29 | R1710078-002A | Mg (279.078 nm)    | 101.6186 o (ppm) | 0.32     | 101.6186 (ppm)  | 205037.1027  |
| 11/2/2017 00:25:29 | R1710078-002A | Mn (257.610 nm)    | 0.5018 (ppm)     | 1.41     | 0.5018 (ppm)    | 162387.0108  |
| 11/2/2017 00:25:29 | R1710078-002A | Mo (202.032 nm)    | 0.4587 (ppm)     | 0.20     | 0.4587 (ppm)    | 4924.8702    |
| 11/2/2017 00:25:29 | R1710078-002A | Na (588.995 nm)    | 180.5639 o (ppm) | 0.68     | 180.5639 (ppm)  | 8279520.5782 |
| 11/2/2017 00:25:29 | R1710078-002A | Ni (230.299 nm)    | 0.4565 (ppm)     | 0.15     | 0.4565 (ppm)    | 3141.6567    |
| 11/2/2017 00:25:29 | R1710078-002A | Pb (220.353 nm)    | 0.4591 (ppm)     | 0.80     | 0.4591 (ppm)    | 1030.4587    |
| 11/2/2017 00:25:29 | R1710078-002A | Sb (217.582 nm)    | 0.5081 (ppm)     | 0.56     | 0.5081 (ppm)    | 729.0181     |
| 11/2/2017 00:25:29 | R1710078-002A | Se (196.026 nm)    | 1.1455 o (ppm)   | 1.13     | 1.1455 (ppm)    | 1006.2002    |
| 11/2/2017 00:25:29 | R1710078-002A | Sn (189.925 nm)    | 4.6852 (ppm)     | 0.49     | 4.6852 (ppm)    | 5969.8846    |
| 11/2/2017 00:25:29 | R1710078-002A | Sr (216.596 nm)    | 16.5297 o (ppm)  | 0.32     | 16.5297 (ppm)   | 246577.1127  |
| 11/2/2017 00:25:29 | R1710078-002A | Ti (336.122 nm)    | 0.4815 (ppm)     | 0.45     | 0.4815 (ppm)    | 105181.8977  |
| 11/2/2017 00:25:29 | R1710078-002A | Tl (351.923 nm)    | 2.0359 (ppm)     | 0.60     | 2.0359 (ppm)    | 5794.6986    |
| 11/2/2017 00:25:29 | R1710078-002A | V (292.401 nm)     | 0.4790 (ppm)     | 0.30     | 0.4790 (ppm)    | 17353.4409   |
| 11/2/2017 00:25:29 | R1710078-002A | Y (360.074 nm)     | 0.90 (Ratio)     | 0.67     | 0.90 (Ratio)    | 846683.48    |
| 11/2/2017 00:25:29 | R1710078-002A | Y_R (360.074 nm)   | 0.90 (Ratio)     | 0.67     | 0.90 (Ratio)    | 846695.09    |
| 11/2/2017 00:25:29 | R1710078-002A | Zn (213.857 nm)    | 0.4847 (ppm)     | 0.41     | 0.4847 (ppm)    | 14050.7955   |
| 11/2/2017 00:28:49 | R1710078-002L | Ag (328.068 nm)    | 0.0002 (ppm)     | 58.98    | 0.0002 (ppm)    | -112.1065    |
| 11/2/2017 00:28:49 | R1710078-002L | Al (394.401 nm)    | 0.0180 (ppm)     | 3.42     | 0.0180 (ppm)    | 323.4141     |
| 11/2/2017 00:28:49 | R1710078-002L | As (188.980 nm)    | 0.0025 u (ppm)   | > 100.00 | 0.0025 (ppm)    | -0.5748      |
| 11/2/2017 00:28:49 | R1710078-002L | B (249.772 nm)     | 0.1377 (ppm)     | 0.69     | 0.1377 (ppm)    | 4036.9066    |
| 11/2/2017 00:28:49 | R1710078-002L | Ba (230.424 nm)    | 0.0018 (ppm)     | 2.81     | 0.0018 (ppm)    | 72.4584      |
| 11/2/2017 00:28:49 | R1710078-002L | Be (313.107 nm)    | 0.0000 (ppm)     | > 100.00 | 0.0000 (ppm)    | -501.0482    |
| 11/2/2017 00:28:49 | R1710078-002L | Ca (227.547 nm)    | 79.3510 o (ppm)  | 0.13     | 79.3510 (ppm)   | 4666.2699    |
| 11/2/2017 00:28:49 | R1710078-002L | Cd (214.439 nm)    | 0.0000 u (ppm)   | > 100.00 | 0.0000 (ppm)    | 11.7640      |
| 11/2/2017 00:28:49 | R1710078-002L | Co (230.786 nm)    | -0.0002 u (ppm)  | > 100.00 | -0.0002 (ppm)   | -3.1152      |
| 11/2/2017 00:28:49 | R1710078-002L | Cr (267.716 nm)    | -0.0003 u (ppm)  | 47.40    | -0.0003 (ppm)   | -13.6973     |
| 11/2/2017 00:28:49 | R1710078-002L | Cu (327.395 nm)    | 0.0001 (ppm)     | 80.64    | 0.0001 (ppm)    | 25.1188      |
| 11/2/2017 00:28:49 | R1710078-002L | Fe (234.350 nm)    | 0.0723 (ppm)     | 0.21     | 0.0723 (ppm)    | 912.7751     |
| 11/2/2017 00:28:49 | R1710078-002L | K (766.491 nm)     | 1.3288 (ppm)     | 1.03     | 1.3288 (ppm)    | 4160.1625    |
| 11/2/2017 00:28:49 | R1710078-002L | Mg (279.078 nm)    | 19.8717 (ppm)    | 0.27     | 19.8717 (ppm)   | 40089.8051   |
| 11/2/2017 00:28:49 | R1710078-002L | Mn (257.610 nm)    | 0.0054 (ppm)     | 13.33    | 0.0054 (ppm)    | 1787.9575    |
| 11/2/2017 00:28:49 | R1710078-002L | Mo (202.032 nm)    | 0.0010 (ppm)     | 13.87    | 0.0010 (ppm)    | 27.7384      |
| 11/2/2017 00:28:49 | R1710078-002L | Na (588.995 nm)    | 32.7539 (ppm)    | 0.52     | 32.7539 (ppm)   | 1496992.9244 |
| 11/2/2017 00:28:49 | R1710078-002L | Ni (230.299 nm)    | -0.0009 u (ppm)  | 74.03    | -0.0009 (ppm)   | -32.2781     |
| 11/2/2017 00:28:49 | R1710078-002L | Pb (220.353 nm)    | -0.0016 u (ppm)  | 82.19    | -0.0016 (ppm)   | 2.0315       |
| 11/2/2017 00:28:49 | R1710078-002L | Sb (217.582 nm)    | -0.0013 u (ppm)  | 43.36    | -0.0013 (ppm)   | 2.3400       |
| 11/2/2017 00:28:49 | R1710078-002L | Se (196.026 nm)    | 0.0035 u (ppm)   | > 100.00 | 0.0035 (ppm)    | 8.5760       |
| 11/2/2017 00:28:49 | R1710078-002L | Sn (189.925 nm)    | -0.0016 u (ppm)  | 99.45    | -0.0016 (ppm)   | -2.1542      |

| Date Time          | Label         | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity   |
|--------------------|---------------|--------------------|-----------------|----------|-----------------|-------------|
| 11/2/2017 00:28:49 | R1710078-002L | Sr (216.596 nm)    | 3.1396 (ppm)    | 0.50     | 3.1396 (ppm)    | 46833.3578  |
| 11/2/2017 00:28:49 | R1710078-002L | Ti (336.122 nm)    | 0.0006 (ppm)    | 6.39     | 0.0006 (ppm)    | -283.1179   |
| 11/2/2017 00:28:49 | R1710078-002L | Ti (351.923 nm)    | 0.0028 u (ppm)  | > 100.00 | 0.0028 (ppm)    | 22.5014     |
| 11/2/2017 00:28:49 | R1710078-002L | V (292.401 nm)     | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | 108.4827    |
| 11/2/2017 00:28:49 | R1710078-002L | Y (360.074 nm)     | 0.98 (Ratio)    | 0.76     | 0.98 (Ratio)    | 919694.92   |
| 11/2/2017 00:28:49 | R1710078-002L | Y_R (360.074 nm)   | 0.98 (Ratio)    | 0.76     | 0.98 (Ratio)    | 919545.89   |
| 11/2/2017 00:28:49 | R1710078-002L | Zn (213.857 nm)    | 0.0069 (ppm)    | 3.37     | 0.0069 (ppm)    | 168.4260    |
| 11/2/2017 00:32:08 | R1710078-003  | Ag (328.068 nm)    | 0.0002 (ppm)    | 38.96    | 0.0002 (ppm)    | -109.5920   |
| 11/2/2017 00:32:08 | R1710078-003  | Al (394.401 nm)    | 0.0850 (ppm)    | 0.22     | 0.0850 (ppm)    | 1218.8096   |
| 11/2/2017 00:32:08 | R1710078-003  | As (188.980 nm)    | 0.0110 (ppm)    | 12.63    | 0.0110 (ppm)    | 7.2959      |
| 11/2/2017 00:32:08 | R1710078-003  | B (249.772 nm)     | 0.1013 (ppm)    | 0.50     | 0.1013 (ppm)    | 2993.1135   |
| 11/2/2017 00:32:08 | R1710078-003  | Ba (230.424 nm)    | 0.1136 (ppm)    | 0.44     | 0.1136 (ppm)    | 3983.7541   |
| 11/2/2017 00:32:08 | R1710078-003  | Be (313.107 nm)    | 0.0000 (ppm)    | 34.63    | 0.0000 (ppm)    | -521.9297   |
| 11/2/2017 00:32:08 | R1710078-003  | Ca (227.547 nm)    | 42.5028 (ppm)   | 0.51     | 42.5028 (ppm)   | 2502.2608   |
| 11/2/2017 00:32:08 | R1710078-003  | Cd (214.439 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | 11.1042     |
| 11/2/2017 00:32:08 | R1710078-003  | Co (230.786 nm)    | -0.0004 u (ppm) | 94.75    | -0.0004 (ppm)   | -4.9734     |
| 11/2/2017 00:32:08 | R1710078-003  | Cr (267.716 nm)    | -0.0001 u (ppm) | 23.60    | -0.0001 (ppm)   | -7.8460     |
| 11/2/2017 00:32:08 | R1710078-003  | Cu (327.395 nm)    | 0.0011 (ppm)    | 7.95     | 0.0011 (ppm)    | 87.5280     |
| 11/2/2017 00:32:08 | R1710078-003  | Fe (234.350 nm)    | 0.2936 (ppm)    | 0.22     | 0.2936 (ppm)    | 3483.5340   |
| 11/2/2017 00:32:08 | R1710078-003  | K (766.491 nm)     | 2.7285 (ppm)    | 0.75     | 2.7285 (ppm)    | 8481.7938   |
| 11/2/2017 00:32:08 | R1710078-003  | Mg (279.078 nm)    | 51.4090 (ppm)   | 0.32     | 51.4090 (ppm)   | 103725.1373 |
| 11/2/2017 00:32:08 | R1710078-003  | Mn (257.610 nm)    | 0.0131 (ppm)    | 16.46    | 0.0131 (ppm)    | 4273.1496   |
| 11/2/2017 00:32:08 | R1710078-003  | Mo (202.032 nm)    | 0.0061 (ppm)    | 0.97     | 0.0061 (ppm)    | 82.1104     |
| 11/2/2017 00:32:08 | R1710078-003  | Na (588.995 nm)    | 19.3875 (ppm)   | 0.69     | 19.3875 (ppm)   | 883652.8142 |
| 11/2/2017 00:32:08 | R1710078-003  | Ni (230.299 nm)    | -0.0072 u (ppm) | 1.25     | -0.0072 (ppm)   | -75.7853    |
| 11/2/2017 00:32:08 | R1710078-003  | Pb (220.353 nm)    | -0.0029 u (ppm) | 44.37    | -0.0029 (ppm)   | -0.8619     |
| 11/2/2017 00:32:08 | R1710078-003  | Sb (217.582 nm)    | -0.0028 u (ppm) | 81.99    | -0.0028 (ppm)   | 0.1037      |
| 11/2/2017 00:32:08 | R1710078-003  | Se (196.026 nm)    | -0.0005 u (ppm) | > 100.00 | -0.0005 (ppm)   | 5.0720      |
| 11/2/2017 00:32:08 | R1710078-003  | Sn (189.925 nm)    | -0.0021 u (ppm) | 61.31    | -0.0021 (ppm)   | -2.8820     |
| 11/2/2017 00:32:08 | R1710078-003  | Sr (216.596 nm)    | 21.5210 u (ppm) | 0.29     | 21.5210 (ppm)   | 321033.4416 |
| 11/2/2017 00:32:08 | R1710078-003  | Ti (336.122 nm)    | 0.0018 (ppm)    | 5.82     | 0.0018 (ppm)    | -15.5423    |
| 11/2/2017 00:32:08 | R1710078-003  | Ti (351.923 nm)    | -0.0016 u (ppm) | > 100.00 | -0.0016 (ppm)   | 10.1807     |
| 11/2/2017 00:32:08 | R1710078-003  | V (292.401 nm)     | 0.0002 (ppm)    | 65.29    | 0.0002 (ppm)    | 116.7666    |
| 11/2/2017 00:32:08 | R1710078-003  | Y (360.074 nm)     | 0.99 (Ratio)    | 0.65     | 0.99 (Ratio)    | 922541.29   |
| 11/2/2017 00:32:08 | R1710078-003  | Y_R (360.074 nm)   | 0.99 (Ratio)    | 0.65     | 0.99 (Ratio)    | 922416.31   |
| 11/2/2017 00:32:08 | R1710078-003  | Zn (213.857 nm)    | 0.0059 (ppm)    | 0.48     | 0.0059 (ppm)    | 140.3533    |
| 11/2/2017 00:35:28 | R1710078-004  | Ag (328.068 nm)    | 0.0002 (ppm)    | 16.36    | 0.0002 (ppm)    | -114.3872   |
| 11/2/2017 00:35:28 | R1710078-004  | Al (394.401 nm)    | 0.0911 (ppm)    | 0.24     | 0.0911 (ppm)    | 1299.7470   |
| 11/2/2017 00:35:28 | R1710078-004  | As (188.980 nm)    | 0.0135 (ppm)    | 16.38    | 0.0135 (ppm)    | 9.6119      |
| 11/2/2017 00:35:28 | R1710078-004  | B (249.772 nm)     | 0.0999 (ppm)    | 0.08     | 0.0999 (ppm)    | 2953.7350   |
| 11/2/2017 00:35:28 | R1710078-004  | Ba (230.424 nm)    | 0.1118 (ppm)    | 0.43     | 0.1118 (ppm)    | 3921.0784   |
| 11/2/2017 00:35:28 | R1710078-004  | Be (313.107 nm)    | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | -520.8599   |
| 11/2/2017 00:35:28 | R1710078-004  | Ca (227.547 nm)    | 42.3411 (ppm)   | 0.65     | 42.3411 (ppm)   | 2492.7604   |
| 11/2/2017 00:35:28 | R1710078-004  | Cd (214.439 nm)    | -0.0002 u (ppm) | 28.51    | -0.0002 (ppm)   | 7.1719      |
| 11/2/2017 00:35:28 | R1710078-004  | Co (230.786 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | -1.9555     |
| 11/2/2017 00:35:28 | R1710078-004  | Cr (267.716 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | -1.8237     |
| 11/2/2017 00:35:28 | R1710078-004  | Cu (327.395 nm)    | 0.0010 (ppm)    | 3.91     | 0.0010 (ppm)    | 85.0822     |
| 11/2/2017 00:35:28 | R1710078-004  | Fe (234.350 nm)    | 0.2773 (ppm)    | 0.47     | 0.2773 (ppm)    | 3293.7823   |
| 11/2/2017 00:35:28 | R1710078-004  | K (766.491 nm)     | 2.6967 (ppm)    | 0.56     | 2.6967 (ppm)    | 8383.8567   |
| 11/2/2017 00:35:28 | R1710078-004  | Mg (279.078 nm)    | 50.9529 (ppm)   | 0.31     | 50.9529 (ppm)   | 102804.8988 |
| 11/2/2017 00:35:28 | R1710078-004  | Mn (257.610 nm)    | 0.0129 (ppm)    | 16.21    | 0.0129 (ppm)    | 4190.9225   |

| Date Time          | Label                               | Element Label (nm) | Conc             | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|-------------------------------------|--------------------|------------------|----------|-----------------|--------------|
| 11/2/2017 00:35:28 | R1710078-004                        | Mo (202.032 nm)    | 0.0060 (ppm)     | 2.46     | 0.0060 (ppm)    | 81.5117      |
| 11/2/2017 00:35:28 | R1710078-004                        | Na (588.995 nm)    | 19.3381 (ppm)    | 0.65     | 19.3381 (ppm)   | 881386.8999  |
| 11/2/2017 00:35:28 | R1710078-004                        | Ni (230.299 nm)    | -0.0073 u (ppm)  | 4.48     | -0.0073 (ppm)   | -76.8558     |
| 11/2/2017 00:35:28 | R1710078-004                        | Pb (220.353 nm)    | -0.0018 u (ppm)  | 57.91    | -0.0018 (ppm)   | 1.6797       |
| 11/2/2017 00:35:28 | R1710078-004                        | Sb (217.582 nm)    | -0.0030 u (ppm)  | 21.12    | -0.0030 (ppm)   | -0.2105      |
| 11/2/2017 00:35:28 | R1710078-004                        | Se (196.026 nm)    | -0.0014 u (ppm)  | > 100.00 | -0.0014 (ppm)   | 4.2876       |
| 11/2/2017 00:35:28 | R1710078-004                        | Sn (189.925 nm)    | -0.0021 u (ppm)  | 54.70    | -0.0021 (ppm)   | -2.8868      |
| 11/2/2017 00:35:28 | R1710078-004                        | Sr (216.596 nm)    | 20.9291 o (ppm)  | 1.54     | 20.9291 (ppm)   | 312205.1050  |
| 11/2/2017 00:35:28 | R1710078-004                        | Ti (336.122 nm)    | 0.0019 (ppm)     | 3.10     | 0.0019 (ppm)    | -10.0386     |
| 11/2/2017 00:35:28 | R1710078-004                        | Tl (351.923 nm)    | -0.0007 u (ppm)  | > 100.00 | -0.0007 (ppm)   | 12.7666      |
| 11/2/2017 00:35:28 | R1710078-004                        | V (292.401 nm)     | 0.0002 (ppm)     | 65.36    | 0.0002 (ppm)    | 118.9454     |
| 11/2/2017 00:35:28 | R1710078-004                        | Y (360.074 nm)     | 0.98 (Ratio)     | 0.70     | 0.98 (Ratio)    | 920016.68    |
| 11/2/2017 00:35:28 | R1710078-004                        | Y_R (360.074 nm)   | 0.98 (Ratio)     | 0.70     | 0.98 (Ratio)    | 919806.00    |
| 11/2/2017 00:35:28 | R1710078-004                        | Zn (213.857 nm)    | 0.0044 (ppm)     | 1.81     | 0.0044 (ppm)    | 96.2499      |
| 11/2/2017 00:38:47 | R1710078-005                        | Ag (328.068 nm)    | 0.0003 (ppm)     | 26.39    | 0.0003 (ppm)    | -103.8682    |
| 11/2/2017 00:38:47 | R1710078-005                        | Al (394.401 nm)    | 0.0371 (ppm)     | 1.21     | 0.0371 (ppm)    | 579.2404     |
| 11/2/2017 00:38:47 | R1710078-005                        | As (188.980 nm)    | 0.0020 (ppm)     | 99.55    | 0.0020 (ppm)    | -1.0184      |
| 11/2/2017 00:38:47 | R1710078-005                        | B (249.772 nm)     | 0.4791 (ppm)     | 0.35     | 0.4791 (ppm)    | 13820.7072   |
| 11/2/2017 00:38:47 | R1710078-005                        | Ba (230.424 nm)    | 0.0207 (ppm)     | 0.58     | 0.0207 (ppm)    | 734.0573     |
| 11/2/2017 00:38:47 | R1710078-005                        | Be (313.107 nm)    | 0.0000 (ppm)     | 57.37    | 0.0000 (ppm)    | -526.5091    |
| 11/2/2017 00:38:47 | R1710078-005                        | Ca (227.547 nm)    | 325.1913 o (ppm) | 0.44     | 325.1913 (ppm)  | 19103.8887   |
| 11/2/2017 00:38:47 | R1710078-005                        | Cd (214.439 nm)    | 0.0000 u (ppm)   | > 100.00 | 0.0000 (ppm)    | 12.7249      |
| 11/2/2017 00:38:47 | R1710078-005                        | Co (230.786 nm)    | -0.0005 u (ppm)  | 66.50    | -0.0005 (ppm)   | -6.3648      |
| 11/2/2017 00:38:47 | R1710078-005                        | Cr (267.716 nm)    | -0.0001 u (ppm)  | > 100.00 | -0.0001 (ppm)   | -3.7082      |
| 11/2/2017 00:38:47 | R1710078-005                        | Cu (327.395 nm)    | 0.0004 (ppm)     | 49.03    | 0.0004 (ppm)    | 47.8303      |
| 11/2/2017 00:38:47 | R1710078-005                        | Fe (234.350 nm)    | 0.3095 (ppm)     | 0.20     | 0.3095 (ppm)    | 3667.7205    |
| 11/2/2017 00:38:47 | R1710078-005                        | K (766.491 nm)     | 5.4060 (ppm)     | 0.78     | 5.4060 (ppm)    | 16748.8887   |
| 11/2/2017 00:38:47 | R1710078-005                        | Mg (279.078 nm)    | 81.6447 o (ppm)  | 0.24     | 81.6447 (ppm)   | 164734.1663  |
| 11/2/2017 00:38:47 | R1710078-005                        | Mn (257.610 nm)    | 0.0193 (ppm)     | 8.13     | 0.0193 (ppm)    | 6270.3292    |
| 11/2/2017 00:38:47 | R1710078-005                        | Mo (202.032 nm)    | 0.0025 (ppm)     | 5.52     | 0.0025 (ppm)    | 43.7541      |
| 11/2/2017 00:38:47 | R1710078-005                        | Na (588.995 nm)    | 106.5361 o (ppm) | 0.75     | 106.5361 (ppm)  | 4882622.0985 |
| 11/2/2017 00:38:47 | R1710078-005                        | Ni (230.299 nm)    | -0.0042 u (ppm)  | 15.65    | -0.0042 (ppm)   | -54.8503     |
| 11/2/2017 00:38:47 | R1710078-005                        | Pb (220.353 nm)    | -0.0017 u (ppm)  | 49.46    | -0.0017 (ppm)   | 1.9141       |
| 11/2/2017 00:38:47 | R1710078-005                        | Sb (217.582 nm)    | -0.0048 u (ppm)  | 30.03    | -0.0048 (ppm)   | -2.6761      |
| 11/2/2017 00:38:47 | R1710078-005                        | Se (196.026 nm)    | -0.0026 u (ppm)  | > 100.00 | -0.0026 (ppm)   | 3.2456       |
| 11/2/2017 00:38:47 | R1710078-005                        | Sn (189.925 nm)    | -0.0016 u (ppm)  | 76.35    | -0.0016 (ppm)   | -2.1307      |
| 11/2/2017 00:38:47 | R1710078-005                        | Sr (216.596 nm)    | 21.4284 o (ppm)  | 0.85     | 21.4284 (ppm)   | 319652.9540  |
| 11/2/2017 00:38:47 | R1710078-005                        | Ti (336.122 nm)    | 0.0022 (ppm)     | 1.75     | 0.0022 (ppm)    | 60.3442      |
| 11/2/2017 00:38:47 | R1710078-005                        | Tl (351.923 nm)    | 0.0050 (ppm)     | 31.33    | 0.0050 (ppm)    | 28.7064      |
| 11/2/2017 00:38:47 | R1710078-005                        | V (292.401 nm)     | 0.0001 (ppm)     | > 100.00 | 0.0001 (ppm)    | 114.6337     |
| 11/2/2017 00:38:47 | R1710078-005                        | Y (360.074 nm)     | 0.92 (Ratio)     | 0.63     | 0.92 (Ratio)    | 865342.38    |
| 11/2/2017 00:38:47 | R1710078-005                        | Y_R (360.074 nm)   | 0.92 (Ratio)     | 0.62     | 0.92 (Ratio)    | 865340.04    |
| 11/2/2017 00:38:47 | R1710078-005                        | Zn (213.857 nm)    | 0.0025 (ppm)     | 3.42     | 0.0025 (ppm)    | 42.8282      |
| 11/2/2017 00:42:06 | Continuing Calibration Verification | Ag (328.068 nm)    | 0.4813 (ppm)     | 0.43     | 0.4813 (ppm)    | 35227.6260   |
| 11/2/2017 00:42:06 | Continuing Calibration Verification | Al (394.401 nm)    | 9.4451 (ppm)     | 0.49     | 9.4451 (ppm)    | 126207.5295  |
| 11/2/2017 00:42:06 | Continuing Calibration Verification | As (188.980 nm)    | 0.9427 (ppm)     | 1.07     | 0.9427 (ppm)    | 869.6237     |
| 11/2/2017 00:42:06 | Continuing Calibration Verification | B (249.772 nm)     | 2.3644 (ppm)     | 0.37     | 2.3644 (ppm)    | 67846.1391   |
| 11/2/2017 00:42:06 | Continuing Calibration Verification | Ba (230.424 nm)    | 10.0234 (ppm)    | 0.17     | 10.0234 (ppm)   | 35080.14473  |
| 11/2/2017 00:42:06 | Continuing Calibration Verification | Be (313.107 nm)    | 0.2485 (ppm)     | 0.21     | 0.2485 (ppm)    | 376399.2876  |
| 11/2/2017 00:42:06 | Continuing Calibration Verification | Ca (227.547 nm)    | 24.0783 (ppm)    | 0.81     | 24.0783 (ppm)   | 1420.2299    |
| 11/2/2017 00:42:06 | Continuing Calibration Verification | Cd (214.439 nm)    | 0.4816 (ppm)     | 0.16     | 0.4816 (ppm)    | 10964.1342   |

| Date Time          | Label                               | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|-------------------------------------|--------------------|-----------------|----------|-----------------|--------------|
| 11/2/2017 00:42:06 | Continuing Calibration Verification | Co (230.786 nm)    | 2.5188 (ppm)    | 0.36     | 2.5188 (ppm)    | 25922.1675   |
| 11/2/2017 00:42:06 | Continuing Calibration Verification | Cr (267.716 nm)    | 0.4902 (ppm)    | 0.34     | 0.4902 (ppm)    | 25566.5089   |
| 11/2/2017 00:42:06 | Continuing Calibration Verification | Cu (327.395 nm)    | 1.1921 (ppm)    | 0.61     | 1.1921 (ppm)    | 74894.2068   |
| 11/2/2017 00:42:06 | Continuing Calibration Verification | Fe (234.350 nm)    | 4.7184 (ppm)    | 0.29     | 4.7184 (ppm)    | 54886.8541   |
| 11/2/2017 00:42:06 | Continuing Calibration Verification | K (766.491 nm)     | 24.5751 (ppm)   | 0.67     | 24.5751 (ppm)   | 75934.7612   |
| 11/2/2017 00:42:06 | Continuing Calibration Verification | Mg (279.078 nm)    | 24.2713 (ppm)   | 0.33     | 24.2713 (ppm)   | 48967.2564   |
| 11/2/2017 00:42:06 | Continuing Calibration Verification | Mn (257.610 nm)    | 0.7375 (ppm)    | 0.21     | 0.7375 (ppm)    | 238620.8728  |
| 11/2/2017 00:42:06 | Continuing Calibration Verification | Mo (202.032 nm)    | 2.3441 (ppm)    | 0.24     | 2.3441 (ppm)    | 25098.8105   |
| 11/2/2017 00:42:06 | Continuing Calibration Verification | Na (588.995 nm)    | 24.7819 (ppm)   | 0.66     | 24.7819 (ppm)   | 1131184.9017 |
| 11/2/2017 00:42:06 | Continuing Calibration Verification | Ni (230.299 nm)    | 1.9798 (ppm)    | 0.28     | 1.9798 (ppm)    | 13711.8953   |
| 11/2/2017 00:42:06 | Continuing Calibration Verification | Pb (220.353 nm)    | 0.4838 (ppm)    | 0.16     | 0.4838 (ppm)    | 1085.4961    |
| 11/2/2017 00:42:06 | Continuing Calibration Verification | Sb (217.582 nm)    | 4.7920 (ppm)    | 0.51     | 4.7920 (ppm)    | 6840.3514    |
| 11/2/2017 00:42:06 | Continuing Calibration Verification | Se (196.026 nm)    | 0.4721 (ppm)    | 1.11     | 0.4721 (ppm)    | 417.9388     |
| 11/2/2017 00:42:06 | Continuing Calibration Verification | Sn (189.925 nm)    | 4.9044 (ppm)    | 0.22     | 4.9044 (ppm)    | 6249.2423    |
| 11/2/2017 00:42:06 | Continuing Calibration Verification | Sr (216.596 nm)    | 2.4388 (ppm)    | 0.07     | 2.4388 (ppm)    | 36379.6694   |
| 11/2/2017 00:42:06 | Continuing Calibration Verification | Ti (336.122 nm)    | 2.4510 (ppm)    | 0.75     | 2.4510 (ppm)    | 537076.7216  |
| 11/2/2017 00:42:06 | Continuing Calibration Verification | Tl (351.923 nm)    | 0.9755 (ppm)    | 0.66     | 0.9755 (ppm)    | 2784.0288    |
| 11/2/2017 00:42:06 | Continuing Calibration Verification | V (292.401 nm)     | 2.4678 (ppm)    | 0.40     | 2.4678 (ppm)    | 88942.0400   |
| 11/2/2017 00:42:06 | Continuing Calibration Verification | Y (360.074 nm)     | 0.98 (Ratio)    | 0.93     | 0.98 (Ratio)    | 919924.67    |
| 11/2/2017 00:42:06 | Continuing Calibration Verification | Y_R (360.074 nm)   | 0.98 (Ratio)    | 0.93     | 0.98 (Ratio)    | 919745.59    |
| 11/2/2017 00:42:06 | Continuing Calibration Verification | Zn (213.857 nm)    | 0.9732 (ppm)    | 0.29     | 0.9732 (ppm)    | 28244.4634   |
| 11/2/2017 00:45:24 | Continuing Calibration Blank        | Ag (328.068 nm)    | 0.0001 (ppm)    | 40.58    | 0.0001 (ppm)    | -119.0211    |
| 11/2/2017 00:45:24 | Continuing Calibration Blank        | Al (394.401 nm)    | -0.0004 u (ppm) | 64.45    | -0.0004 (ppm)   | 77.6966      |
| 11/2/2017 00:45:24 | Continuing Calibration Blank        | As (188.980 nm)    | 0.0025 (ppm)    | 60.82    | 0.0025 (ppm)    | -0.5694      |
| 11/2/2017 00:45:24 | Continuing Calibration Blank        | B (249.772 nm)     | 0.0012 (ppm)    | 65.17    | 0.0012 (ppm)    | 124.6105     |
| 11/2/2017 00:45:24 | Continuing Calibration Blank        | Ba (230.424 nm)    | 0.0003 (ppm)    | 32.55    | 0.0003 (ppm)    | 17.7276      |
| 11/2/2017 00:45:24 | Continuing Calibration Blank        | Be (313.107 nm)    | 0.0000 (ppm)    | 34.98    | 0.0000 (ppm)    | -476.6550    |
| 11/2/2017 00:45:24 | Continuing Calibration Blank        | Ca (227.547 nm)    | 0.0071 u (ppm)  | > 100.00 | 0.0071 (ppm)    | 6.5893       |
| 11/2/2017 00:45:24 | Continuing Calibration Blank        | Cd (214.439 nm)    | 0.0001 (ppm)    | > 100.00 | 0.0001 (ppm)    | 14.1227      |
| 11/2/2017 00:45:24 | Continuing Calibration Blank        | Co (230.786 nm)    | -0.0002 u (ppm) | 26.94    | -0.0002 (ppm)   | -2.9932      |
| 11/2/2017 00:45:24 | Continuing Calibration Blank        | Cr (267.716 nm)    | 0.0001 u (ppm)  | > 100.00 | 0.0001 (ppm)    | 3.7550       |
| 11/2/2017 00:45:24 | Continuing Calibration Blank        | Cu (327.395 nm)    | 0.0001 (ppm)    | > 100.00 | 0.0001 (ppm)    | 26.3263      |
| 11/2/2017 00:45:24 | Continuing Calibration Blank        | Fe (234.350 nm)    | 0.0040 (ppm)    | 2.65     | 0.0040 (ppm)    | 119.1395     |
| 11/2/2017 00:45:24 | Continuing Calibration Blank        | K (766.491 nm)     | 0.0019 u (ppm)  | > 100.00 | 0.0019 (ppm)    | 63.5041      |
| 11/2/2017 00:45:24 | Continuing Calibration Blank        | Mg (279.078 nm)    | 0.0032 (ppm)    | 61.33    | 0.0032 (ppm)    | -0.5006      |
| 11/2/2017 00:45:24 | Continuing Calibration Blank        | Mn (257.610 nm)    | 0.0019 (ppm)    | 29.22    | 0.0019 (ppm)    | 638.0924     |
| 11/2/2017 00:45:24 | Continuing Calibration Blank        | Mo (202.032 nm)    | 0.0024 (ppm)    | 8.60     | 0.0024 (ppm)    | 42.0083      |
| 11/2/2017 00:45:24 | Continuing Calibration Blank        | Na (588.995 nm)    | 0.0101 (ppm)    | 1.58     | 0.0101 (ppm)    | -5516.9943   |
| 11/2/2017 00:45:24 | Continuing Calibration Blank        | Ni (230.299 nm)    | 0.0008 (ppm)    | 76.08    | 0.0008 (ppm)    | -20.7179     |
| 11/2/2017 00:45:24 | Continuing Calibration Blank        | Pb (220.353 nm)    | -0.0007 u (ppm) | 86.77    | -0.0007 (ppm)   | 4.0770       |
| 11/2/2017 00:45:24 | Continuing Calibration Blank        | Sb (217.582 nm)    | 0.0005 u (ppm)  | > 100.00 | 0.0005 (ppm)    | 4.8935       |
| 11/2/2017 00:45:24 | Continuing Calibration Blank        | Se (196.026 nm)    | 0.0017 (ppm)    | 35.19    | 0.0017 (ppm)    | 7.0399       |
| 11/2/2017 00:45:24 | Continuing Calibration Blank        | Sn (189.925 nm)    | -0.0003 u (ppm) | > 100.00 | -0.0003 (ppm)   | -0.5207      |
| 11/2/2017 00:45:24 | Continuing Calibration Blank        | Sr (216.596 nm)    | 0.0001 u (ppm)  | > 100.00 | 0.0001 (ppm)    | 0.3144       |
| 11/2/2017 00:45:24 | Continuing Calibration Blank        | Ti (336.122 nm)    | 0.0008 (ppm)    | 10.16    | 0.0008 (ppm)    | -241.4299    |
| 11/2/2017 00:45:24 | Continuing Calibration Blank        | Tl (351.923 nm)    | -0.0015 u (ppm) | > 100.00 | -0.0015 (ppm)   | 10.3242      |
| 11/2/2017 00:45:24 | Continuing Calibration Blank        | V (292.401 nm)     | -0.0002 u (ppm) | > 100.00 | -0.0002 (ppm)   | 104.1661     |
| 11/2/2017 00:45:24 | Continuing Calibration Blank        | Y (360.074 nm)     | 1.03 (Ratio)    | 0.87     | 1.03 (Ratio)    | 966672.62    |
| 11/2/2017 00:45:24 | Continuing Calibration Blank        | Y_R (360.074 nm)   | 1.03 (Ratio)    | 0.87     | 1.03 (Ratio)    | 966248.15    |
| 11/2/2017 00:45:24 | Continuing Calibration Blank        | Zn (213.857 nm)    | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | -29.8230     |
| 11/2/2017 00:48:43 | R1710078-006                        | Ag (328.068 nm)    | 0.0002 (ppm)    | 84.41    | 0.0002 (ppm)    | -111.3446    |

| Date Time          | Label        | Element Label (nm) | Conc             | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|--------------|--------------------|------------------|----------|-----------------|--------------|
| 11/2/2017 00:48:43 | R1710078-006 | Al (394.401 nm)    | 0.0338 (ppm)     | 1.98     | 0.0338 (ppm)    | 534.2746     |
| 11/2/2017 00:48:43 | R1710078-006 | As (188.980 nm)    | 0.0031 u (ppm)   | > 100.00 | 0.0031 (ppm)    | 0.0033       |
| 11/2/2017 00:48:43 | R1710078-006 | B (249.772 nm)     | 0.1124 (ppm)     | 0.13     | 0.1124 (ppm)    | 3311.6604    |
| 11/2/2017 00:48:43 | R1710078-006 | Ba (230.424 nm)    | 0.0748 (ppm)     | 0.36     | 0.0748 (ppm)    | 2624.4301    |
| 11/2/2017 00:48:43 | R1710078-006 | Be (313.107 nm)    | 0.0000 (ppm)     | 42.93    | 0.0000 (ppm)    | -523.3364    |
| 11/2/2017 00:48:43 | R1710078-006 | Ca (227.547 nm)    | 93.4245 o (ppm)  | 0.60     | 93.4245 (ppm)   | 5492.7714    |
| 11/2/2017 00:48:43 | R1710078-006 | Cd (214.439 nm)    | -0.0001 u (ppm)  | 24.26    | -0.0001 (ppm)   | 9.4873       |
| 11/2/2017 00:48:43 | R1710078-006 | Co (230.786 nm)    | -0.0003 u (ppm)  | > 100.00 | -0.0003 (ppm)   | -4.5903      |
| 11/2/2017 00:48:43 | R1710078-006 | Cr (267.716 nm)    | -0.0002 u (ppm)  | 55.93    | -0.0002 (ppm)   | -11.7013     |
| 11/2/2017 00:48:43 | R1710078-006 | Cu (327.395 nm)    | 0.0002 (ppm)     | 69.43    | 0.0002 (ppm)    | 33.8711      |
| 11/2/2017 00:48:43 | R1710078-006 | Fe (234.350 nm)    | 0.1979 (ppm)     | 0.33     | 0.1979 (ppm)    | 2372.1618    |
| 11/2/2017 00:48:43 | R1710078-006 | K (766.491 nm)     | 3.7704 (ppm)     | 0.79     | 3.7704 (ppm)    | 11698.9235   |
| 11/2/2017 00:48:43 | R1710078-006 | Mg (279.078 nm)    | 34.4133 (ppm)    | 0.41     | 34.4133 (ppm)   | 69431.6022   |
| 11/2/2017 00:48:43 | R1710078-006 | Mn (257.610 nm)    | 0.0183 (ppm)     | 8.94     | 0.0183 (ppm)    | 5948.8303    |
| 11/2/2017 00:48:43 | R1710078-006 | Mo (202.032 nm)    | 0.0106 (ppm)     | 0.89     | 0.0106 (ppm)    | 130.2806     |
| 11/2/2017 00:48:43 | R1710078-006 | Na (588.995 nm)    | 19.7642 (ppm)    | 0.72     | 19.7642 (ppm)   | 900936.9938  |
| 11/2/2017 00:48:43 | R1710078-006 | Ni (230.299 nm)    | -0.0039 u (ppm)  | 10.47    | -0.0039 (ppm)   | -52.8965     |
| 11/2/2017 00:48:43 | R1710078-006 | Pb (220.353 nm)    | -0.0017 u (ppm)  | 57.94    | -0.0017 (ppm)   | 1.8330       |
| 11/2/2017 00:48:43 | R1710078-006 | Sb (217.582 nm)    | -0.0031 u (ppm)  | 9.65     | -0.0031 (ppm)   | -0.2595      |
| 11/2/2017 00:48:43 | R1710078-006 | Se (196.026 nm)    | -0.0039 u (ppm)  | 79.03    | -0.0039 (ppm)   | 2.0984       |
| 11/2/2017 00:48:43 | R1710078-006 | Sn (189.925 nm)    | -0.0021 u (ppm)  | 15.59    | -0.0021 (ppm)   | -2.7851      |
| 11/2/2017 00:48:43 | R1710078-006 | Sr (216.596 nm)    | 17.7903 o (ppm)  | 1.05     | 17.7903 (ppm)   | 265382.1836  |
| 11/2/2017 00:48:43 | R1710078-006 | Ti (336.122 nm)    | 0.0012 (ppm)     | 1.64     | 0.0012 (ppm)    | -153.9823    |
| 11/2/2017 00:48:43 | R1710078-006 | Tl (351.923 nm)    | -0.0011 u (ppm)  | > 100.00 | -0.0011 (ppm)   | 11.4846      |
| 11/2/2017 00:48:43 | R1710078-006 | V (292.401 nm)     | 0.0000 u (ppm)   | > 100.00 | 0.0000 (ppm)    | 111.0081     |
| 11/2/2017 00:48:43 | R1710078-006 | Y (360.074 nm)     | 0.98 (Ratio)     | 0.66     | 0.98 (Ratio)    | 916862.32    |
| 11/2/2017 00:48:43 | R1710078-006 | Y_R (360.074 nm)   | 0.98 (Ratio)     | 0.67     | 0.98 (Ratio)    | 916667.39    |
| 11/2/2017 00:48:43 | R1710078-006 | Zn (213.857 nm)    | 0.0043 (ppm)     | 2.38     | 0.0043 (ppm)    | 93.4013      |
| 11/2/2017 00:52:01 | R1710078-007 | Ag (328.068 nm)    | 0.0002 (ppm)     | 20.33    | 0.0002 (ppm)    | -110.8784    |
| 11/2/2017 00:52:01 | R1710078-007 | Al (394.401 nm)    | 0.0330 (ppm)     | 1.57     | 0.0330 (ppm)    | 524.3234     |
| 11/2/2017 00:52:01 | R1710078-007 | As (188.980 nm)    | 0.0030 (ppm)     | 44.94    | 0.0030 (ppm)    | -0.1171      |
| 11/2/2017 00:52:01 | R1710078-007 | B (249.772 nm)     | 0.6282 (ppm)     | 0.31     | 0.6282 (ppm)    | 18092.1579   |
| 11/2/2017 00:52:01 | R1710078-007 | Ba (230.424 nm)    | 0.0081 (ppm)     | 1.18     | 0.0081 (ppm)    | 291.6575     |
| 11/2/2017 00:52:01 | R1710078-007 | Be (313.107 nm)    | 0.0000 (ppm)     | 92.34    | 0.0000 (ppm)    | -518.2205    |
| 11/2/2017 00:52:01 | R1710078-007 | Ca (227.547 nm)    | 444.2039 o (ppm) | 0.59     | 444.2039 (ppm)  | 26093.2226   |
| 11/2/2017 00:52:01 | R1710078-007 | Cd (214.439 nm)    | -0.0001 u (ppm)  | 85.26    | -0.0001 (ppm)   | 11.2908      |
| 11/2/2017 00:52:01 | R1710078-007 | Co (230.786 nm)    | -0.0003 u (ppm)  | 45.83    | -0.0003 (ppm)   | -4.4275      |
| 11/2/2017 00:52:01 | R1710078-007 | Cr (267.716 nm)    | -0.0005 u (ppm)  | 23.66    | -0.0005 (ppm)   | -25.2786     |
| 11/2/2017 00:52:01 | R1710078-007 | Cu (327.395 nm)    | -0.0001 u (ppm)  | > 100.00 | -0.0001 (ppm)   | 17.8521      |
| 11/2/2017 00:52:01 | R1710078-007 | Fe (234.350 nm)    | 0.2885 (ppm)     | 0.37     | 0.2885 (ppm)    | 3423.8679    |
| 11/2/2017 00:52:01 | R1710078-007 | K (766.491 nm)     | 5.5428 (ppm)     | 0.55     | 5.5428 (ppm)    | 17171.3752   |
| 11/2/2017 00:52:01 | R1710078-007 | Mg (279.078 nm)    | 84.3977 o (ppm)  | 0.43     | 84.3977 (ppm)   | 170289.1284  |
| 11/2/2017 00:52:01 | R1710078-007 | Mn (257.610 nm)    | 0.0207 (ppm)     | 6.21     | 0.0207 (ppm)    | 6732.5870    |
| 11/2/2017 00:52:01 | R1710078-007 | Mo (202.032 nm)    | 0.0017 (ppm)     | 5.61     | 0.0017 (ppm)    | 34.8211      |
| 11/2/2017 00:52:01 | R1710078-007 | Na (588.995 nm)    | 115.8939 o (ppm) | 0.54     | 115.8939 (ppm)  | 5312021.9397 |
| 11/2/2017 00:52:01 | R1710078-007 | Ni (230.299 nm)    | -0.0035 u (ppm)  | 47.15    | -0.0035 (ppm)   | -50.4915     |
| 11/2/2017 00:52:01 | R1710078-007 | Pb (220.353 nm)    | -0.0007 u (ppm)  | > 100.00 | -0.0007 (ppm)   | 4.1443       |
| 11/2/2017 00:52:01 | R1710078-007 | Sb (217.582 nm)    | -0.0025 u (ppm)  | > 100.00 | -0.0025 (ppm)   | 0.6122       |
| 11/2/2017 00:52:01 | R1710078-007 | Se (196.026 nm)    | -0.0035 u (ppm)  | > 100.00 | -0.0035 (ppm)   | 2.4718       |
| 11/2/2017 00:52:01 | R1710078-007 | Sn (189.925 nm)    | -0.0017 u (ppm)  | > 100.00 | -0.0017 (ppm)   | -2.3402      |
| 11/2/2017 00:52:01 | R1710078-007 | Sr (216.596 nm)    | 16.4460 o (ppm)  | 0.50     | 16.4460 (ppm)   | 245328.8347  |

| Date Time          | Label        | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity   |
|--------------------|--------------|--------------------|-----------------|----------|-----------------|-------------|
| 11/2/2017 00:52:01 | R1710078-007 | Ti (336.122 nm)    | 0.0027 (ppm)    | 1.44     | 0.0027 (ppm)    | 178.6921    |
| 11/2/2017 00:52:01 | R1710078-007 | Ti (351.923 nm)    | 0.0074 (ppm)    | 30.72    | 0.0074 (ppm)    | 35.6998     |
| 11/2/2017 00:52:01 | R1710078-007 | V (292.401 nm)     | 0.0001 u (ppm)  | > 100.00 | 0.0001 (ppm)    | 113.3949    |
| 11/2/2017 00:52:01 | R1710078-007 | Y (360.074 nm)     | 0.92 (Ratio)    | 0.86     | 0.92 (Ratio)    | 857257.49   |
| 11/2/2017 00:52:01 | R1710078-007 | Y_R (360.074 nm)   | 0.92 (Ratio)    | 0.86     | 0.92 (Ratio)    | 857209.77   |
| 11/2/2017 00:52:01 | R1710078-007 | Zn (213.857 nm)    | 0.0020 (ppm)    | 3.68     | 0.0020 (ppm)    | 27.8656     |
| 11/2/2017 00:55:19 | R1710078-009 | Ag (328.068 nm)    | 0.0002 (ppm)    | 11.52    | 0.0002 (ppm)    | -108.4443   |
| 11/2/2017 00:55:19 | R1710078-009 | Al (394.401 nm)    | 0.0273 (ppm)    | 0.87     | 0.0273 (ppm)    | 447.3049    |
| 11/2/2017 00:55:19 | R1710078-009 | As (188.980 nm)    | 0.0032 (ppm)    | 43.85    | 0.0032 (ppm)    | 0.1039      |
| 11/2/2017 00:55:19 | R1710078-009 | B (249.772 nm)     | 0.1027 (ppm)    | 0.92     | 0.1027 (ppm)    | 3033.9481   |
| 11/2/2017 00:55:19 | R1710078-009 | Ba (230.424 nm)    | 0.0529 (ppm)    | 0.46     | 0.0529 (ppm)    | 1860.6010   |
| 11/2/2017 00:55:19 | R1710078-009 | Be (313.107 nm)    | 0.0000 (ppm)    | 59.21    | 0.0000 (ppm)    | -513.8856   |
| 11/2/2017 00:55:19 | R1710078-009 | Ca (227.547 nm)    | 95.5040 o (ppm) | 0.39     | 95.5040 (ppm)   | 5614.8934   |
| 11/2/2017 00:55:19 | R1710078-009 | Cd (214.439 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | 10.5268     |
| 11/2/2017 00:55:19 | R1710078-009 | Co (230.786 nm)    | 0.0012 (ppm)    | 8.73     | 0.0012 (ppm)    | 11.2510     |
| 11/2/2017 00:55:19 | R1710078-009 | Cr (267.716 nm)    | -0.0002 u (ppm) | 31.42    | -0.0002 (ppm)   | -10.0507    |
| 11/2/2017 00:55:19 | R1710078-009 | Cu (327.395 nm)    | 0.0003 (ppm)    | 24.41    | 0.0003 (ppm)    | 41.2232     |
| 11/2/2017 00:55:19 | R1710078-009 | Fe (234.350 nm)    | 0.1220 (ppm)    | 0.23     | 0.1220 (ppm)    | 1489.7065   |
| 11/2/2017 00:55:19 | R1710078-009 | K (766.491 nm)     | 4.9183 (ppm)    | 0.60     | 4.9183 (ppm)    | 15243.0156  |
| 11/2/2017 00:55:19 | R1710078-009 | Mg (279.078 nm)    | 43.3668 (ppm)   | 0.27     | 43.3668 (ppm)   | 87497.6665  |
| 11/2/2017 00:55:19 | R1710078-009 | Mn (257.610 nm)    | 0.0115 (ppm)    | 16.40    | 0.0115 (ppm)    | 3745.2972   |
| 11/2/2017 00:55:19 | R1710078-009 | Mo (202.032 nm)    | 0.0003 (ppm)    | 23.94    | 0.0003 (ppm)    | 20.4819     |
| 11/2/2017 00:55:19 | R1710078-009 | Na (588.995 nm)    | 17.9941 (ppm)   | 0.74     | 17.9941 (ppm)   | 819710.9922 |
| 11/2/2017 00:55:19 | R1710078-009 | Ni (230.299 nm)    | -0.0040 u (ppm) | 6.20     | -0.0040 (ppm)   | -53.5696    |
| 11/2/2017 00:55:19 | R1710078-009 | Pb (220.353 nm)    | -0.0021 u (ppm) | 40.19    | -0.0021 (ppm)   | 1.0073      |
| 11/2/2017 00:55:19 | R1710078-009 | Sb (217.582 nm)    | -0.0020 u (ppm) | > 100.00 | -0.0020 (ppm)   | 1.2255      |
| 11/2/2017 00:55:19 | R1710078-009 | Se (196.026 nm)    | -0.0021 u (ppm) | 67.87    | -0.0021 (ppm)   | 3.7236      |
| 11/2/2017 00:55:19 | R1710078-009 | Sn (189.925 nm)    | -0.0015 u (ppm) | 73.52    | -0.0015 (ppm)   | -2.0749     |
| 11/2/2017 00:55:19 | R1710078-009 | Sr (216.596 nm)    | 11.5602 o (ppm) | 0.47     | 11.5602 (ppm)   | 172446.3800 |
| 11/2/2017 00:55:19 | R1710078-009 | Ti (336.122 nm)    | 0.0009 (ppm)    | 12.91    | 0.0009 (ppm)    | -230.2929   |
| 11/2/2017 00:55:19 | R1710078-009 | Ti (351.923 nm)    | -0.0020 u (ppm) | 36.31    | -0.0020 (ppm)   | 8.8570      |
| 11/2/2017 00:55:19 | R1710078-009 | V (292.401 nm)     | 0.0001 u (ppm)  | > 100.00 | 0.0001 (ppm)    | 113.4672    |
| 11/2/2017 00:55:19 | R1710078-009 | Y (360.074 nm)     | 0.97 (Ratio)    | 0.67     | 0.97 (Ratio)    | 910939.97   |
| 11/2/2017 00:55:19 | R1710078-009 | Y_R (360.074 nm)   | 0.97 (Ratio)    | 0.67     | 0.97 (Ratio)    | 910755.66   |
| 11/2/2017 00:55:19 | R1710078-009 | Zn (213.857 nm)    | 0.0029 (ppm)    | 2.86     | 0.0029 (ppm)    | 53.1279     |
| 11/2/2017 00:58:38 | R1710078-010 | Ag (328.068 nm)    | 0.0002 (ppm)    | 17.69    | 0.0002 (ppm)    | -113.2887   |
| 11/2/2017 00:58:38 | R1710078-010 | Al (394.401 nm)    | 0.0286 (ppm)    | 3.35     | 0.0286 (ppm)    | 465.0012    |
| 11/2/2017 00:58:38 | R1710078-010 | As (188.980 nm)    | 0.0024 (ppm)    | 84.35    | 0.0024 (ppm)    | -0.7153     |
| 11/2/2017 00:58:38 | R1710078-010 | B (249.772 nm)     | 0.1159 (ppm)    | 0.24     | 0.1159 (ppm)    | 3412.0458   |
| 11/2/2017 00:58:38 | R1710078-010 | Ba (230.424 nm)    | 0.0517 (ppm)    | 0.27     | 0.0517 (ppm)    | 1818.6440   |
| 11/2/2017 00:58:38 | R1710078-010 | Be (313.107 nm)    | 0.0000 (ppm)    | 69.66    | 0.0000 (ppm)    | -528.0690   |
| 11/2/2017 00:58:38 | R1710078-010 | Ca (227.547 nm)    | 58.9072 o (ppm) | 0.68     | 58.9072 (ppm)   | 3465.6533   |
| 11/2/2017 00:58:38 | R1710078-010 | Cd (214.439 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | 12.9959     |
| 11/2/2017 00:58:38 | R1710078-010 | Co (230.786 nm)    | -0.0004 u (ppm) | 54.92    | -0.0004 (ppm)   | -5.0086     |
| 11/2/2017 00:58:38 | R1710078-010 | Cr (267.716 nm)    | -0.0003 u (ppm) | 15.60    | -0.0003 (ppm)   | -15.1233    |
| 11/2/2017 00:58:38 | R1710078-010 | Cu (327.395 nm)    | 0.0002 (ppm)    | 98.79    | 0.0002 (ppm)    | 36.6047     |
| 11/2/2017 00:58:38 | R1710078-010 | Fe (234.350 nm)    | 0.2133 (ppm)    | 0.12     | 0.2133 (ppm)    | 2550.7736   |
| 11/2/2017 00:58:38 | R1710078-010 | K (766.491 nm)     | 3.8785 (ppm)    | 0.61     | 3.8785 (ppm)    | 12032.4827  |
| 11/2/2017 00:58:38 | R1710078-010 | Mg (279.078 nm)    | 54.8674 o (ppm) | 0.24     | 54.8674 (ppm)   | 110703.3535 |
| 11/2/2017 00:58:38 | R1710078-010 | Mn (257.610 nm)    | 0.0125 (ppm)    | 15.92    | 0.0125 (ppm)    | 4068.8578   |
| 11/2/2017 00:58:38 | R1710078-010 | Mo (202.032 nm)    | 0.0019 (ppm)    | 14.91    | 0.0019 (ppm)    | 36.8128     |

| Date Time          | Label        | Element Label (nm) | Conc             | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|--------------|--------------------|------------------|----------|-----------------|--------------|
| 11/2/2017 00:58:38 | R1710078-010 | Na (588.995 nm)    | 22.8111 (ppm)    | 0.90     | 22.8111 (ppm)   | 1040748.7370 |
| 11/2/2017 00:58:38 | R1710078-010 | Ni (230.299 nm)    | -0.0043 u (ppm)  | 6.16     | -0.0043 (ppm)   | -55.9174     |
| 11/2/2017 00:58:38 | R1710078-010 | Pb (220.353 nm)    | -0.0008 u (ppm)  | > 100.00 | -0.0008 (ppm)   | 3.8405       |
| 11/2/2017 00:58:38 | R1710078-010 | Sb (217.582 nm)    | -0.0023 u (ppm)  | 63.82    | -0.0023 (ppm)   | 0.8197       |
| 11/2/2017 00:58:38 | R1710078-010 | Se (196.026 nm)    | -0.0005 u (ppm)  | > 100.00 | -0.0005 (ppm)   | 5.0851       |
| 11/2/2017 00:58:38 | R1710078-010 | Sn (189.925 nm)    | -0.0011 u (ppm)  | 55.25    | -0.0011 (ppm)   | -1.5687      |
| 11/2/2017 00:58:38 | R1710078-010 | Sr (216.596 nm)    | 7.8364 o (ppm)   | 0.32     | 7.8364 (ppm)    | 116896.3599  |
| 11/2/2017 00:58:38 | R1710078-010 | Ti (336.122 nm)    | 0.0012 (ppm)     | 2.83     | 0.0012 (ppm)    | -158.4402    |
| 11/2/2017 00:58:38 | R1710078-010 | Tl (351.923 nm)    | -0.0028 u (ppm)  | > 100.00 | -0.0028 (ppm)   | 6.7879       |
| 11/2/2017 00:58:38 | R1710078-010 | V (292.401 nm)     | 0.0001 (ppm)     | 87.28    | 0.0001 (ppm)    | 115.4714     |
| 11/2/2017 00:58:38 | R1710078-010 | Y (360.074 nm)     | 0.98 (Ratio)     | 0.62     | 0.98 (Ratio)    | 915675.30    |
| 11/2/2017 00:58:38 | R1710078-010 | Y_R (360.074 nm)   | 0.98 (Ratio)     | 0.61     | 0.98 (Ratio)    | 915496.84    |
| 11/2/2017 00:58:38 | R1710078-010 | Zn (213.857 nm)    | 0.0015 (ppm)     | 3.67     | 0.0015 (ppm)    | 14.2423      |
| 11/2/2017 01:01:56 | R1710078-011 | Ag (328.068 nm)    | 0.0003 (ppm)     | 43.55    | 0.0003 (ppm)    | -104.7326    |
| 11/2/2017 01:01:56 | R1710078-011 | Al (394.401 nm)    | 0.0330 (ppm)     | 2.94     | 0.0330 (ppm)    | 524.2349     |
| 11/2/2017 01:01:56 | R1710078-011 | As (188.980 nm)    | 0.0007 u (ppm)   | > 100.00 | 0.0007 (ppm)    | -2.2713      |
| 11/2/2017 01:01:56 | R1710078-011 | B (249.772 nm)     | 0.1342 (ppm)     | 0.61     | 0.1342 (ppm)    | 3936.5215    |
| 11/2/2017 01:01:56 | R1710078-011 | Ba (230.424 nm)    | 0.0437 (ppm)     | 0.73     | 0.0437 (ppm)    | 1538.7870    |
| 11/2/2017 01:01:56 | R1710078-011 | Be (313.107 nm)    | 0.0000 (ppm)     | 37.02    | 0.0000 (ppm)    | -535.8434    |
| 11/2/2017 01:01:56 | R1710078-011 | Ca (227.547 nm)    | 242.8641 o (ppm) | 0.59     | 242.8641 (ppm)  | 14269.0058   |
| 11/2/2017 01:01:56 | R1710078-011 | Cd (214.439 nm)    | -0.0001 u (ppm)  | > 100.00 | -0.0001 (ppm)   | 10.6037      |
| 11/2/2017 01:01:56 | R1710078-011 | Co (230.786 nm)    | 0.0001 u (ppm)   | > 100.00 | 0.0001 (ppm)    | -0.6532      |
| 11/2/2017 01:01:56 | R1710078-011 | Cr (267.716 nm)    | -0.0003 u (ppm)  | 26.64    | -0.0003 (ppm)   | -18.6829     |
| 11/2/2017 01:01:56 | R1710078-011 | Cu (327.395 nm)    | 0.0007 (ppm)     | 15.87    | 0.0007 (ppm)    | 66.4005      |
| 11/2/2017 01:01:56 | R1710078-011 | Fe (234.350 nm)    | 0.0057 (ppm)     | 3.27     | 0.0057 (ppm)    | 139.3225     |
| 11/2/2017 01:01:56 | R1710078-011 | K (766.491 nm)     | 7.7491 (ppm)     | 0.62     | 7.7491 (ppm)    | 23983.2947   |
| 11/2/2017 01:01:56 | R1710078-011 | Mg (279.078 nm)    | 81.7163 o (ppm)  | 0.38     | 81.7163 (ppm)   | 164878.6997  |
| 11/2/2017 01:01:56 | R1710078-011 | Mn (257.610 nm)    | 0.0134 (ppm)     | 12.16    | 0.0134 (ppm)    | 4359.5623    |
| 11/2/2017 01:01:56 | R1710078-011 | Mo (202.032 nm)    | 0.0015 (ppm)     | 26.40    | 0.0015 (ppm)    | 32.6624      |
| 11/2/2017 01:01:56 | R1710078-011 | Na (588.995 nm)    | 116.6868 o (ppm) | 0.82     | 116.6868 (ppm)  | 5348402.4222 |
| 11/2/2017 01:01:56 | R1710078-011 | Ni (230.299 nm)    | -0.0002 u (ppm)  | > 100.00 | -0.0002 (ppm)   | -27.2757     |
| 11/2/2017 01:01:56 | R1710078-011 | Pb (220.353 nm)    | -0.0012 u (ppm)  | > 100.00 | -0.0012 (ppm)   | 2.9610       |
| 11/2/2017 01:01:56 | R1710078-011 | Sb (217.582 nm)    | -0.0033 u (ppm)  | 63.68    | -0.0033 (ppm)   | -0.5411      |
| 11/2/2017 01:01:56 | R1710078-011 | Se (196.026 nm)    | -0.0058 u (ppm)  | 38.39    | -0.0058 (ppm)   | 0.4401       |
| 11/2/2017 01:01:56 | R1710078-011 | Sn (189.925 nm)    | 0.0000 u (ppm)   | > 100.00 | 0.0000 (ppm)    | -0.2077      |
| 11/2/2017 01:01:56 | R1710078-011 | Sr (216.596 nm)    | 1.7146 (ppm)     | 1.07     | 1.7146 (ppm)    | 25575.8050   |
| 11/2/2017 01:01:56 | R1710078-011 | Ti (336.122 nm)    | 0.0017 (ppm)     | 2.43     | 0.0017 (ppm)    | -54.4988     |
| 11/2/2017 01:01:56 | R1710078-011 | Tl (351.923 nm)    | 0.0026 (ppm)     | 94.13    | 0.0026 (ppm)    | 22.1067      |
| 11/2/2017 01:01:56 | R1710078-011 | V (292.401 nm)     | 0.0001 u (ppm)   | > 100.00 | 0.0001 (ppm)    | 114.3600     |
| 11/2/2017 01:01:56 | R1710078-011 | Y (360.074 nm)     | 0.93 (Ratio)     | 0.77     | 0.93 (Ratio)    | 870934.25    |
| 11/2/2017 01:01:56 | R1710078-011 | Y_R (360.074 nm)   | 0.93 (Ratio)     | 0.77     | 0.93 (Ratio)    | 870726.61    |
| 11/2/2017 01:01:56 | R1710078-011 | Zn (213.857 nm)    | 0.0023 (ppm)     | 3.83     | 0.0023 (ppm)    | 36.7669      |
| 11/2/2017 01:05:15 | R1710078-012 | Ag (328.068 nm)    | 0.0002 (ppm)     | 63.24    | 0.0002 (ppm)    | -110.7469    |
| 11/2/2017 01:05:15 | R1710078-012 | Al (394.401 nm)    | 0.0304 (ppm)     | 1.03     | 0.0304 (ppm)    | 489.8001     |
| 11/2/2017 01:05:15 | R1710078-012 | As (188.980 nm)    | 0.0008 u (ppm)   | > 100.00 | 0.0008 (ppm)    | -2.1841      |
| 11/2/2017 01:05:15 | R1710078-012 | B (249.772 nm)     | 0.1848 (ppm)     | 0.42     | 0.1848 (ppm)    | 5387.2818    |
| 11/2/2017 01:05:15 | R1710078-012 | Ba (230.424 nm)    | 0.0694 (ppm)     | 0.61     | 0.0694 (ppm)    | 2435.8522    |
| 11/2/2017 01:05:15 | R1710078-012 | Be (313.107 nm)    | 0.0000 (ppm)     | 35.40    | 0.0000 (ppm)    | -526.3987    |
| 11/2/2017 01:05:15 | R1710078-012 | Ca (227.547 nm)    | 237.7005 o (ppm) | 0.70     | 237.7005 (ppm)  | 13965.7600   |
| 11/2/2017 01:05:15 | R1710078-012 | Cd (214.439 nm)    | -0.0001 u (ppm)  | > 100.00 | -0.0001 (ppm)   | 10.6204      |
| 11/2/2017 01:05:15 | R1710078-012 | Co (230.786 nm)    | 0.0000 u (ppm)   | > 100.00 | 0.0000 (ppm)    | -0.9052      |



| Date Time          | Label        | Element Label (nm) | Conc             | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|--------------|--------------------|------------------|----------|-----------------|--------------|
| 11/2/2017 01:05:15 | R1710078-012 | Cr (267.716 nm)    | -0.0004 u (ppm)  | 14.66    | -0.0004 (ppm)   | -23.5371     |
| 11/2/2017 01:05:15 | R1710078-012 | Cu (327.395 nm)    | 0.0002 (ppm)     | 58.59    | 0.0002 (ppm)    | 36.1136      |
| 11/2/2017 01:05:15 | R1710078-012 | Fe (234.350 nm)    | 1.4764 (ppm)     | 0.37     | 1.4764 (ppm)    | 17224.6728   |
| 11/2/2017 01:05:15 | R1710078-012 | K (766.491 nm)     | 12.7901 (ppm)    | 0.71     | 12.7901 (ppm)   | 39547.7877   |
| 11/2/2017 01:05:15 | R1710078-012 | Mg (279.078 nm)    | 58.4457 o (ppm)  | 0.43     | 58.4457 (ppm)   | 117923.7053  |
| 11/2/2017 01:05:15 | R1710078-012 | Mn (257.610 nm)    | 0.4755 (ppm)     | 0.45     | 0.4755 (ppm)    | 153874.9144  |
| 11/2/2017 01:05:15 | R1710078-012 | Mo (202.032 nm)    | -0.0006 u (ppm)  | 23.01    | -0.0006 (ppm)   | 10.5955      |
| 11/2/2017 01:05:15 | R1710078-012 | Na (588.995 nm)    | 173.4778 o (ppm) | 0.80     | 173.4778 (ppm)  | 7954362.8400 |
| 11/2/2017 01:05:15 | R1710078-012 | Ni (230.299 nm)    | -0.0030 u (ppm)  | 32.10    | -0.0030 (ppm)   | -47.0000     |
| 11/2/2017 01:05:15 | R1710078-012 | Pb (220.353 nm)    | -0.0022 u (ppm)  | 27.45    | -0.0022 (ppm)   | 0.6407       |
| 11/2/2017 01:05:15 | R1710078-012 | Sb (217.582 nm)    | -0.0036 u (ppm)  | 29.92    | -0.0036 (ppm)   | -1.0081      |
| 11/2/2017 01:05:15 | R1710078-012 | Se (196.026 nm)    | -0.0010 u (ppm)  | > 100.00 | -0.0010 (ppm)   | 4.6204       |
| 11/2/2017 01:05:15 | R1710078-012 | Sn (189.925 nm)    | -0.0013 u (ppm)  | > 100.00 | -0.0013 (ppm)   | -1.8615      |
| 11/2/2017 01:05:15 | R1710078-012 | Sr (216.596 nm)    | 0.9299 (ppm)     | 0.24     | 0.9299 (ppm)    | 13870.7474   |
| 11/2/2017 01:05:15 | R1710078-012 | Ti (336.122 nm)    | 0.0017 (ppm)     | 1.53     | 0.0017 (ppm)    | -43.5224     |
| 11/2/2017 01:05:15 | R1710078-012 | Tl (351.923 nm)    | 0.0052 (ppm)     | 45.55    | 0.0052 (ppm)    | 29.3000      |
| 11/2/2017 01:05:15 | R1710078-012 | V (292.401 nm)     | 0.0003 (ppm)     | 57.23    | 0.0003 (ppm)    | 120.4538     |
| 11/2/2017 01:05:15 | R1710078-012 | Y (360.074 nm)     | 0.92 (Ratio)     | 0.67     | 0.92 (Ratio)    | 865835.17    |
| 11/2/2017 01:05:15 | R1710078-012 | Y_R (360.074 nm)   | 0.92 (Ratio)     | 0.66     | 0.92 (Ratio)    | 865720.67    |
| 11/2/2017 01:05:15 | R1710078-012 | Zn (213.857 nm)    | 0.0016 (ppm)     | 0.47     | 0.0016 (ppm)    | 15.5077      |
| 11/2/2017 01:08:34 | R1710078-013 | Ag (328.068 nm)    | 0.0003 (ppm)     | 31.09    | 0.0003 (ppm)    | -104.2751    |
| 11/2/2017 01:08:34 | R1710078-013 | Al (394.401 nm)    | 0.0387 (ppm)     | 2.17     | 0.0387 (ppm)    | 600.3215     |
| 11/2/2017 01:08:34 | R1710078-013 | As (188.980 nm)    | 0.0025 u (ppm)   | > 100.00 | 0.0025 (ppm)    | -0.5536      |
| 11/2/2017 01:08:34 | R1710078-013 | B (249.772 nm)     | 0.3465 (ppm)     | 0.44     | 0.3465 (ppm)    | 10020.4449   |
| 11/2/2017 01:08:34 | R1710078-013 | Ba (230.424 nm)    | 0.0247 (ppm)     | 1.00     | 0.0247 (ppm)    | 871.9448     |
| 11/2/2017 01:08:34 | R1710078-013 | Be (313.107 nm)    | 0.0000 (ppm)     | 32.72    | 0.0000 (ppm)    | -525.3950    |
| 11/2/2017 01:08:34 | R1710078-013 | Ca (227.547 nm)    | 221.5300 o (ppm) | 0.59     | 221.5300 (ppm)  | 13016.1043   |
| 11/2/2017 01:08:34 | R1710078-013 | Cd (214.439 nm)    | -0.0001 u (ppm)  | > 100.00 | -0.0001 (ppm)   | 11.2948      |
| 11/2/2017 01:08:34 | R1710078-013 | Co (230.786 nm)    | 0.0001 u (ppm)   | > 100.00 | 0.0001 (ppm)    | -0.0305      |
| 11/2/2017 01:08:34 | R1710078-013 | Cr (267.716 nm)    | -0.0006 u (ppm)  | 15.65    | -0.0006 (ppm)   | -29.9836     |
| 11/2/2017 01:08:34 | R1710078-013 | Cu (327.395 nm)    | 0.0002 (ppm)     | 15.18    | 0.0002 (ppm)    | 35.7722      |
| 11/2/2017 01:08:34 | R1710078-013 | Fe (234.350 nm)    | 1.3637 (ppm)     | 0.42     | 1.3637 (ppm)    | 15914.4938   |
| 11/2/2017 01:08:34 | R1710078-013 | K (766.491 nm)     | 27.3714 (ppm)    | 0.57     | 27.3714 (ppm)   | 84568.5266   |
| 11/2/2017 01:08:34 | R1710078-013 | Mg (279.078 nm)    | 37.2731 (ppm)    | 0.43     | 37.2731 (ppm)   | 75202.0442   |
| 11/2/2017 01:08:34 | R1710078-013 | Mn (257.610 nm)    | 0.7857 (ppm)     | 0.19     | 0.7857 (ppm)    | 254237.8307  |
| 11/2/2017 01:08:34 | R1710078-013 | Mo (202.032 nm)    | -0.0004 u (ppm)  | 45.28    | -0.0004 (ppm)   | 12.8956      |
| 11/2/2017 01:08:34 | R1710078-013 | Na (588.995 nm)    | 130.3533 o (ppm) | 0.64     | 130.3533 (ppm)  | 5975516.4548 |
| 11/2/2017 01:08:34 | R1710078-013 | Ni (230.299 nm)    | -0.0019 u (ppm)  | 50.07    | -0.0019 (ppm)   | -39.3769     |
| 11/2/2017 01:08:34 | R1710078-013 | Pb (220.353 nm)    | -0.0014 u (ppm)  | 69.44    | -0.0014 (ppm)   | 2.5647       |
| 11/2/2017 01:08:34 | R1710078-013 | Sb (217.582 nm)    | -0.0014 u (ppm)  | 53.97    | -0.0014 (ppm)   | 2.1650       |
| 11/2/2017 01:08:34 | R1710078-013 | Se (196.026 nm)    | -0.0052 u (ppm)  | 67.38    | -0.0052 (ppm)   | 1.0008       |
| 11/2/2017 01:08:34 | R1710078-013 | Sn (189.925 nm)    | -0.0025 u (ppm)  | 35.09    | -0.0025 (ppm)   | -3.3938      |
| 11/2/2017 01:08:34 | R1710078-013 | Sr (216.596 nm)    | 0.6828 (ppm)     | 0.45     | 0.6828 (ppm)    | 10184.3552   |
| 11/2/2017 01:08:34 | R1710078-013 | Ti (336.122 nm)    | 0.0021 (ppm)     | 1.29     | 0.0021 (ppm)    | 41.6479      |
| 11/2/2017 01:08:34 | R1710078-013 | Tl (351.923 nm)    | 0.0041 (ppm)     | 36.82    | 0.0041 (ppm)    | 26.2066      |
| 11/2/2017 01:08:34 | R1710078-013 | V (292.401 nm)     | 0.0005 (ppm)     | 28.05    | 0.0005 (ppm)    | 128.1693     |
| 11/2/2017 01:08:34 | R1710078-013 | Y (360.074 nm)     | 0.93 (Ratio)     | 0.80     | 0.93 (Ratio)    | 875025.02    |
| 11/2/2017 01:08:34 | R1710078-013 | Y_R (360.074 nm)   | 0.93 (Ratio)     | 0.79     | 0.93 (Ratio)    | 874658.38    |
| 11/2/2017 01:08:34 | R1710078-013 | Zn (213.857 nm)    | 0.0152 (ppm)     | 1.51     | 0.0152 (ppm)    | 411.4750     |
| 11/2/2017 01:11:53 | R1710078-014 | Ag (328.068 nm)    | 0.0002 (ppm)     | 6.25     | 0.0002 (ppm)    | -108.5356    |
| 11/2/2017 01:11:53 | R1710078-014 | Al (394.401 nm)    | 0.0436 (ppm)     | 1.09     | 0.0436 (ppm)    | 665.1319     |

| Date Time          | Label        | Element Label (nm) | Conc             | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|--------------|--------------------|------------------|----------|-----------------|--------------|
| 11/2/2017 01:11:53 | R1710078-014 | As (188.980 nm)    | 0.0012 u (ppm)   | > 100.00 | 0.0012 (ppm)    | -1.8291      |
| 11/2/2017 01:11:53 | R1710078-014 | B (249.772 nm)     | 0.1978 (ppm)     | 0.47     | 0.1978 (ppm)    | 5757.7907    |
| 11/2/2017 01:11:53 | R1710078-014 | Ba (230.424 nm)    | 0.0621 (ppm)     | 0.49     | 0.0621 (ppm)    | 2182.0853    |
| 11/2/2017 01:11:53 | R1710078-014 | Be (313.107 nm)    | 0.0000 (ppm)     | 34.29    | 0.0000 (ppm)    | -540.8858    |
| 11/2/2017 01:11:53 | R1710078-014 | Ca (227.547 nm)    | 194.0290 o (ppm) | 0.51     | 194.0290 (ppm)  | 11401.0379   |
| 11/2/2017 01:11:53 | R1710078-014 | Cd (214.439 nm)    | -0.0001 u (ppm)  | 51.26    | -0.0001 (ppm)   | 10.4786      |
| 11/2/2017 01:11:53 | R1710078-014 | Co (230.786 nm)    | 0.0003 u (ppm)   | > 100.00 | 0.0003 (ppm)    | 1.6566       |
| 11/2/2017 01:11:53 | R1710078-014 | Cr (267.716 nm)    | 0.0026 (ppm)     | 1.62     | 0.0026 (ppm)    | 133.5104     |
| 11/2/2017 01:11:53 | R1710078-014 | Cu (327.395 nm)    | 0.0007 (ppm)     | 13.26    | 0.0007 (ppm)    | 68.0382      |
| 11/2/2017 01:11:53 | R1710078-014 | Fe (234.350 nm)    | 0.1132 (ppm)     | 0.31     | 0.1132 (ppm)    | 1388.0015    |
| 11/2/2017 01:11:53 | R1710078-014 | K (766.491 nm)     | 30.7944 (ppm)    | 0.56     | 30.7944 (ppm)   | 95137.1877   |
| 11/2/2017 01:11:53 | R1710078-014 | Mg (279.078 nm)    | 58.9078 o (ppm)  | 0.27     | 58.9078 (ppm)   | 118855.9933  |
| 11/2/2017 01:11:53 | R1710078-014 | Mn (257.610 nm)    | 0.0403 (ppm)     | 4.06     | 0.0403 (ppm)    | 13076.8411   |
| 11/2/2017 01:11:53 | R1710078-014 | Mo (202.032 nm)    | 0.0010 (ppm)     | 21.56    | 0.0010 (ppm)    | 27.3487      |
| 11/2/2017 01:11:53 | R1710078-014 | Na (588.995 nm)    | 190.4416 o (ppm) | 0.67     | 190.4416 (ppm)  | 8732775.6491 |
| 11/2/2017 01:11:53 | R1710078-014 | Ni (230.299 nm)    | 0.0009 u (ppm)   | > 100.00 | 0.0009 (ppm)    | -19.9740     |
| 11/2/2017 01:11:53 | R1710078-014 | Pb (220.353 nm)    | -0.0031 u (ppm)  | 16.16    | -0.0031 (ppm)   | -1.3737      |
| 11/2/2017 01:11:53 | R1710078-014 | Sb (217.582 nm)    | -0.0030 u (ppm)  | 40.39    | -0.0030 (ppm)   | -0.2018      |
| 11/2/2017 01:11:53 | R1710078-014 | Se (196.026 nm)    | -0.0044 u (ppm)  | 97.15    | -0.0044 (ppm)   | 1.7125       |
| 11/2/2017 01:11:53 | R1710078-014 | Sn (189.925 nm)    | -0.0011 u (ppm)  | 54.11    | -0.0011 (ppm)   | -1.5648      |
| 11/2/2017 01:11:53 | R1710078-014 | Sr (216.596 nm)    | 1.4419 (ppm)     | 0.71     | 1.4419 (ppm)    | 21507.8807   |
| 11/2/2017 01:11:53 | R1710078-014 | Ti (336.122 nm)    | 0.0019 (ppm)     | 14.66    | 0.0019 (ppm)    | -8.1874      |
| 11/2/2017 01:11:53 | R1710078-014 | Tl (351.923 nm)    | 0.0008 u (ppm)   | > 100.00 | 0.0008 (ppm)    | 16.8648      |
| 11/2/2017 01:11:53 | R1710078-014 | V (292.401 nm)     | 0.0003 (ppm)     | 46.01    | 0.0003 (ppm)    | 119.7061     |
| 11/2/2017 01:11:53 | R1710078-014 | Y (360.074 nm)     | 0.92 (Ratio)     | 0.73     | 0.92 (Ratio)    | 865972.46    |
| 11/2/2017 01:11:53 | R1710078-014 | Y_R (360.074 nm)   | 0.92 (Ratio)     | 0.74     | 0.92 (Ratio)    | 865628.32    |
| 11/2/2017 01:11:53 | R1710078-014 | Zn (213.857 nm)    | 0.0025 (ppm)     | 1.71     | 0.0025 (ppm)    | 41.5782      |
| 11/2/2017 01:15:11 | R1710078-015 | Ag (328.068 nm)    | 0.0003 (ppm)     | 55.12    | 0.0003 (ppm)    | -106.7348    |
| 11/2/2017 01:15:11 | R1710078-015 | Al (394.401 nm)    | 0.0298 (ppm)     | 2.54     | 0.0298 (ppm)    | 481.8027     |
| 11/2/2017 01:15:11 | R1710078-015 | As (188.980 nm)    | 0.0017 (ppm)     | > 100.00 | 0.0017 (ppm)    | -1.3128      |
| 11/2/2017 01:15:11 | R1710078-015 | B (249.772 nm)     | 0.1662 (ppm)     | 0.20     | 0.1662 (ppm)    | 4854.1669    |
| 11/2/2017 01:15:11 | R1710078-015 | Ba (230.424 nm)    | 0.0813 (ppm)     | 0.10     | 0.0813 (ppm)    | 2851.8851    |
| 11/2/2017 01:15:11 | R1710078-015 | Be (313.107 nm)    | 0.0000 (ppm)     | 30.90    | 0.0000 (ppm)    | -538.2694    |
| 11/2/2017 01:15:11 | R1710078-015 | Ca (227.547 nm)    | 211.3346 o (ppm) | 0.50     | 211.3346 (ppm)  | 12417.3514   |
| 11/2/2017 01:15:11 | R1710078-015 | Cd (214.439 nm)    | -0.0001 u (ppm)  | 38.74    | -0.0001 (ppm)   | 9.7322       |
| 11/2/2017 01:15:11 | R1710078-015 | Co (230.786 nm)    | 0.0002 (ppm)     | > 100.00 | 0.0002 (ppm)    | 1.0245       |
| 11/2/2017 01:15:11 | R1710078-015 | Cr (267.716 nm)    | 0.0014 (ppm)     | 6.54     | 0.0014 (ppm)    | 70.0883      |
| 11/2/2017 01:15:11 | R1710078-015 | Cu (327.395 nm)    | 0.0012 (ppm)     | 9.11     | 0.0012 (ppm)    | 95.6645      |
| 11/2/2017 01:15:11 | R1710078-015 | Fe (234.350 nm)    | 0.0326 (ppm)     | 0.28     | 0.0326 (ppm)    | 450.9131     |
| 11/2/2017 01:15:11 | R1710078-015 | K (766.491 nm)     | 9.7290 (ppm)     | 0.55     | 9.7290 (ppm)    | 30096.3678   |
| 11/2/2017 01:15:11 | R1710078-015 | Mg (279.078 nm)    | 76.2255 o (ppm)  | 0.28     | 76.2255 (ppm)   | 153799.3871  |
| 11/2/2017 01:15:11 | R1710078-015 | Mn (257.610 nm)    | 0.0267 (ppm)     | 5.71     | 0.0267 (ppm)    | 8656.7562    |
| 11/2/2017 01:15:11 | R1710078-015 | Mo (202.032 nm)    | 0.0001 u (ppm)   | > 100.00 | 0.0001 (ppm)    | 17.4406      |
| 11/2/2017 01:15:11 | R1710078-015 | Na (588.995 nm)    | 117.3603 o (ppm) | 0.60     | 117.3603 (ppm)  | 5379308.8040 |
| 11/2/2017 01:15:11 | R1710078-015 | Ni (230.299 nm)    | -0.0027 u (ppm)  | 49.52    | -0.0027 (ppm)   | -44.7596     |
| 11/2/2017 01:15:11 | R1710078-015 | Pb (220.353 nm)    | -0.0014 u (ppm)  | 29.17    | -0.0014 (ppm)   | 2.4707       |
| 11/2/2017 01:15:11 | R1710078-015 | Sb (217.582 nm)    | -0.0046 u (ppm)  | 10.90    | -0.0046 (ppm)   | -2.4638      |
| 11/2/2017 01:15:11 | R1710078-015 | Se (196.026 nm)    | -0.0019 u (ppm)  | 73.26    | -0.0019 (ppm)   | 3.8495       |
| 11/2/2017 01:15:11 | R1710078-015 | Sn (189.925 nm)    | -0.0021 u (ppm)  | 17.69    | -0.0021 (ppm)   | -2.7908      |
| 11/2/2017 01:15:11 | R1710078-015 | Sr (216.596 nm)    | 4.4336 (ppm)     | 0.35     | 4.4336 (ppm)    | 66135.4805   |
| 11/2/2017 01:15:11 | R1710078-015 | Ti (336.122 nm)    | 0.0015 (ppm)     | 2.98     | 0.0015 (ppm)    | -89.0499     |

| Date Time          | Label                               | Element Label (nm) | Conc             | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|-------------------------------------|--------------------|------------------|----------|-----------------|--------------|
| 11/2/2017 01:15:11 | R1710078-015                        | Tl (351.923 nm)    | -0.0013 u (ppm)  | > 100.00 | -0.0013 (ppm)   | 11.0181      |
| 11/2/2017 01:15:11 | R1710078-015                        | V (292.401 nm)     | 0.0002 (ppm)     | 82.33    | 0.0002 (ppm)    | 116.5890     |
| 11/2/2017 01:15:11 | R1710078-015                        | Y (360.074 nm)     | 0.94 (Ratio)     | 0.70     | 0.94 (Ratio)    | 876154.56    |
| 11/2/2017 01:15:11 | R1710078-015                        | Y_R (360.074 nm)   | 0.94 (Ratio)     | 0.70     | 0.94 (Ratio)    | 875650.29    |
| 11/2/2017 01:15:11 | R1710078-015                        | Zn (213.857 nm)    | 0.0022 (ppm)     | 5.29     | 0.0022 (ppm)    | 34.4787      |
| 11/2/2017 01:18:30 | R1710078-016                        | Ag (328.068 nm)    | 0.0003 (ppm)     | 17.25    | 0.0003 (ppm)    | -101.4382    |
| 11/2/2017 01:18:30 | R1710078-016                        | Al (394.401 nm)    | 0.0250 (ppm)     | 4.87     | 0.0250 (ppm)    | 417.4619     |
| 11/2/2017 01:18:30 | R1710078-016                        | As (188.980 nm)    | 0.0166 (ppm)     | 27.27    | 0.0166 (ppm)    | 12.4912      |
| 11/2/2017 01:18:30 | R1710078-016                        | B (249.772 nm)     | 0.1049 (ppm)     | 0.15     | 0.1049 (ppm)    | 3095.5747    |
| 11/2/2017 01:18:30 | R1710078-016                        | Ba (230.424 nm)    | 0.1872 (ppm)     | 0.11     | 0.1872 (ppm)    | 6561.2705    |
| 11/2/2017 01:18:30 | R1710078-016                        | Be (313.107 nm)    | 0.0000 (ppm)     | 54.40    | 0.0000 (ppm)    | -536.0933    |
| 11/2/2017 01:18:30 | R1710078-016                        | Ca (227.547 nm)    | 109.5914 u (ppm) | 0.91     | 109.5914 (ppm)  | 6442.2150    |
| 11/2/2017 01:18:30 | R1710078-016                        | Cd (214.439 nm)    | -0.0001 u (ppm)  | > 100.00 | -0.0001 (ppm)   | 10.4024      |
| 11/2/2017 01:18:30 | R1710078-016                        | Co (230.786 nm)    | 0.0008 (ppm)     | 99.72    | 0.0008 (ppm)    | 7.4212       |
| 11/2/2017 01:18:30 | R1710078-016                        | Cr (267.716 nm)    | -0.0003 u (ppm)  | 28.70    | -0.0003 (ppm)   | -17.1932     |
| 11/2/2017 01:18:30 | R1710078-016                        | Cu (327.395 nm)    | 0.0002 (ppm)     | 54.98    | 0.0002 (ppm)    | 33.6469      |
| 11/2/2017 01:18:30 | R1710078-016                        | Fe (234.350 nm)    | 1.3754 (ppm)     | 0.24     | 1.3754 (ppm)    | 16050.9986   |
| 11/2/2017 01:18:30 | R1710078-016                        | K (766.491 nm)     | 3.1046 (ppm)     | 0.52     | 3.1046 (ppm)    | 9643.0987    |
| 11/2/2017 01:18:30 | R1710078-016                        | Mg (279.078 nm)    | 82.5577 u (ppm)  | 0.28     | 82.5577 (ppm)   | 166576.4788  |
| 11/2/2017 01:18:30 | R1710078-016                        | Mn (257.610 nm)    | 0.0230 (ppm)     | 6.88     | 0.0230 (ppm)    | 7459.3654    |
| 11/2/2017 01:18:30 | R1710078-016                        | Mo (202.032 nm)    | 0.0021 (ppm)     | 7.57     | 0.0021 (ppm)    | 39.3279      |
| 11/2/2017 01:18:30 | R1710078-016                        | Na (588.995 nm)    | 57.6418 u (ppm)  | 0.53     | 57.6418 (ppm)   | 2639020.1472 |
| 11/2/2017 01:18:30 | R1710078-016                        | Ni (230.299 nm)    | -0.0048 u (ppm)  | 6.29     | -0.0048 (ppm)   | -59.3624     |
| 11/2/2017 01:18:30 | R1710078-016                        | Pb (220.353 nm)    | -0.0022 u (ppm)  | 60.83    | -0.0022 (ppm)   | 0.6237       |
| 11/2/2017 01:18:30 | R1710078-016                        | Sb (217.582 nm)    | -0.0029 u (ppm)  | 30.70    | -0.0029 (ppm)   | -0.0694      |
| 11/2/2017 01:18:30 | R1710078-016                        | Se (196.026 nm)    | -0.0006 u (ppm)  | > 100.00 | -0.0006 (ppm)   | 5.0300       |
| 11/2/2017 01:18:30 | R1710078-016                        | Sn (189.925 nm)    | -0.0009 u (ppm)  | > 100.00 | -0.0009 (ppm)   | -1.3078      |
| 11/2/2017 01:18:30 | R1710078-016                        | Sr (216.596 nm)    | 5.3902 (ppm)     | 0.14     | 5.3902 (ppm)    | 80406.6097   |
| 11/2/2017 01:18:30 | R1710078-016                        | Ti (336.122 nm)    | 0.0009 (ppm)     | 1.81     | 0.0009 (ppm)    | -212.8185    |
| 11/2/2017 01:18:30 | R1710078-016                        | Tl (351.923 nm)    | -0.0012 u (ppm)  | > 100.00 | -0.0012 (ppm)   | 11.1117      |
| 11/2/2017 01:18:30 | R1710078-016                        | V (292.401 nm)     | 0.0000 u (ppm)   | > 100.00 | 0.0000 (ppm)    | 110.0787     |
| 11/2/2017 01:18:30 | R1710078-016                        | Y (360.074 nm)     | 0.96 (Ratio)     | 0.68     | 0.96 (Ratio)    | 897084.93    |
| 11/2/2017 01:18:30 | R1710078-016                        | Y_R (360.074 nm)   | 0.96 (Ratio)     | 0.68     | 0.96 (Ratio)    | 896431.72    |
| 11/2/2017 01:18:30 | R1710078-016                        | Zn (213.857 nm)    | 0.0029 (ppm)     | 1.62     | 0.0029 (ppm)    | 52.7103      |
| 11/2/2017 01:21:49 | Continuing Calibration Verification | Ag (328.068 nm)    | 0.4792 (ppm)     | 0.38     | 0.4792 (ppm)    | 35075.5804   |
| 11/2/2017 01:21:49 | Continuing Calibration Verification | Al (394.401 nm)    | 9.4315 (ppm)     | 0.57     | 9.4315 (ppm)    | 126026.6340  |
| 11/2/2017 01:21:49 | Continuing Calibration Verification | As (188.980 nm)    | 0.9360 (ppm)     | 0.89     | 0.9360 (ppm)    | 863.3837     |
| 11/2/2017 01:21:49 | Continuing Calibration Verification | B (249.772 nm)     | 2.3567 (ppm)     | 0.31     | 2.3567 (ppm)    | 67626.2805   |
| 11/2/2017 01:21:49 | Continuing Calibration Verification | Ba (230.424 nm)    | 9.9503 (ppm)     | 0.24     | 9.9503 (ppm)    | 348243.2638  |
| 11/2/2017 01:21:49 | Continuing Calibration Verification | Be (313.107 nm)    | 0.2472 (ppm)     | 0.20     | 0.2472 (ppm)    | 374398.8198  |
| 11/2/2017 01:21:49 | Continuing Calibration Verification | Ca (227.547 nm)    | 24.0356 (ppm)    | 0.51     | 24.0356 (ppm)   | 1417.7249    |
| 11/2/2017 01:21:49 | Continuing Calibration Verification | Cd (214.439 nm)    | 0.4775 (ppm)     | 0.24     | 0.4775 (ppm)    | 10870.8864   |
| 11/2/2017 01:21:49 | Continuing Calibration Verification | Co (230.786 nm)    | 2.5018 (ppm)     | 0.28     | 2.5018 (ppm)    | 25747.4746   |
| 11/2/2017 01:21:49 | Continuing Calibration Verification | Cr (267.716 nm)    | 0.4845 (ppm)     | 0.27     | 0.4845 (ppm)    | 25266.5607   |
| 11/2/2017 01:21:49 | Continuing Calibration Verification | Cu (327.395 nm)    | 1.1993 (ppm)     | 0.40     | 1.1993 (ppm)    | 75345.7806   |
| 11/2/2017 01:21:49 | Continuing Calibration Verification | Fe (234.350 nm)    | 4.6748 (ppm)     | 0.23     | 4.6748 (ppm)    | 54380.5025   |
| 11/2/2017 01:21:49 | Continuing Calibration Verification | K (766.491 nm)     | 24.7224 (ppm)    | 0.78     | 24.7224 (ppm)   | 76389.6289   |
| 11/2/2017 01:21:49 | Continuing Calibration Verification | Mg (279.078 nm)    | 24.0667 (ppm)    | 0.29     | 24.0667 (ppm)   | 48554.3950   |
| 11/2/2017 01:21:49 | Continuing Calibration Verification | Mn (257.610 nm)    | 0.7316 (ppm)     | 0.28     | 0.7316 (ppm)    | 236727.8926  |
| 11/2/2017 01:21:49 | Continuing Calibration Verification | Mo (202.032 nm)    | 2.3288 (ppm)     | 0.19     | 2.3288 (ppm)    | 24934.9955   |
| 11/2/2017 01:21:49 | Continuing Calibration Verification | Na (588.995 nm)    | 24.9459 (ppm)    | 0.93     | 24.9459 (ppm)   | 1138708.3363 |

| Date Time          | Label                               | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity   |
|--------------------|-------------------------------------|--------------------|-----------------|----------|-----------------|-------------|
| 11/2/2017 01:21:49 | Continuing Calibration Verification | Ni (230.299 nm)    | 1.9673 (ppm)    | 0.19     | 1.9673 (ppm)    | 13625.2036  |
| 11/2/2017 01:21:49 | Continuing Calibration Verification | Pb (220.353 nm)    | 0.4816 (ppm)    | 0.46     | 0.4816 (ppm)    | 1080.7421   |
| 11/2/2017 01:21:49 | Continuing Calibration Verification | Sb (217.582 nm)    | 4.7834 (ppm)    | 0.50     | 4.7834 (ppm)    | 6828.1299   |
| 11/2/2017 01:21:49 | Continuing Calibration Verification | Se (196.026 nm)    | 0.4697 (ppm)    | 0.37     | 0.4697 (ppm)    | 415.8020    |
| 11/2/2017 01:21:49 | Continuing Calibration Verification | Sn (189.925 nm)    | 4.8630 (ppm)    | 0.58     | 4.8630 (ppm)    | 6196.4423   |
| 11/2/2017 01:21:49 | Continuing Calibration Verification | Sr (216.596 nm)    | 2.4141 (ppm)    | 0.34     | 2.4141 (ppm)    | 36011.1848  |
| 11/2/2017 01:21:49 | Continuing Calibration Verification | Ti (336.122 nm)    | 2.4469 (ppm)    | 0.44     | 2.4469 (ppm)    | 536183.5751 |
| 11/2/2017 01:21:49 | Continuing Calibration Verification | Ti (351.923 nm)    | 0.9721 (ppm)    | 0.67     | 0.9721 (ppm)    | 2774.4160   |
| 11/2/2017 01:21:49 | Continuing Calibration Verification | V (292.401 nm)     | 2.4493 (ppm)    | 0.38     | 2.4493 (ppm)    | 88277.1746  |
| 11/2/2017 01:21:49 | Continuing Calibration Verification | Y (360.074 nm)     | 0.98 (Ratio)    | 0.84     | 0.98 (Ratio)    | 922305.89   |
| 11/2/2017 01:21:49 | Continuing Calibration Verification | Y_R (360.074 nm)   | 0.98 (Ratio)    | 0.83     | 0.98 (Ratio)    | 921490.22   |
| 11/2/2017 01:21:49 | Continuing Calibration Verification | Zn (213.857 nm)    | 0.9654 (ppm)    | 0.24     | 0.9654 (ppm)    | 28017.9878  |
| 11/2/2017 01:25:08 | Continuing Calibration Blank        | Ag (328.068 nm)    | 0.0002 (ppm)    | 36.82    | 0.0002 (ppm)    | -113.1081   |
| 11/2/2017 01:25:08 | Continuing Calibration Blank        | Al (394.401 nm)    | 0.0007 (ppm)    | 34.45    | 0.0007 (ppm)    | 91.9711     |
| 11/2/2017 01:25:08 | Continuing Calibration Blank        | As (188.980 nm)    | 0.0005 u (ppm)  | > 100.00 | 0.0005 (ppm)    | -2.4475     |
| 11/2/2017 01:25:08 | Continuing Calibration Blank        | B (249.772 nm)     | 0.0009 (ppm)    | 83.42    | 0.0009 (ppm)    | 117.8977    |
| 11/2/2017 01:25:08 | Continuing Calibration Blank        | Ba (230.424 nm)    | 0.0005 (ppm)    | 20.70    | 0.0005 (ppm)    | 25.1034     |
| 11/2/2017 01:25:08 | Continuing Calibration Blank        | Be (313.107 nm)    | 0.0000 (ppm)    | 2.72     | 0.0000 (ppm)    | -466.7519   |
| 11/2/2017 01:25:08 | Continuing Calibration Blank        | Ca (227.547 nm)    | -0.0159 u (ppm) | > 100.00 | -0.0159 (ppm)   | 5.2388      |
| 11/2/2017 01:25:08 | Continuing Calibration Blank        | Cd (214.439 nm)    | 0.0002 (ppm)    | 54.67    | 0.0002 (ppm)    | 15.9060     |
| 11/2/2017 01:25:08 | Continuing Calibration Blank        | Co (230.786 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | -2.4089     |
| 11/2/2017 01:25:08 | Continuing Calibration Blank        | Cr (267.716 nm)    | 0.0000 u (ppm)  | 93.94    | 0.0000 (ppm)    | -2.9749     |
| 11/2/2017 01:25:08 | Continuing Calibration Blank        | Cu (327.395 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | 21.3501     |
| 11/2/2017 01:25:08 | Continuing Calibration Blank        | Fe (234.350 nm)    | 0.0042 (ppm)    | 2.43     | 0.0042 (ppm)    | 121.7106    |
| 11/2/2017 01:25:08 | Continuing Calibration Blank        | K (766.491 nm)     | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | 57.1011     |
| 11/2/2017 01:25:08 | Continuing Calibration Blank        | Mg (279.078 nm)    | 0.0032 (ppm)    | 44.06    | 0.0032 (ppm)    | -0.4766     |
| 11/2/2017 01:25:08 | Continuing Calibration Blank        | Mn (257.610 nm)    | 0.0014 (ppm)    | 30.39    | 0.0014 (ppm)    | 498.3997    |
| 11/2/2017 01:25:08 | Continuing Calibration Blank        | Mo (202.032 nm)    | 0.0024 (ppm)    | 10.84    | 0.0024 (ppm)    | 42.6042     |
| 11/2/2017 01:25:08 | Continuing Calibration Blank        | Na (588.995 nm)    | 0.0129 (ppm)    | 12.66    | 0.0129 (ppm)    | -5387.9118  |
| 11/2/2017 01:25:08 | Continuing Calibration Blank        | Ni (230.299 nm)    | 0.0008 (ppm)    | 43.93    | 0.0008 (ppm)    | -20.2592    |
| 11/2/2017 01:25:08 | Continuing Calibration Blank        | Pb (220.353 nm)    | -0.0006 u (ppm) | > 100.00 | -0.0006 (ppm)   | 4.3302      |
| 11/2/2017 01:25:08 | Continuing Calibration Blank        | Sb (217.582 nm)    | 0.0011 u (ppm)  | > 100.00 | 0.0011 (ppm)    | 5.6485      |
| 11/2/2017 01:25:08 | Continuing Calibration Blank        | Se (196.026 nm)    | 0.0025 (ppm)    | 61.21    | 0.0025 (ppm)    | 7.6679      |
| 11/2/2017 01:25:08 | Continuing Calibration Blank        | Sn (189.925 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | -0.3319     |
| 11/2/2017 01:25:08 | Continuing Calibration Blank        | Sr (216.596 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | -1.4960     |
| 11/2/2017 01:25:08 | Continuing Calibration Blank        | Ti (336.122 nm)    | 0.0009 (ppm)    | 4.19     | 0.0009 (ppm)    | -228.0532   |
| 11/2/2017 01:25:08 | Continuing Calibration Blank        | Ti (351.923 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | 14.6807     |
| 11/2/2017 01:25:08 | Continuing Calibration Blank        | V (292.401 nm)     | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | 108.5773    |
| 11/2/2017 01:25:08 | Continuing Calibration Blank        | Y (360.074 nm)     | 1.03 (Ratio)    | 0.70     | 1.03 (Ratio)    | 967108.29   |
| 11/2/2017 01:25:08 | Continuing Calibration Blank        | Y_R (360.074 nm)   | 1.03 (Ratio)    | 0.70     | 1.03 (Ratio)    | 966043.15   |
| 11/2/2017 01:25:08 | Continuing Calibration Blank        | Zn (213.857 nm)    | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | -30.3830    |
| 11/2/2017 01:28:27 | R1710205-001 20X                    | Ag (328.068 nm)    | 0.0002 (ppm)    | 22.79    | 0.0002 (ppm)    | -114.3515   |
| 11/2/2017 01:28:27 | R1710205-001 20X                    | Al (394.401 nm)    | 0.0002 u (ppm)  | > 100.00 | 0.0002 (ppm)    | 85.4460     |
| 11/2/2017 01:28:27 | R1710205-001 20X                    | As (188.980 nm)    | 0.0023 (ppm)    | 82.58    | 0.0023 (ppm)    | -0.7790     |
| 11/2/2017 01:28:27 | R1710205-001 20X                    | B (249.772 nm)     | -0.0004 u (ppm) | 40.49    | -0.0004 (ppm)   | 80.1354     |
| 11/2/2017 01:28:27 | R1710205-001 20X                    | Ba (230.424 nm)    | -0.0002 u (ppm) | 18.51    | -0.0002 (ppm)   | 0.5561      |
| 11/2/2017 01:28:27 | R1710205-001 20X                    | Be (313.107 nm)    | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | -497.6639   |
| 11/2/2017 01:28:27 | R1710205-001 20X                    | Ca (227.547 nm)    | -0.0092 u (ppm) | > 100.00 | -0.0092 (ppm)   | 5.6293      |
| 11/2/2017 01:28:27 | R1710205-001 20X                    | Cd (214.439 nm)    | 0.0001 (ppm)    | 95.85    | 0.0001 (ppm)    | 14.3353     |
| 11/2/2017 01:28:27 | R1710205-001 20X                    | Co (230.786 nm)    | -0.0002 u (ppm) | > 100.00 | -0.0002 (ppm)   | -3.0750     |
| 11/2/2017 01:28:27 | R1710205-001 20X                    | Cr (267.716 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | -4.4966     |

| Date Time          | Label            | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity   |
|--------------------|------------------|--------------------|-----------------|----------|-----------------|-------------|
| 11/2/2017 01:28:27 | R1710205-001 20X | Cu (327.395 nm)    | 0.0021 (ppm)    | 4.46     | 0.0021 (ppm)    | 153.0988    |
| 11/2/2017 01:28:27 | R1710205-001 20X | Fe (234.350 nm)    | 1.0958 (ppm)    | 0.16     | 1.0958 (ppm)    | 12802.9543  |
| 11/2/2017 01:28:27 | R1710205-001 20X | K (766.491 nm)     | -0.0104 u (ppm) | 52.35    | -0.0104 (ppm)   | 25.3115     |
| 11/2/2017 01:28:27 | R1710205-001 20X | Mg (279.078 nm)    | 0.0023 (ppm)    | 49.59    | 0.0023 (ppm)    | -2.3613     |
| 11/2/2017 01:28:27 | R1710205-001 20X | Mn (257.610 nm)    | 0.0020 (ppm)    | 15.08    | 0.0020 (ppm)    | 665.0313    |
| 11/2/2017 01:28:27 | R1710205-001 20X | Mo (202.032 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | 16.7877     |
| 11/2/2017 01:28:27 | R1710205-001 20X | Na (588.995 nm)    | 0.9741 (ppm)    | 0.66     | 0.9741 (ppm)    | 38720.5580  |
| 11/2/2017 01:28:27 | R1710205-001 20X | Ni (230.299 nm)    | 0.0003 u (ppm)  | > 100.00 | 0.0003 (ppm)    | -23.6867    |
| 11/2/2017 01:28:27 | R1710205-001 20X | Pb (220.353 nm)    | -0.0013 u (ppm) | 93.75    | -0.0013 (ppm)   | 2.8244      |
| 11/2/2017 01:28:27 | R1710205-001 20X | Sb (217.582 nm)    | -0.0034 u (ppm) | 67.43    | -0.0034 (ppm)   | -0.7774     |
| 11/2/2017 01:28:27 | R1710205-001 20X | Se (196.026 nm)    | 0.0377 (ppm)    | 3.07     | 0.0377 (ppm)    | 38.4945     |
| 11/2/2017 01:28:27 | R1710205-001 20X | Sn (189.925 nm)    | 0.0004 u (ppm)  | > 100.00 | 0.0004 (ppm)    | 0.3566      |
| 11/2/2017 01:28:27 | R1710205-001 20X | Sr (216.596 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | -0.5233     |
| 11/2/2017 01:28:27 | R1710205-001 20X | Ti (336.122 nm)    | 0.0001 (ppm)    | 31.79    | 0.0001 (ppm)    | -405.6612   |
| 11/2/2017 01:28:27 | R1710205-001 20X | Tl (351.923 nm)    | -0.0032 u (ppm) | 26.31    | -0.0032 (ppm)   | 5.4661      |
| 11/2/2017 01:28:27 | R1710205-001 20X | V (292.401 nm)     | -0.0002 u (ppm) | 69.32    | -0.0002 (ppm)   | 101.4742    |
| 11/2/2017 01:28:27 | R1710205-001 20X | Y (360.074 nm)     | 1.04 (Ratio)    | 0.68     | 1.04 (Ratio)    | 977350.31   |
| 11/2/2017 01:28:27 | R1710205-001 20X | Y_R (360.074 nm)   | 1.04 (Ratio)    | 0.69     | 1.04 (Ratio)    | 976142.78   |
| 11/2/2017 01:28:27 | R1710205-001 20X | Zn (213.857 nm)    | 1.0106 (ppm)    | 0.41     | 1.0106 (ppm)    | 29332.7481  |
| 11/2/2017 01:31:46 | R1710205-001 5X  | Ag (328.068 nm)    | 0.0002 (ppm)    | 16.26    | 0.0002 (ppm)    | -110.9617   |
| 11/2/2017 01:31:46 | R1710205-001 5X  | Al (394.401 nm)    | -0.0002 u (ppm) | > 100.00 | -0.0002 (ppm)   | 81.1809     |
| 11/2/2017 01:31:46 | R1710205-001 5X  | As (188.980 nm)    | 0.0020 u (ppm)  | > 100.00 | 0.0020 (ppm)    | -1.0432     |
| 11/2/2017 01:31:46 | R1710205-001 5X  | B (249.772 nm)     | 0.0005 (ppm)    | 12.54    | 0.0005 (ppm)    | 106.0199    |
| 11/2/2017 01:31:46 | R1710205-001 5X  | Ba (230.424 nm)    | -0.0001 u (ppm) | 74.01    | -0.0001 (ppm)   | 2.9009      |
| 11/2/2017 01:31:46 | R1710205-001 5X  | Be (313.107 nm)    | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | -500.5579   |
| 11/2/2017 01:31:46 | R1710205-001 5X  | Ca (227.547 nm)    | -0.0738 u (ppm) | 58.09    | -0.0738 (ppm)   | 1.8344      |
| 11/2/2017 01:31:46 | R1710205-001 5X  | Cd (214.439 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | 13.5381     |
| 11/2/2017 01:31:46 | R1710205-001 5X  | Co (230.786 nm)    | -0.0002 u (ppm) | 43.94    | -0.0002 (ppm)   | -3.7237     |
| 11/2/2017 01:31:46 | R1710205-001 5X  | Cr (267.716 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | 0.3284      |
| 11/2/2017 01:31:46 | R1710205-001 5X  | Cu (327.395 nm)    | 0.0083 (ppm)    | 1.74     | 0.0083 (ppm)    | 545.2955    |
| 11/2/2017 01:31:46 | R1710205-001 5X  | Fe (234.350 nm)    | 4.2402 (ppm)    | 1.38     | 4.2402 (ppm)    | 49331.1101  |
| 11/2/2017 01:31:46 | R1710205-001 5X  | K (766.491 nm)     | -0.0068 u (ppm) | > 100.00 | -0.0068 (ppm)   | 36.4318     |
| 11/2/2017 01:31:46 | R1710205-001 5X  | Mg (279.078 nm)    | 0.0028 (ppm)    | 21.42    | 0.0028 (ppm)    | -1.3363     |
| 11/2/2017 01:31:46 | R1710205-001 5X  | Mn (257.610 nm)    | 0.0051 (ppm)    | 11.12    | 0.0051 (ppm)    | 1670.4122   |
| 11/2/2017 01:31:46 | R1710205-001 5X  | Mo (202.032 nm)    | -0.0003 u (ppm) | 15.07    | -0.0003 (ppm)   | 14.0604     |
| 11/2/2017 01:31:46 | R1710205-001 5X  | Na (588.995 nm)    | 3.6664 (ppm)    | 0.77     | 3.6664 (ppm)    | 162260.5470 |
| 11/2/2017 01:31:46 | R1710205-001 5X  | Ni (230.299 nm)    | 0.0005 u (ppm)  | > 100.00 | 0.0005 (ppm)    | -22.8523    |
| 11/2/2017 01:31:46 | R1710205-001 5X  | Pb (220.353 nm)    | -0.0004 u (ppm) | 39.75    | -0.0004 (ppm)   | 4.7536      |
| 11/2/2017 01:31:46 | R1710205-001 5X  | Sb (217.582 nm)    | -0.0028 u (ppm) | 35.31    | -0.0028 (ppm)   | 0.1927      |
| 11/2/2017 01:31:46 | R1710205-001 5X  | Se (196.026 nm)    | 0.1474 (ppm)    | 0.60     | 0.1474 (ppm)    | 134.3074    |
| 11/2/2017 01:31:46 | R1710205-001 5X  | Sn (189.925 nm)    | 0.0006 u (ppm)  | > 100.00 | 0.0006 (ppm)    | 0.6214      |
| 11/2/2017 01:31:46 | R1710205-001 5X  | Sr (216.596 nm)    | 0.0004 (ppm)    | 31.29    | 0.0004 (ppm)    | 4.6416      |
| 11/2/2017 01:31:46 | R1710205-001 5X  | Ti (336.122 nm)    | 0.0001 (ppm)    | 22.23    | 0.0001 (ppm)    | -405.0308   |
| 11/2/2017 01:31:46 | R1710205-001 5X  | Tl (351.923 nm)    | -0.0032 u (ppm) | 75.07    | -0.0032 (ppm)   | 5.6728      |
| 11/2/2017 01:31:46 | R1710205-001 5X  | V (292.401 nm)     | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | 110.3513    |
| 11/2/2017 01:31:46 | R1710205-001 5X  | Y (360.074 nm)     | 1.04 (Ratio)    | 0.77     | 1.04 (Ratio)    | 970042.10   |
| 11/2/2017 01:31:46 | R1710205-001 5X  | Y_R (360.074 nm)   | 1.04 (Ratio)    | 0.77     | 1.04 (Ratio)    | 968959.76   |
| 11/2/2017 01:31:46 | R1710205-001 5X  | Zn (213.857 nm)    | 3.8602 o (ppm)  | 1.72     | 3.8602 (ppm)    | 112128.3549 |
| 11/2/2017 01:35:04 | R1710205-001     | Ag (328.068 nm)    | 0.0002 (ppm)    | 32.11    | 0.0002 (ppm)    | -110.9153   |
| 11/2/2017 01:35:04 | R1710205-001     | Al (394.401 nm)    | 0.0018 (ppm)    | 8.99     | 0.0018 (ppm)    | 106.7792    |
| 11/2/2017 01:35:04 | R1710205-001     | As (188.980 nm)    | 0.0008 (ppm)    | 45.82    | 0.0008 (ppm)    | -2.1694     |

| Date Time          | Label            | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity   |
|--------------------|------------------|--------------------|-----------------|----------|-----------------|-------------|
| 11/2/2017 01:35:04 | R1710205-001     | B (249.772 nm)     | 0.0074 (ppm)    | 2.78     | 0.0074 (ppm)    | 303.2679    |
| 11/2/2017 01:35:04 | R1710205-001     | Ba (230.424 nm)    | -0.0002 u (ppm) | 98.83    | -0.0002 (ppm)   | 2.7434      |
| 11/2/2017 01:35:04 | R1710205-001     | Be (313.107 nm)    | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | -516.3098   |
| 11/2/2017 01:35:04 | R1710205-001     | Ca (227.547 nm)    | -0.4206 u (ppm) | 3.80     | -0.4206 (ppm)   | -18.5329    |
| 11/2/2017 01:35:04 | R1710205-001     | Cd (214.439 nm)    | 0.0001 (ppm)    | 65.01    | 0.0001 (ppm)    | 15.3165     |
| 11/2/2017 01:35:04 | R1710205-001     | Co (230.786 nm)    | -0.0005 u (ppm) | 53.80    | -0.0005 (ppm)   | -6.2297     |
| 11/2/2017 01:35:04 | R1710205-001     | Cr (267.716 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | -0.9379     |
| 11/2/2017 01:35:04 | R1710205-001     | Cu (327.395 nm)    | 0.0407 (ppm)    | 0.92     | 0.0407 (ppm)    | 2580.3324   |
| 11/2/2017 01:35:04 | R1710205-001     | Fe (234.350 nm)    | 20.2878 o (ppm) | 0.30     | 20.2878 (ppm)   | 235758.2520 |
| 11/2/2017 01:35:04 | R1710205-001     | K (766.491 nm)     | 0.0033 u (ppm)  | > 100.00 | 0.0033 (ppm)    | 67.6682     |
| 11/2/2017 01:35:04 | R1710205-001     | Mg (279.078 nm)    | 0.0005 u (ppm)  | > 100.00 | 0.0005 (ppm)    | -5.9373     |
| 11/2/2017 01:35:04 | R1710205-001     | Mn (257.610 nm)    | 0.0203 (ppm)    | 6.07     | 0.0203 (ppm)    | 6586.6566   |
| 11/2/2017 01:35:04 | R1710205-001     | Mo (202.032 nm)    | -0.0008 u (ppm) | 34.54    | -0.0008 (ppm)   | 8.6875      |
| 11/2/2017 01:35:04 | R1710205-001     | Na (588.995 nm)    | 17.5738 (ppm)   | 0.63     | 17.5738 (ppm)   | 800425.7266 |
| 11/2/2017 01:35:04 | R1710205-001     | Ni (230.299 nm)    | 0.0013 (ppm)    | 12.13    | 0.0013 (ppm)    | -17.2022    |
| 11/2/2017 01:35:04 | R1710205-001     | Pb (220.353 nm)    | -0.0009 u (ppm) | > 100.00 | -0.0009 (ppm)   | 3.6971      |
| 11/2/2017 01:35:04 | R1710205-001     | Sb (217.582 nm)    | -0.0045 u (ppm) | 52.97    | -0.0045 (ppm)   | -2.3089     |
| 11/2/2017 01:35:04 | R1710205-001     | Se (196.026 nm)    | 0.7871 (ppm)    | 0.69     | 0.7871 (ppm)    | 693.0957    |
| 11/2/2017 01:35:04 | R1710205-001     | Sn (189.925 nm)    | 0.0015 (ppm)    | 54.17    | 0.0015 (ppm)    | 1.7551      |
| 11/2/2017 01:35:04 | R1710205-001     | Sr (216.596 nm)    | 0.0020 (ppm)    | 3.82     | 0.0020 (ppm)    | 29.1707     |
| 11/2/2017 01:35:04 | R1710205-001     | Ti (336.122 nm)    | 0.0004 (ppm)    | 5.28     | 0.0004 (ppm)    | -337.8214   |
| 11/2/2017 01:35:04 | R1710205-001     | Ti (351.923 nm)    | -0.0032 u (ppm) | 45.89    | -0.0032 (ppm)   | 5.5812      |
| 11/2/2017 01:35:04 | R1710205-001     | V (292.401 nm)     | 0.0004 (ppm)    | 43.74    | 0.0004 (ppm)    | 123.0741    |
| 11/2/2017 01:35:04 | R1710205-001     | Y (360.074 nm)     | 1.03 (Ratio)    | 0.70     | 1.03 (Ratio)    | 962622.02   |
| 11/2/2017 01:35:04 | R1710205-001     | Y_R (360.074 nm)   | 1.03 (Ratio)    | 0.70     | 1.03 (Ratio)    | 961710.01   |
| 11/2/2017 01:35:04 | R1710205-001     | Zn (213.857 nm)    | 17.6466 o (ppm) | 0.22     | 17.6466 (ppm)   | 512689.8669 |
| 11/2/2017 01:38:22 | R1710205-001D 5X | Ag (328.068 nm)    | 0.0001 (ppm)    | 29.37    | 0.0001 (ppm)    | -117.2499   |
| 11/2/2017 01:38:22 | R1710205-001D 5X | Al (394.401 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | 81.5474     |
| 11/2/2017 01:38:22 | R1710205-001D 5X | As (188.980 nm)    | 0.0035 (ppm)    | 38.43    | 0.0035 (ppm)    | 0.3349      |
| 11/2/2017 01:38:22 | R1710205-001D 5X | B (249.772 nm)     | 0.0001 u (ppm)  | > 100.00 | 0.0001 (ppm)    | 93.2203     |
| 11/2/2017 01:38:22 | R1710205-001D 5X | Ba (230.424 nm)    | -0.0002 u (ppm) | 55.25    | -0.0002 (ppm)   | 0.8168      |
| 11/2/2017 01:38:22 | R1710205-001D 5X | Be (313.107 nm)    | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | -504.7887   |
| 11/2/2017 01:38:22 | R1710205-001D 5X | Ca (227.547 nm)    | -0.1013 u (ppm) | 19.10    | -0.1013 (ppm)   | 0.2189      |
| 11/2/2017 01:38:22 | R1710205-001D 5X | Cd (214.439 nm)    | 0.0001 u (ppm)  | > 100.00 | 0.0001 (ppm)    | 13.6703     |
| 11/2/2017 01:38:22 | R1710205-001D 5X | Co (230.786 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | -1.6063     |
| 11/2/2017 01:38:22 | R1710205-001D 5X | Cr (267.716 nm)    | 0.0000 u (ppm)  | 39.58    | 0.0000 (ppm)    | -2.5365     |
| 11/2/2017 01:38:22 | R1710205-001D 5X | Cu (327.395 nm)    | 0.0081 (ppm)    | 0.74     | 0.0081 (ppm)    | 527.4337    |
| 11/2/2017 01:38:22 | R1710205-001D 5X | Fe (234.350 nm)    | 4.1032 (ppm)    | 0.33     | 4.1032 (ppm)    | 47739.5827  |
| 11/2/2017 01:38:22 | R1710205-001D 5X | K (766.491 nm)     | -0.0093 u (ppm) | 67.75    | -0.0093 (ppm)   | 28.6438     |
| 11/2/2017 01:38:22 | R1710205-001D 5X | Mg (279.078 nm)    | 0.0020 (ppm)    | 59.84    | 0.0020 (ppm)    | -2.9761     |
| 11/2/2017 01:38:22 | R1710205-001D 5X | Mn (257.610 nm)    | 0.0050 (ppm)    | 9.94     | 0.0050 (ppm)    | 1646.3469   |
| 11/2/2017 01:38:22 | R1710205-001D 5X | Mo (202.032 nm)    | -0.0005 u (ppm) | 29.82    | -0.0005 (ppm)   | 11.3630     |
| 11/2/2017 01:38:22 | R1710205-001D 5X | Na (588.995 nm)    | 3.5582 (ppm)    | 0.75     | 3.5582 (ppm)    | 157297.2526 |
| 11/2/2017 01:38:22 | R1710205-001D 5X | Ni (230.299 nm)    | 0.0004 u (ppm)  | > 100.00 | 0.0004 (ppm)    | -23.4381    |
| 11/2/2017 01:38:22 | R1710205-001D 5X | Pb (220.353 nm)    | -0.0002 u (ppm) | > 100.00 | -0.0002 (ppm)   | 5.2789      |
| 11/2/2017 01:38:22 | R1710205-001D 5X | Sb (217.582 nm)    | -0.0027 u (ppm) | 17.07    | -0.0027 (ppm)   | 0.2342      |
| 11/2/2017 01:38:22 | R1710205-001D 5X | Se (196.026 nm)    | 0.1464 (ppm)    | 0.77     | 0.1464 (ppm)    | 133.3755    |
| 11/2/2017 01:38:22 | R1710205-001D 5X | Sn (189.925 nm)    | -0.0003 u (ppm) | 64.74    | -0.0003 (ppm)   | -0.5225     |
| 11/2/2017 01:38:22 | R1710205-001D 5X | Sr (216.596 nm)    | 0.0004 (ppm)    | 46.32    | 0.0004 (ppm)    | 4.2306      |
| 11/2/2017 01:38:22 | R1710205-001D 5X | Ti (336.122 nm)    | 0.0000 (ppm)    | 64.90    | 0.0000 (ppm)    | -426.5322   |
| 11/2/2017 01:38:22 | R1710205-001D 5X | Ti (351.923 nm)    | -0.0030 u (ppm) | > 100.00 | -0.0030 (ppm)   | 6.0325      |

| Date Time          | Label            | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity   |
|--------------------|------------------|--------------------|-----------------|----------|-----------------|-------------|
| 11/2/2017 01:38:22 | R1710205-001D 5X | V (292.401 nm)     | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | 107.5723    |
| 11/2/2017 01:38:22 | R1710205-001D 5X | Y (360.074 nm)     | 1.04 (Ratio)    | 0.82     | 1.04 (Ratio)    | 971777.86   |
| 11/2/2017 01:38:22 | R1710205-001D 5X | Y_R (360.074 nm)   | 1.04 (Ratio)    | 0.82     | 1.04 (Ratio)    | 970802.94   |
| 11/2/2017 01:38:22 | R1710205-001D 5X | Zn (213.857 nm)    | 3.7308 o (ppm)  | 0.32     | 3.7308 (ppm)    | 108366.6879 |
| 11/2/2017 01:41:41 | R1710205-002 20X | Ag (328.068 nm)    | 0.0001 (ppm)    | 43.35    | 0.0001 (ppm)    | -115.7540   |
| 11/2/2017 01:41:41 | R1710205-002 20X | Al (394.401 nm)    | -0.0005 u (ppm) | > 100.00 | -0.0005 (ppm)   | 76.5030     |
| 11/2/2017 01:41:41 | R1710205-002 20X | As (188.980 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | -2.8730     |
| 11/2/2017 01:41:41 | R1710205-002 20X | B (249.772 nm)     | -0.0013 u (ppm) | 9.83     | -0.0013 (ppm)   | 54.3952     |
| 11/2/2017 01:41:41 | R1710205-002 20X | Ba (230.424 nm)    | -0.0001 u (ppm) | 50.18    | -0.0001 (ppm)   | 3.7885      |
| 11/2/2017 01:41:41 | R1710205-002 20X | Be (313.107 nm)    | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | -497.6333   |
| 11/2/2017 01:41:41 | R1710205-002 20X | Ca (227.547 nm)    | -0.0249 u (ppm) | > 100.00 | -0.0249 (ppm)   | 4.7061      |
| 11/2/2017 01:41:41 | R1710205-002 20X | Cd (214.439 nm)    | 0.0001 (ppm)    | 43.48    | 0.0001 (ppm)    | 14.5498     |
| 11/2/2017 01:41:41 | R1710205-002 20X | Co (230.786 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | -1.6396     |
| 11/2/2017 01:41:41 | R1710205-002 20X | Cr (267.716 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | -2.5913     |
| 11/2/2017 01:41:41 | R1710205-002 20X | Cu (327.395 nm)    | 0.0021 (ppm)    | 3.46     | 0.0021 (ppm)    | 152.0808    |
| 11/2/2017 01:41:41 | R1710205-002 20X | Fe (234.350 nm)    | 1.0522 (ppm)    | 0.44     | 1.0522 (ppm)    | 12295.8785  |
| 11/2/2017 01:41:41 | R1710205-002 20X | K (766.491 nm)     | -0.0196 u (ppm) | 44.10    | -0.0196 (ppm)   | -3.1177     |
| 11/2/2017 01:41:41 | R1710205-002 20X | Mg (279.078 nm)    | 0.0009 u (ppm)  | > 100.00 | 0.0009 (ppm)    | -5.1320     |
| 11/2/2017 01:41:41 | R1710205-002 20X | Mn (257.610 nm)    | 0.0019 (ppm)    | 15.12    | 0.0019 (ppm)    | 641.7567    |
| 11/2/2017 01:41:41 | R1710205-002 20X | Mo (202.032 nm)    | -0.0006 u (ppm) | 13.88    | -0.0006 (ppm)   | 10.5763     |
| 11/2/2017 01:41:41 | R1710205-002 20X | Na (588.995 nm)    | 0.9164 (ppm)    | 0.73     | 0.9164 (ppm)    | 36070.8217  |
| 11/2/2017 01:41:41 | R1710205-002 20X | Ni (230.299 nm)    | 0.0004 (ppm)    | 87.12    | 0.0004 (ppm)    | -23.5425    |
| 11/2/2017 01:41:41 | R1710205-002 20X | Pb (220.353 nm)    | -0.0011 u (ppm) | 20.25    | -0.0011 (ppm)   | 3.0929      |
| 11/2/2017 01:41:41 | R1710205-002 20X | Sb (217.582 nm)    | -0.0020 u (ppm) | 40.93    | -0.0020 (ppm)   | 1.2568      |
| 11/2/2017 01:41:41 | R1710205-002 20X | Se (196.026 nm)    | 0.0376 (ppm)    | 5.45     | 0.0376 (ppm)    | 38.3870     |
| 11/2/2017 01:41:41 | R1710205-002 20X | Sn (189.925 nm)    | -0.0016 u (ppm) | 14.73    | -0.0016 (ppm)   | -2.2149     |
| 11/2/2017 01:41:41 | R1710205-002 20X | Sr (216.596 nm)    | 0.0001 (ppm)    | > 100.00 | 0.0001 (ppm)    | 0.5365      |
| 11/2/2017 01:41:41 | R1710205-002 20X | Ti (336.122 nm)    | -0.0001 u (ppm) | 33.83    | -0.0001 (ppm)   | -448.0742   |
| 11/2/2017 01:41:41 | R1710205-002 20X | Tl (351.923 nm)    | -0.0018 u (ppm) | 79.08    | -0.0018 (ppm)   | 9.5723      |
| 11/2/2017 01:41:41 | R1710205-002 20X | V (292.401 nm)     | -0.0002 u (ppm) | 11.23    | -0.0002 (ppm)   | 101.4113    |
| 11/2/2017 01:41:41 | R1710205-002 20X | Y (360.074 nm)     | 1.04 (Ratio)    | 0.95     | 1.04 (Ratio)    | 978438.63   |
| 11/2/2017 01:41:41 | R1710205-002 20X | Y_R (360.074 nm)   | 1.04 (Ratio)    | 0.95     | 1.04 (Ratio)    | 977369.86   |
| 11/2/2017 01:41:41 | R1710205-002 20X | Zn (213.857 nm)    | 0.9655 (ppm)    | 0.97     | 0.9655 (ppm)    | 28022.1948  |
| 11/2/2017 01:45:00 | R1710205-002 5X  | Ag (328.068 nm)    | 0.0002 (ppm)    | 41.68    | 0.0002 (ppm)    | -111.0777   |
| 11/2/2017 01:45:00 | R1710205-002 5X  | Al (394.401 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | 81.5099     |
| 11/2/2017 01:45:00 | R1710205-002 5X  | As (188.980 nm)    | 0.0015 (ppm)    | > 100.00 | 0.0015 (ppm)    | -1.5545     |
| 11/2/2017 01:45:00 | R1710205-002 5X  | B (249.772 nm)     | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | 91.6127     |
| 11/2/2017 01:45:00 | R1710205-002 5X  | Be (230.424 nm)    | -0.0001 u (ppm) | 35.11    | -0.0001 (ppm)   | 3.4979      |
| 11/2/2017 01:45:00 | R1710205-002 5X  | Be (313.107 nm)    | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | -499.8403   |
| 11/2/2017 01:45:00 | R1710205-002 5X  | Ca (227.547 nm)    | -0.0603 u (ppm) | 45.58    | -0.0603 (ppm)   | 2.6277      |
| 11/2/2017 01:45:00 | R1710205-002 5X  | Cd (214.439 nm)    | 0.0001 u (ppm)  | > 100.00 | 0.0001 (ppm)    | 13.7346     |
| 11/2/2017 01:45:00 | R1710205-002 5X  | Co (230.786 nm)    | -0.0002 u (ppm) | 64.79    | -0.0002 (ppm)   | -3.1699     |
| 11/2/2017 01:45:00 | R1710205-002 5X  | Cr (267.716 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | -1.3874     |
| 11/2/2017 01:45:00 | R1710205-002 5X  | Cu (327.395 nm)    | 0.0081 (ppm)    | 0.84     | 0.0081 (ppm)    | 528.7782    |
| 11/2/2017 01:45:00 | R1710205-002 5X  | Fe (234.350 nm)    | 4.0994 (ppm)    | 0.62     | 4.0994 (ppm)    | 47695.6571  |
| 11/2/2017 01:45:00 | R1710205-002 5X  | K (766.491 nm)     | -0.0076 u (ppm) | 94.03    | -0.0076 (ppm)   | 34.0804     |
| 11/2/2017 01:45:00 | R1710205-002 5X  | Mg (279.078 nm)    | 0.0012 u (ppm)  | > 100.00 | 0.0012 (ppm)    | -4.5789     |
| 11/2/2017 01:45:00 | R1710205-002 5X  | Mn (257.610 nm)    | 0.0048 (ppm)    | 10.31    | 0.0048 (ppm)    | 1598.6259   |
| 11/2/2017 01:45:00 | R1710205-002 5X  | Mo (202.032 nm)    | -0.0004 u (ppm) | 60.08    | -0.0004 (ppm)   | 12.4175     |
| 11/2/2017 01:45:00 | R1710205-002 5X  | Na (588.995 nm)    | 3.4872 (ppm)    | 0.21     | 3.4872 (ppm)    | 154036.3975 |
| 11/2/2017 01:45:00 | R1710205-002 5X  | Ni (230.299 nm)    | 0.0005 u (ppm)  | > 100.00 | 0.0005 (ppm)    | -22.3543    |

| Date Time          | Label            | Element Label (nm)           | Conc            | %RSD     | Unadjusted Conc | Intensity   |
|--------------------|------------------|------------------------------|-----------------|----------|-----------------|-------------|
| 11/2/2017 01:45:00 | R1710205-002 5X  | Pb (220.353 nm)              | -0.0008 u (ppm) | > 100.00 | -0.0008 (ppm)   | 3.8013      |
| 11/2/2017 01:45:00 | R1710205-002 5X  | Sb (217.582 nm)              | -0.0031 u (ppm) | 27.61    | -0.0031 (ppm)   | -0.2664     |
| 11/2/2017 01:45:00 | R1710205-002 5X  | Se <sup>+</sup> (196.026 nm) | 0.1456 (ppm) †  | 1.45     | 0.1456 (ppm)    | 132.7478    |
| 11/2/2017 01:45:00 | R1710205-002 5X  | Sn (189.925 nm)              | 0.0001 u (ppm)  | > 100.00 | 0.0001 (ppm)    | -0.0514     |
| 11/2/2017 01:45:00 | R1710205-002 5X  | Sr (216.596 nm)              | 0.0003 (ppm)    | 58.66    | 0.0003 (ppm)    | 2.9586      |
| 11/2/2017 01:45:00 | R1710205-002 5X  | Ti (336.122 nm)              | -0.0001 u (ppm) | 44.90    | -0.0001 (ppm)   | -433.8593   |
| 11/2/2017 01:45:00 | R1710205-002 5X  | Ti (351.923 nm)              | -0.0036 u (ppm) | 49.46    | -0.0036 (ppm)   | 4.2801      |
| 11/2/2017 01:45:00 | R1710205-002 5X  | V (292.401 nm)               | -0.0002 u (ppm) | 56.30    | -0.0002 (ppm)   | 101.7378    |
| 11/2/2017 01:45:00 | R1710205-002 5X  | Y (360.074 nm)               | 1.04 (Ratio)    | 0.73     | 1.04 (Ratio)    | 976421.00   |
| 11/2/2017 01:45:00 | R1710205-002 5X  | Y_R (360.074 nm)             | 1.04 (Ratio)    | 0.74     | 1.04 (Ratio)    | 975378.13   |
| 11/2/2017 01:45:00 | R1710205-002 5X  | Zn (213.857 nm)              | 3.7248 o (ppm)  | 0.78     | 3.7248 (ppm)    | 108194.6169 |
| 11/2/2017 01:48:19 | R1710205-002     | Ag (328.068 nm)              | 0.0002 (ppm)    | 4.17     | 0.0002 (ppm)    | -110.3793   |
| 11/2/2017 01:48:19 | R1710205-002     | Al (394.401 nm)              | 0.0003 (ppm)    | > 100.00 | 0.0003 (ppm)    | 87.8765     |
| 11/2/2017 01:48:19 | R1710205-002     | As (188.980 nm)              | 0.0021 (ppm)    | 86.32    | 0.0021 (ppm)    | -0.9692     |
| 11/2/2017 01:48:19 | R1710205-002     | B (249.772 nm)               | 0.0070 (ppm)    | 1.46     | 0.0070 (ppm)    | 290.5357    |
| 11/2/2017 01:48:19 | R1710205-002     | Ba (230.424 nm)              | -0.0002 u (ppm) | 44.43    | -0.0002 (ppm)   | 1.7765      |
| 11/2/2017 01:48:19 | R1710205-002     | Be (313.107 nm)              | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | -514.5361   |
| 11/2/2017 01:48:19 | R1710205-002     | Ca (227.547 nm)              | -0.3958 u (ppm) | 8.91     | -0.3958 (ppm)   | -17.0744    |
| 11/2/2017 01:48:19 | R1710205-002     | Cd (214.439 nm)              | 0.0001 u (ppm)  | > 100.00 | 0.0001 (ppm)    | 15.2493     |
| 11/2/2017 01:48:19 | R1710205-002     | Co (230.786 nm)              | -0.0004 u (ppm) | > 100.00 | -0.0004 (ppm)   | -5.8547     |
| 11/2/2017 01:48:19 | R1710205-002     | Cr (267.716 nm)              | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | -1.6717     |
| 11/2/2017 01:48:19 | R1710205-002     | Cu (327.395 nm)              | 0.0404 (ppm)    | 1.26     | 0.0404 (ppm)    | 2561.7686   |
| 11/2/2017 01:48:19 | R1710205-002     | Fe (234.350 nm)              | 20.1792 o (ppm) | 0.40     | 20.1792 (ppm)   | 234495.8838 |
| 11/2/2017 01:48:19 | R1710205-002     | K (766.491 nm)               | 0.0040 u (ppm)  | > 100.00 | 0.0040 (ppm)    | 69.9136     |
| 11/2/2017 01:48:19 | R1710205-002     | Mg (279.078 nm)              | 0.0009 (ppm)    | 94.36    | 0.0009 (ppm)    | -5.2456     |
| 11/2/2017 01:48:19 | R1710205-002     | Mn (257.610 nm)              | 0.0200 (ppm)    | 5.76     | 0.0200 (ppm)    | 6507.6362   |
| 11/2/2017 01:48:19 | R1710205-002     | Mo (202.032 nm)              | -0.0008 u (ppm) | 58.43    | -0.0008 (ppm)   | 8.3547      |
| 11/2/2017 01:48:19 | R1710205-002     | Na (588.995 nm)              | 17.1542 (ppm)   | 0.88     | 17.1542 (ppm)   | 781170.3771 |
| 11/2/2017 01:48:19 | R1710205-002     | Ni (230.299 nm)              | 0.0012 (ppm)    | 9.14     | 0.0012 (ppm)    | -17.8608    |
| 11/2/2017 01:48:19 | R1710205-002     | Pb (220.353 nm)              | -0.0004 u (ppm) | 54.65    | -0.0004 (ppm)   | 4.7228      |
| 11/2/2017 01:48:19 | R1710205-002     | Sb (217.582 nm)              | -0.0021 u (ppm) | 62.98    | -0.0021 (ppm)   | 1.1243      |
| 11/2/2017 01:48:19 | R1710205-002     | Se (196.026 nm)              | 0.7864 (ppm)    | 0.70     | 0.7864 (ppm)    | 692.4459    |
| 11/2/2017 01:48:19 | R1710205-002     | Sn (189.925 nm)              | -0.0002 u (ppm) | > 100.00 | -0.0002 (ppm)   | -0.4668     |
| 11/2/2017 01:48:19 | R1710205-002     | Sr (216.596 nm)              | 0.0021 (ppm)    | 13.14    | 0.0021 (ppm)    | 30.8467     |
| 11/2/2017 01:48:19 | R1710205-002     | Ti (336.122 nm)              | 0.0004 (ppm)    | 25.39    | 0.0004 (ppm)    | -339.8032   |
| 11/2/2017 01:48:19 | R1710205-002     | Ti (351.923 nm)              | -0.0056 u (ppm) | 39.88    | -0.0056 (ppm)   | -1.2125     |
| 11/2/2017 01:48:19 | R1710205-002     | V (292.401 nm)               | 0.0004 (ppm)    | 5.23     | 0.0004 (ppm)    | 123.6568    |
| 11/2/2017 01:48:19 | R1710205-002     | Y (360.074 nm)               | 1.03 (Ratio)    | 0.82     | 1.03 (Ratio)    | 962379.53   |
| 11/2/2017 01:48:19 | R1710205-002     | Y_R (360.074 nm)             | 1.03 (Ratio)    | 0.83     | 1.03 (Ratio)    | 961404.76   |
| 11/2/2017 01:48:19 | R1710205-002     | Zn (213.857 nm)              | 17.4643 o (ppm) | 0.04     | 17.4643 (ppm)   | 507395.2340 |
| 11/2/2017 01:51:38 | R1710205-002D 5X | Ag (328.068 nm)              | 0.0002 (ppm)    | 45.75    | 0.0002 (ppm)    | -109.9248   |
| 11/2/2017 01:51:38 | R1710205-002D 5X | Al (394.401 nm)              | 0.0003 (ppm)    | 41.88    | 0.0003 (ppm)    | 87.6387     |
| 11/2/2017 01:51:38 | R1710205-002D 5X | As (188.980 nm)              | 0.0014 (ppm)    | 35.23    | 0.0014 (ppm)    | -1.6155     |
| 11/2/2017 01:51:38 | R1710205-002D 5X | B (249.772 nm)               | -0.0002 u (ppm) | 92.51    | -0.0002 (ppm)   | 85.7914     |
| 11/2/2017 01:51:38 | R1710205-002D 5X | Ba (230.424 nm)              | -0.0001 u (ppm) | 26.75    | -0.0001 (ppm)   | 3.5424      |
| 11/2/2017 01:51:38 | R1710205-002D 5X | Be (313.107 nm)              | 0.0000 (ppm)    | 57.40    | 0.0000 (ppm)    | -495.0182   |
| 11/2/2017 01:51:38 | R1710205-002D 5X | Ca (227.547 nm)              | -0.0571 u (ppm) | 30.92    | -0.0571 (ppm)   | 2.8184      |
| 11/2/2017 01:51:38 | R1710205-002D 5X | Cd (214.439 nm)              | 0.0001 (ppm)    | > 100.00 | 0.0001 (ppm)    | 13.8249     |
| 11/2/2017 01:51:38 | R1710205-002D 5X | Co (230.786 nm)              | -0.0002 u (ppm) | 64.16    | -0.0002 (ppm)   | -3.5994     |
| 11/2/2017 01:51:38 | R1710205-002D 5X | Cr (267.716 nm)              | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | 1.4556      |
| 11/2/2017 01:51:38 | R1710205-002D 5X | Cu (327.395 nm)              | 0.0080 (ppm)    | 0.89     | 0.0080 (ppm)    | 523.0572    |



| Date Time          | Label                               | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|-------------------------------------|--------------------|-----------------|----------|-----------------|--------------|
| 11/2/2017 01:51:38 | R1710205-002D 5X                    | Fe (234.350 nm)    | 4.0466 (ppm)    | 0.32     | 4.0466 (ppm)    | 47082.3561   |
| 11/2/2017 01:51:38 | R1710205-002D 5X                    | K (766.491 nm)     | -0.0147 u (ppm) | 30.64    | -0.0147 (ppm)   | 12.0464      |
| 11/2/2017 01:51:38 | R1710205-002D 5X                    | Mg (279.078 nm)    | 0.0005 u (ppm)  | > 100.00 | 0.0005 (ppm)    | -6.0452      |
| 11/2/2017 01:51:38 | R1710205-002D 5X                    | Mn (257.610 nm)    | 0.0049 (ppm)    | 9.63     | 0.0049 (ppm)    | 1622.9314    |
| 11/2/2017 01:51:38 | R1710205-002D 5X                    | Mo (202.032 nm)    | -0.0007 u (ppm) | 24.32    | -0.0007 (ppm)   | 9.4286       |
| 11/2/2017 01:51:38 | R1710205-002D 5X                    | Na (588.995 nm)    | 3.4441 (ppm)    | 0.73     | 3.4441 (ppm)    | 152061.3103  |
| 11/2/2017 01:51:38 | R1710205-002D 5X                    | Ni (230.299 nm)    | 0.0003 (ppm)    | 78.84    | 0.0003 (ppm)    | -24.2406     |
| 11/2/2017 01:51:38 | R1710205-002D 5X                    | Pb (220.353 nm)    | -0.0009 u (ppm) | > 100.00 | -0.0009 (ppm)   | 3.5251       |
| 11/2/2017 01:51:38 | R1710205-002D 5X                    | Sb (217.582 nm)    | -0.0027 u (ppm) | 38.65    | -0.0027 (ppm)   | 0.3124       |
| 11/2/2017 01:51:38 | R1710205-002D 5X                    | Se (196.026 nm)    | 0.1437 (ppm)    | 2.44     | 0.1437 (ppm)    | 131.0777     |
| 11/2/2017 01:51:38 | R1710205-002D 5X                    | Sn (189.925 nm)    | 0.0027 (ppm)    | 16.20    | 0.0027 (ppm)    | 3.2415       |
| 11/2/2017 01:51:38 | R1710205-002D 5X                    | Sr (216.596 nm)    | 0.0005 (ppm)    | 43.87    | 0.0005 (ppm)    | 5.6765       |
| 11/2/2017 01:51:38 | R1710205-002D 5X                    | Ti (336.122 nm)    | -0.0001 u (ppm) | 12.27    | -0.0001 (ppm)   | -439.3534    |
| 11/2/2017 01:51:38 | R1710205-002D 5X                    | Tl (351.923 nm)    | -0.0029 u (ppm) | 78.44    | -0.0029 (ppm)   | 6.5297       |
| 11/2/2017 01:51:38 | R1710205-002D 5X                    | V (292.401 nm)     | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | 108.1566     |
| 11/2/2017 01:51:38 | R1710205-002D 5X                    | Y (360.074 nm)     | 1.04 (Ratio)    | 0.70     | 1.04 (Ratio)    | 974988.56    |
| 11/2/2017 01:51:38 | R1710205-002D 5X                    | Y_R (360.074 nm)   | 1.04 (Ratio)    | 0.70     | 1.04 (Ratio)    | 974005.35    |
| 11/2/2017 01:51:38 | R1710205-002D 5X                    | Zn (213.857 nm)    | 3.6695 u (ppm)  | 1.41     | 3.6695 (ppm)    | 106587.1407  |
| 11/2/2017 01:54:57 | Continuing Calibration Verification | Ag (328.068 nm)    | 0.4799 (ppm)    | 0.53     | 0.4799 (ppm)    | 35130.5635   |
| 11/2/2017 01:54:57 | Continuing Calibration Verification | Al (394.401 nm)    | 9.4165 (ppm)    | 0.56     | 9.4165 (ppm)    | 125826.2370  |
| 11/2/2017 01:54:57 | Continuing Calibration Verification | As (188.980 nm)    | 0.9396 (ppm)    | 0.67     | 0.9396 (ppm)    | 866.7529     |
| 11/2/2017 01:54:57 | Continuing Calibration Verification | B (249.772 nm)     | 2.3593 (ppm)    | 0.39     | 2.3593 (ppm)    | 67700.2171   |
| 11/2/2017 01:54:57 | Continuing Calibration Verification | Ba (230.424 nm)    | 9.9627 (ppm)    | 0.30     | 9.9627 (ppm)    | 348679.4528  |
| 11/2/2017 01:54:57 | Continuing Calibration Verification | Be (313.107 nm)    | 0.2481 (ppm)    | 0.42     | 0.2481 (ppm)    | 375861.2310  |
| 11/2/2017 01:54:57 | Continuing Calibration Verification | Ca (227.547 nm)    | 23.8744 (ppm)   | 1.04     | 23.8744 (ppm)   | 1408.2597    |
| 11/2/2017 01:54:57 | Continuing Calibration Verification | Cd (214.439 nm)    | 0.4804 (ppm)    | 0.16     | 0.4804 (ppm)    | 10938.6638   |
| 11/2/2017 01:54:57 | Continuing Calibration Verification | Co (230.786 nm)    | 2.5097 (ppm)    | 0.36     | 2.5097 (ppm)    | 25828.2948   |
| 11/2/2017 01:54:57 | Continuing Calibration Verification | Cr (267.716 nm)    | 0.4866 (ppm)    | 0.33     | 0.4866 (ppm)    | 25379.9926   |
| 11/2/2017 01:54:57 | Continuing Calibration Verification | Cu (327.395 nm)    | 1.1935 (ppm)    | 0.50     | 1.1935 (ppm)    | 74983.4366   |
| 11/2/2017 01:54:57 | Continuing Calibration Verification | Fe (234.350 nm)    | 4.6980 (ppm)    | 0.32     | 4.6980 (ppm)    | 54649.4957   |
| 11/2/2017 01:54:57 | Continuing Calibration Verification | K (766.491 nm)     | 24.5204 (ppm)   | 0.80     | 24.5204 (ppm)   | 75765.7931   |
| 11/2/2017 01:54:57 | Continuing Calibration Verification | Mg (279.078 nm)    | 24.1362 (ppm)   | 0.45     | 24.1362 (ppm)   | 48694.6640   |
| 11/2/2017 01:54:57 | Continuing Calibration Verification | Mn (257.610 nm)    | 0.7332 (ppm)    | 0.22     | 0.7332 (ppm)    | 237255.4104  |
| 11/2/2017 01:54:57 | Continuing Calibration Verification | Mo (202.032 nm)    | 2.3369 (ppm)    | 0.28     | 2.3369 (ppm)    | 25021.5324   |
| 11/2/2017 01:54:57 | Continuing Calibration Verification | Na (588.995 nm)    | 24.7818 (ppm)   | 1.12     | 24.7818 (ppm)   | 1131180.7924 |
| 11/2/2017 01:54:57 | Continuing Calibration Verification | Ni (230.299 nm)    | 1.9748 (ppm)    | 0.40     | 1.9748 (ppm)    | 13677.1018   |
| 11/2/2017 01:54:57 | Continuing Calibration Verification | Pb (220.353 nm)    | 0.4827 (ppm)    | 0.90     | 0.4827 (ppm)    | 1083.0732    |
| 11/2/2017 01:54:57 | Continuing Calibration Verification | Sb (217.582 nm)    | 4.7740 (ppm)    | 0.68     | 4.7740 (ppm)    | 6814.7291    |
| 11/2/2017 01:54:57 | Continuing Calibration Verification | Se (196.026 nm)    | 0.4728 (ppm)    | 1.12     | 0.4728 (ppm)    | 418.5459     |
| 11/2/2017 01:54:57 | Continuing Calibration Verification | Sn (189.925 nm)    | 4.8981 (ppm)    | 0.50     | 4.8981 (ppm)    | 6241.2200    |
| 11/2/2017 01:54:57 | Continuing Calibration Verification | Sr (216.596 nm)    | 2.4222 (ppm)    | 0.14     | 2.4222 (ppm)    | 36131.6022   |
| 11/2/2017 01:54:57 | Continuing Calibration Verification | Ti (336.122 nm)    | 2.4370 (ppm)    | 0.45     | 2.4370 (ppm)    | 534013.2162  |
| 11/2/2017 01:54:57 | Continuing Calibration Verification | Tl (351.923 nm)    | 0.9722 (ppm)    | 0.27     | 0.9722 (ppm)    | 2774.7953    |
| 11/2/2017 01:54:57 | Continuing Calibration Verification | V (292.401 nm)     | 2.4552 (ppm)    | 0.34     | 2.4552 (ppm)    | 88488.3347   |
| 11/2/2017 01:54:57 | Continuing Calibration Verification | Y (360.074 nm)     | 0.99 (Ratio)    | 0.93     | 0.99 (Ratio)    | 923562.95    |
| 11/2/2017 01:54:57 | Continuing Calibration Verification | Y_R (360.074 nm)   | 0.99 (Ratio)    | 0.93     | 0.99 (Ratio)    | 922802.32    |
| 11/2/2017 01:54:57 | Continuing Calibration Verification | Zn (213.857 nm)    | 0.9690 (ppm)    | 0.35     | 0.9690 (ppm)    | 28122.8719   |
| 11/2/2017 01:58:16 | Continuing Calibration Blank        | Ag (328.068 nm)    | 0.0002 (ppm)    | 29.71    | 0.0002 (ppm)    | -114.2562    |
| 11/2/2017 01:58:16 | Continuing Calibration Blank        | Al (394.401 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | 83.4176      |
| 11/2/2017 01:58:16 | Continuing Calibration Blank        | As (188.980 nm)    | 0.0008 u (ppm)  | > 100.00 | 0.0008 (ppm)    | -2.1535      |
| 11/2/2017 01:58:16 | Continuing Calibration Blank        | B (249.772 nm)     | 0.0006 u (ppm)  | > 100.00 | 0.0006 (ppm)    | 109.1519     |

| Date Time          | Label                             | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity  |
|--------------------|-----------------------------------|--------------------|-----------------|----------|-----------------|------------|
| 11/2/2017 01:58:16 | Continuing Calibration Blank      | Ba (230.424 nm)    | 0.0006 (ppm)    | 15.93    | 0.0006 (ppm)    | 28.8967    |
| 11/2/2017 01:58:16 | Continuing Calibration Blank      | Be (313.107 nm)    | 0.0000 (ppm)    | 14.03    | 0.0000 (ppm)    | -470.1342  |
| 11/2/2017 01:58:16 | Continuing Calibration Blank      | Ca (227.547 nm)    | -0.0426 u (ppm) | > 100.00 | -0.0426 (ppm)   | 3.6697     |
| 11/2/2017 01:58:16 | Continuing Calibration Blank      | Cd (214.439 nm)    | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | 12.4645    |
| 11/2/2017 01:58:16 | Continuing Calibration Blank      | Co (230.786 nm)    | 0.0002 (ppm)    | 45.95    | 0.0002 (ppm)    | 1.0273     |
| 11/2/2017 01:58:16 | Continuing Calibration Blank      | Cr (267.716 nm)    | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | 1.8395     |
| 11/2/2017 01:58:16 | Continuing Calibration Blank      | Cu (327.395 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | 24.2909    |
| 11/2/2017 01:58:16 | Continuing Calibration Blank      | Fe (234.350 nm)    | 0.0044 (ppm)    | 5.41     | 0.0044 (ppm)    | 123.5829   |
| 11/2/2017 01:58:16 | Continuing Calibration Blank      | K (766.491 nm)     | 0.0098 (ppm)    | 56.54    | 0.0098 (ppm)    | 87.7409    |
| 11/2/2017 01:58:16 | Continuing Calibration Blank      | Mg (279.078 nm)    | 0.0034 (ppm)    | 20.26    | 0.0034 (ppm)    | -0.2380    |
| 11/2/2017 01:58:16 | Continuing Calibration Blank      | Mn (257.610 nm)    | 0.0012 (ppm)    | 29.07    | 0.0012 (ppm)    | 424.5767   |
| 11/2/2017 01:58:16 | Continuing Calibration Blank      | Mo (202.032 nm)    | 0.0023 (ppm)    | 8.39     | 0.0023 (ppm)    | 41.7365    |
| 11/2/2017 01:58:16 | Continuing Calibration Blank      | Na (588.995 nm)    | 0.0110 (ppm)    | 11.78    | 0.0110 (ppm)    | -5473.5165 |
| 11/2/2017 01:58:16 | Continuing Calibration Blank      | Ni (230.299 nm)    | 0.0008 (ppm)    | 27.12    | 0.0008 (ppm)    | -20.3128   |
| 11/2/2017 01:58:16 | Continuing Calibration Blank      | Pb (220.353 nm)    | -0.0002 u (ppm) | 43.47    | -0.0002 (ppm)   | 5.0921     |
| 11/2/2017 01:58:16 | Continuing Calibration Blank      | Sb (217.582 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | 3.9173     |
| 11/2/2017 01:58:16 | Continuing Calibration Blank      | Se (196.026 nm)    | -0.0016 u (ppm) | > 100.00 | -0.0016 (ppm)   | 4.1536     |
| 11/2/2017 01:58:16 | Continuing Calibration Blank      | Sn (189.925 nm)    | 0.0008 (ppm)    | 66.92    | 0.0008 (ppm)    | 0.8422     |
| 11/2/2017 01:58:16 | Continuing Calibration Blank      | Sr (216.596 nm)    | 0.0002 (ppm)    | 30.31    | 0.0002 (ppm)    | 1.5009     |
| 11/2/2017 01:58:16 | Continuing Calibration Blank      | Ti (336.122 nm)    | 0.0009 (ppm)    | 13.52    | 0.0009 (ppm)    | -214.4809  |
| 11/2/2017 01:58:16 | Continuing Calibration Blank      | Ti (351.923 nm)    | -0.0020 u (ppm) | 66.46    | -0.0020 (ppm)   | 9.0178     |
| 11/2/2017 01:58:16 | Continuing Calibration Blank      | V (292.401 nm)     | -0.0001 u (ppm) | 98.11    | -0.0001 (ppm)   | 108.0312   |
| 11/2/2017 01:58:16 | Continuing Calibration Blank      | Y (360.074 nm)     | 1.04 (Ratio)    | 0.74     | 1.04 (Ratio)    | 972250.16  |
| 11/2/2017 01:58:16 | Continuing Calibration Blank      | Y_R (360.074 nm)   | 1.04 (Ratio)    | 0.74     | 1.04 (Ratio)    | 971179.09  |
| 11/2/2017 01:58:16 | Continuing Calibration Blank      | Zn (213.857 nm)    | 0.0001 (ppm)    | 98.53    | 0.0001 (ppm)    | -26.7943   |
| 11/2/2017 02:01:34 | Contract Required Detection Limit | Ag (328.068 nm)    | 0.0095 (ppm)    | 1.46     | 0.0095 (ppm)    | 575.6232   |
| 11/2/2017 02:01:34 | Contract Required Detection Limit | Al (394.401 nm)    | 0.1711 (ppm)    | 0.93     | 0.1711 (ppm)    | 2368.0760  |
| 11/2/2017 02:01:34 | Contract Required Detection Limit | As (188.980 nm)    | 0.0185 (ppm)    | 13.09    | 0.0185 (ppm)    | 14.2035    |
| 11/2/2017 02:01:34 | Contract Required Detection Limit | B (249.772 nm)     | 0.1822 (ppm)    | 0.15     | 0.1822 (ppm)    | 5312.3014  |
| 11/2/2017 02:01:34 | Contract Required Detection Limit | Ba (230.424 nm)    | 0.2038 (ppm)    | 0.31     | 0.2038 (ppm)    | 7140.5233  |
| 11/2/2017 02:01:34 | Contract Required Detection Limit | Be (313.107 nm)    | 0.0047 (ppm)    | 0.53     | 0.0047 (ppm)    | 6658.3684  |
| 11/2/2017 02:01:34 | Contract Required Detection Limit | Ca (227.547 nm)    | 0.9355 (ppm)    | 3.07     | 0.9355 (ppm)    | 61.1108    |
| 11/2/2017 02:01:34 | Contract Required Detection Limit | Cd (214.439 nm)    | 0.0098 (ppm)    | 0.89     | 0.0098 (ppm)    | 234.9707   |
| 11/2/2017 02:01:34 | Contract Required Detection Limit | Co (230.786 nm)    | 0.0490 (ppm)    | 1.36     | 0.0490 (ppm)    | 502.7005   |
| 11/2/2017 02:01:34 | Contract Required Detection Limit | Cr (267.716 nm)    | 0.0096 (ppm)    | 0.38     | 0.0096 (ppm)    | 502.7576   |
| 11/2/2017 02:01:34 | Contract Required Detection Limit | Cu (327.395 nm)    | 0.0240 (ppm)    | 0.32     | 0.0240 (ppm)    | 1531.4540  |
| 11/2/2017 02:01:34 | Contract Required Detection Limit | Fe (234.350 nm)    | 0.0929 (ppm)    | 0.36     | 0.0929 (ppm)    | 1152.4554  |
| 11/2/2017 02:01:34 | Contract Required Detection Limit | K (766.491 nm)     | 0.9130 (ppm)    | 1.47     | 0.9130 (ppm)    | 2876.5697  |
| 11/2/2017 02:01:34 | Contract Required Detection Limit | Mg (279.078 nm)    | 0.9563 (ppm)    | 0.17     | 0.9563 (ppm)    | 1922.6444  |
| 11/2/2017 02:01:34 | Contract Required Detection Limit | Mn (257.610 nm)    | 0.0180 (ppm)    | 6.43     | 0.0180 (ppm)    | 5844.4987  |
| 11/2/2017 02:01:34 | Contract Required Detection Limit | Mo (202.032 nm)    | 0.0238 (ppm)    | 2.79     | 0.0238 (ppm)    | 271.1952   |
| 11/2/2017 02:01:34 | Contract Required Detection Limit | Na (588.995 nm)    | 1.0161 (ppm)    | 0.55     | 1.0161 (ppm)    | 40648.6361 |
| 11/2/2017 02:01:34 | Contract Required Detection Limit | Ni (230.299 nm)    | 0.0401 (ppm)    | 2.20     | 0.0401 (ppm)    | 252.1578   |
| 11/2/2017 02:01:34 | Contract Required Detection Limit | Pb (220.353 nm)    | 0.0092 (ppm)    | 6.78     | 0.0092 (ppm)    | 26.1975    |
| 11/2/2017 02:01:34 | Contract Required Detection Limit | Sb (217.582 nm)    | 0.0537 (ppm)    | 0.57     | 0.0537 (ppm)    | 80.7576    |
| 11/2/2017 02:01:34 | Contract Required Detection Limit | Se (196.026 nm)    | 0.0098 (ppm)    | 13.46    | 0.0098 (ppm)    | 14.0809    |
| 11/2/2017 02:01:34 | Contract Required Detection Limit | Sn (189.925 nm)    | 0.4845 (ppm)    | 0.35     | 0.4845 (ppm)    | 617.1754   |
| 11/2/2017 02:01:34 | Contract Required Detection Limit | Sr (216.596 nm)    | 0.0967 (ppm)    | 0.29     | 0.0967 (ppm)    | 1441.0297  |
| 11/2/2017 02:01:34 | Contract Required Detection Limit | Ti (336.122 nm)    | 0.0494 (ppm)    | 0.21     | 0.0494 (ppm)    | 10409.9050 |
| 11/2/2017 02:01:34 | Contract Required Detection Limit | Ti (351.923 nm)    | 0.0167 (ppm)    | 14.80    | 0.0167 (ppm)    | 62.1664    |
| 11/2/2017 02:01:34 | Contract Required Detection Limit | V (292.401 nm)     | 0.0475 (ppm)    | 0.73     | 0.0475 (ppm)    | 1819.7721  |

| Date Time          | Label                             | Element Label (nm) | Conc             | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|-----------------------------------|--------------------|------------------|----------|-----------------|--------------|
| 11/2/2017 02:01:34 | Contract Required Detection Limit | Y (360.074 nm)     | 1.04 (Ratio)     | 0.69     | 1.04 (Ratio)    | 973917.89    |
| 11/2/2017 02:01:34 | Contract Required Detection Limit | Y_R (360.074 nm)   | 1.04 (Ratio)     | 0.69     | 1.04 (Ratio)    | 972796.07    |
| 11/2/2017 02:01:34 | Contract Required Detection Limit | Zn (213.857 nm)    | 0.0187 (ppm)     | 1.00     | 0.0187 (ppm)    | 511.8546     |
| 11/2/2017 02:04:54 | Interference Check Solution A     | Ag (328.068 nm)    | 0.0003 (ppm)     | 28.59    | 0.0003 (ppm)    | -104.7297    |
| 11/2/2017 02:04:54 | Interference Check Solution A     | Al (394.401 nm)    | 259.2582 o (ppm) | 0.44     | 259.2582 (ppm)  | 3462077.0143 |
| 11/2/2017 02:04:54 | Interference Check Solution A     | As (188.980 nm)    | 0.0020 (ppm)     | 58.43    | 0.0020 (ppm)    | -1.0614      |
| 11/2/2017 02:04:54 | Interference Check Solution A     | B (249.772 nm)     | 0.0356 (ppm)     | 0.49     | 0.0356 (ppm)    | 1111.8029    |
| 11/2/2017 02:04:54 | Interference Check Solution A     | Ba (230.424 nm)    | 0.0004 (ppm)     | 19.06    | 0.0004 (ppm)    | 20.8607      |
| 11/2/2017 02:04:54 | Interference Check Solution A     | Be (313.107 nm)    | -0.0001 u (ppm)  | 18.52    | -0.0001 (ppm)   | -584.6877    |
| 11/2/2017 02:04:54 | Interference Check Solution A     | Ca (227.547 nm)    | 263.6841 o (ppm) | 0.40     | 263.6841 (ppm)  | 15491.7187   |
| 11/2/2017 02:04:54 | Interference Check Solution A     | Cd (214.439 nm)    | -0.0014 Ku (ppm) | 13.38    | -0.0014 (ppm)   | -19.1499 K   |
| 11/2/2017 02:04:54 | Interference Check Solution A     | Co (230.786 nm)    | -0.0024 u (ppm)  | 7.99     | -0.0024 (ppm)   | -26.5148     |
| 11/2/2017 02:04:54 | Interference Check Solution A     | Cr (267.716 nm)    | 0.0000 u (ppm)   | > 100.00 | 0.0000 (ppm)    | -0.7714      |
| 11/2/2017 02:04:54 | Interference Check Solution A     | Cu (327.395 nm)    | 0.0006 (ppm)     | 32.95    | 0.0006 (ppm)    | 57.2744      |
| 11/2/2017 02:04:54 | Interference Check Solution A     | Fe (234.350 nm)    | 85.2963 o (ppm)  | 0.36     | 85.2963 (ppm)   | 990967.9543  |
| 11/2/2017 02:04:54 | Interference Check Solution A     | K (766.491 nm)     | 0.0071 u (ppm)   | > 100.00 | 0.0071 (ppm)    | 79.3363      |
| 11/2/2017 02:04:54 | Interference Check Solution A     | Mg (279.078 nm)    | 253.6335 o (ppm) | 0.25     | 253.6335 (ppm)  | 511770.1920  |
| 11/2/2017 02:04:54 | Interference Check Solution A     | Mn (257.610 nm)    | 0.0048 (ppm)     | 24.86    | 0.0048 (ppm)    | 1597.0444    |
| 11/2/2017 02:04:54 | Interference Check Solution A     | Mo (202.032 nm)    | -0.0001 u (ppm)  | > 100.00 | -0.0001 (ppm)   | 15.3798      |
| 11/2/2017 02:04:54 | Interference Check Solution A     | Na (588.995 nm)    | 0.0125 (ppm)     | 1.28     | 0.0125 (ppm)    | -5402.8746   |
| 11/2/2017 02:04:54 | Interference Check Solution A     | Ni (230.299 nm)    | -0.0018 u (ppm)  | 52.63    | -0.0018 (ppm)   | -38.4187     |
| 11/2/2017 02:04:54 | Interference Check Solution A     | Pb (220.353 nm)    | -0.0026 u (ppm)  | 66.07    | -0.0026 (ppm)   | -0.1989      |
| 11/2/2017 02:04:54 | Interference Check Solution A     | Sb (217.582 nm)    | -0.0083 u (ppm)  | 35.47    | -0.0083 (ppm)   | -7.6883      |
| 11/2/2017 02:04:54 | Interference Check Solution A     | Se (196.026 nm)    | -0.0022 u (ppm)  | > 100.00 | -0.0022 (ppm)   | 3.6315       |
| 11/2/2017 02:04:54 | Interference Check Solution A     | Sn (189.925 nm)    | -0.0013 u (ppm)  | > 100.00 | -0.0013 (ppm)   | -1.7819      |
| 11/2/2017 02:04:54 | Interference Check Solution A     | Sr (216.596 nm)    | 0.0179 (ppm)     | 4.25     | 0.0179 (ppm)    | 265.6382     |
| 11/2/2017 02:04:54 | Interference Check Solution A     | Ti (336.122 nm)    | 0.0014 (ppm)     | 3.16     | 0.0014 (ppm)    | -112.1035    |
| 11/2/2017 02:04:54 | Interference Check Solution A     | Tl (351.923 nm)    | 0.0003 u (ppm)   | > 100.00 | 0.0003 (ppm)    | 15.4091      |
| 11/2/2017 02:04:54 | Interference Check Solution A     | V (292.401 nm)     | 0.0031 K (ppm)   | 4.02     | 0.0031 (ppm)    | 222.2478 K   |
| 11/2/2017 02:04:54 | Interference Check Solution A     | Y (360.074 nm)     | 0.91 (Ratio)     | 0.63     | 0.91 (Ratio)    | 849735.37    |
| 11/2/2017 02:04:54 | Interference Check Solution A     | Y_R (360.074 nm)   | 0.91 (Ratio)     | 0.63     | 0.91 (Ratio)    | 849059.01    |
| 11/2/2017 02:04:54 | Interference Check Solution A     | Zn (213.857 nm)    | 0.0111 K (ppm)   | 1.39     | 0.0111 (ppm)    | 290.9275 K   |
| 11/2/2017 02:08:13 | Interference Check Solution AB    | Ag (328.068 nm)    | 0.2102 (ppm)     | 0.25     | 0.2102 (ppm)    | 15317.5948   |
| 11/2/2017 02:08:13 | Interference Check Solution AB    | Al (394.401 nm)    | 259.6192 o (ppm) | 0.36     | 259.6192 (ppm)  | 3466897.3141 |
| 11/2/2017 02:08:13 | Interference Check Solution AB    | As (188.980 nm)    | 0.0987 (ppm)     | 7.10     | 0.0987 (ppm)    | 88.4364      |
| 11/2/2017 02:08:13 | Interference Check Solution AB    | B (249.772 nm)     | 0.0359 (ppm)     | 1.52     | 0.0359 (ppm)    | 1120.7057    |
| 11/2/2017 02:08:13 | Interference Check Solution AB    | Ba (230.424 nm)    | 0.5086 (ppm)     | 0.17     | 0.5086 (ppm)    | 17808.6410   |
| 11/2/2017 02:08:13 | Interference Check Solution AB    | Be (313.107 nm)    | 0.4927 (ppm)     | 0.37     | 0.4927 (ppm)    | 746819.6746  |
| 11/2/2017 02:08:13 | Interference Check Solution AB    | Ca (227.547 nm)    | 262.2349 o (ppm) | 0.51     | 262.2349 (ppm)  | 15406.6070   |
| 11/2/2017 02:08:13 | Interference Check Solution AB    | Cd (214.439 nm)    | 0.9211 (ppm)     | 0.25     | 0.9211 (ppm)    | 20960.6333   |
| 11/2/2017 02:08:13 | Interference Check Solution AB    | Co (230.786 nm)    | 0.4770 (ppm)     | 0.33     | 0.4770 (ppm)    | 4907.8096    |
| 11/2/2017 02:08:13 | Interference Check Solution AB    | Cr (267.716 nm)    | 0.4739 (ppm)     | 0.27     | 0.4739 (ppm)    | 24713.1170   |
| 11/2/2017 02:08:13 | Interference Check Solution AB    | Cu (327.395 nm)    | 0.5241 (ppm)     | 0.25     | 0.5241 (ppm)    | 32942.6837   |
| 11/2/2017 02:08:13 | Interference Check Solution AB    | Fe (234.350 nm)    | 85.4612 o (ppm)  | 0.23     | 85.4612 (ppm)   | 992883.2905  |
| 11/2/2017 02:08:13 | Interference Check Solution AB    | K (766.491 nm)     | -0.0077 u (ppm)  | 21.82    | -0.0077 (ppm)   | 33.7689      |
| 11/2/2017 02:08:13 | Interference Check Solution AB    | Mg (279.078 nm)    | 254.2170 o (ppm) | 0.21     | 254.2170 (ppm)  | 512947.4874  |
| 11/2/2017 02:08:13 | Interference Check Solution AB    | Mn (257.610 nm)    | 0.4864 (ppm)     | 0.47     | 0.4864 (ppm)    | 157382.9789  |
| 11/2/2017 02:08:13 | Interference Check Solution AB    | Mo (202.032 nm)    | 0.0003 u (ppm)   | > 100.00 | 0.0003 (ppm)    | 19.9184      |
| 11/2/2017 02:08:13 | Interference Check Solution AB    | Na (588.995 nm)    | 0.0197 (ppm)     | 7.86     | 0.0197 (ppm)    | -5072.5510   |
| 11/2/2017 02:08:13 | Interference Check Solution AB    | Ni (230.299 nm)    | 0.9202 (ppm)     | 0.35     | 0.9202 (ppm)    | 6359.0829    |
| 11/2/2017 02:08:13 | Interference Check Solution AB    | Pb (220.353 nm)    | 0.0475 (ppm)     | 2.01     | 0.0475 (ppm)    | 111.6318     |

| Date Time          | Label                                | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|--------------------------------------|--------------------|-----------------|----------|-----------------|--------------|
| 11/2/2017 02:08:13 | Interference Check Solution AB       | Sb (217.582 nm)    | 0.5915 (ppm)    | 1.00     | 0.5915 (ppm)    | 847.9425     |
| 11/2/2017 02:08:13 | Interference Check Solution AB       | Se (196.026 nm)    | 0.0495 (ppm)    | 10.98    | 0.0495 (ppm)    | 48.7545      |
| 11/2/2017 02:08:13 | Interference Check Solution AB       | Sn (189.925 nm)    | 0.0015 u (ppm)  | > 100.00 | 0.0015 (ppm)    | 1.7429       |
| 11/2/2017 02:08:13 | Interference Check Solution AB       | Sr (216.596 nm)    | 0.0185 (ppm)    | 1.36     | 0.0185 (ppm)    | 274.4810     |
| 11/2/2017 02:08:13 | Interference Check Solution AB       | Ti (336.122 nm)    | 0.0013 (ppm)    | 3.40     | 0.0013 (ppm)    | -139.9773    |
| 11/2/2017 02:08:13 | Interference Check Solution AB       | Ti (351.923 nm)    | 0.1108 (ppm)    | 3.01     | 0.1108 (ppm)    | 329.0984     |
| 11/2/2017 02:08:13 | Interference Check Solution AB       | V (292.401 nm)     | 0.4926 (ppm)    | 0.20     | 0.4926 (ppm)    | 17840.3865   |
| 11/2/2017 02:08:13 | Interference Check Solution AB       | Y (360.074 nm)     | 0.91 (Ratio)    | 0.68     | 0.91 (Ratio)    | 849204.67    |
| 11/2/2017 02:08:13 | Interference Check Solution AB       | Y_R (360.074 nm)   | 0.91 (Ratio)    | 0.67     | 0.91 (Ratio)    | 848542.79    |
| 11/2/2017 02:08:13 | Interference Check Solution AB       | Zn (213.857 nm)    | 0.9899 (ppm)    | 0.24     | 0.9899 (ppm)    | 28731.5312   |
| 11/2/2017 02:11:32 | Continuing Calibration Verification1 | Ag (328.068 nm)    | 0.4826 (ppm)    | 0.22     | 0.4826 (ppm)    | 35326.4251   |
| 11/2/2017 02:11:32 | Continuing Calibration Verification1 | Al (394.401 nm)    | 9.4543 (ppm)    | 0.35     | 9.4543 (ppm)    | 126331.1026  |
| 11/2/2017 02:11:32 | Continuing Calibration Verification1 | As (188.980 nm)    | 0.9422 (ppm)    | 1.56     | 0.9422 (ppm)    | 869.1080     |
| 11/2/2017 02:11:32 | Continuing Calibration Verification1 | B (249.772 nm)     | 2.3719 (ppm)    | 0.15     | 2.3719 (ppm)    | 68062.2063   |
| 11/2/2017 02:11:32 | Continuing Calibration Verification1 | Ba (230.424 nm)    | 10.0347 (ppm)   | 0.01     | 10.0347 (ppm)   | 351197.5067  |
| 11/2/2017 02:11:32 | Continuing Calibration Verification1 | Be (313.107 nm)    | 0.2494 (ppm)    | 0.03     | 0.2494 (ppm)    | 377765.3471  |
| 11/2/2017 02:11:32 | Continuing Calibration Verification1 | Ca (227.547 nm)    | 23.9771 (ppm)   | 0.40     | 23.9771 (ppm)   | 1414.2860    |
| 11/2/2017 02:11:32 | Continuing Calibration Verification1 | Cd (214.439 nm)    | 0.4843 (ppm)    | 0.16     | 0.4843 (ppm)    | 11025.3096   |
| 11/2/2017 02:11:32 | Continuing Calibration Verification1 | Co (230.786 nm)    | 2.5240 (ppm)    | 0.17     | 2.5240 (ppm)    | 25975.9766   |
| 11/2/2017 02:11:32 | Continuing Calibration Verification1 | Cr (267.716 nm)    | 0.4894 (ppm)    | 0.07     | 0.4894 (ppm)    | 25523.1150   |
| 11/2/2017 02:11:32 | Continuing Calibration Verification1 | Cu (327.395 nm)    | 1.1993 (ppm)    | 0.44     | 1.1993 (ppm)    | 75350.9196   |
| 11/2/2017 02:11:32 | Continuing Calibration Verification1 | Fe (234.350 nm)    | 4.7372 (ppm)    | 0.11     | 4.7372 (ppm)    | 55104.9157   |
| 11/2/2017 02:11:32 | Continuing Calibration Verification1 | K (766.491 nm)     | 24.6184 (ppm)   | 0.48     | 24.6184 (ppm)   | 76068.5597   |
| 11/2/2017 02:11:32 | Continuing Calibration Verification1 | Mg (279.078 nm)    | 24.2977 (ppm)   | 0.16     | 24.2977 (ppm)   | 49020.4925   |
| 11/2/2017 02:11:32 | Continuing Calibration Verification1 | Mn (257.610 nm)    | 0.7374 (ppm)    | 0.11     | 0.7374 (ppm)    | 238610.1170  |
| 11/2/2017 02:11:32 | Continuing Calibration Verification1 | Mo (202.032 nm)    | 2.3539 (ppm)    | 0.17     | 2.3539 (ppm)    | 25203.6089   |
| 11/2/2017 02:11:32 | Continuing Calibration Verification1 | Na (588.995 nm)    | 24.8365 (ppm)   | 0.69     | 24.8365 (ppm)   | 1133687.4416 |
| 11/2/2017 02:11:32 | Continuing Calibration Verification1 | Ni (230.299 nm)    | 1.9845 (ppm)    | 0.10     | 1.9845 (ppm)    | 13744.8646   |
| 11/2/2017 02:11:32 | Continuing Calibration Verification1 | Pb (220.353 nm)    | 0.4856 (ppm)    | 0.18     | 0.4856 (ppm)    | 1089.5432    |
| 11/2/2017 02:11:32 | Continuing Calibration Verification1 | Sb (217.582 nm)    | 4.8023 (ppm)    | 0.21     | 4.8023 (ppm)    | 6855.0750    |
| 11/2/2017 02:11:32 | Continuing Calibration Verification1 | Se (196.026 nm)    | 0.4746 (ppm)    | 0.42     | 0.4746 (ppm)    | 420.1054     |
| 11/2/2017 02:11:32 | Continuing Calibration Verification1 | Sn (189.925 nm)    | 4.9236 (ppm)    | 0.19     | 4.9236 (ppm)    | 6273.6917    |
| 11/2/2017 02:11:32 | Continuing Calibration Verification1 | Sr (216.596 nm)    | 2.4328 (ppm)    | 0.09     | 2.4328 (ppm)    | 36289.3526   |
| 11/2/2017 02:11:32 | Continuing Calibration Verification1 | Ti (336.122 nm)    | 2.4478 (ppm)    | 0.53     | 2.4478 (ppm)    | 536378.2548  |
| 11/2/2017 02:11:32 | Continuing Calibration Verification1 | Ti (351.923 nm)    | 0.9754 (ppm)    | 0.54     | 0.9754 (ppm)    | 2783.7223    |
| 11/2/2017 02:11:32 | Continuing Calibration Verification1 | V (292.401 nm)     | 2.4672 (ppm)    | 0.09     | 2.4672 (ppm)    | 88921.8549   |
| 11/2/2017 02:11:32 | Continuing Calibration Verification1 | Y (360.074 nm)     | 0.99 (Ratio)    | 0.64     | 0.99 (Ratio)    | 923425.68    |
| 11/2/2017 02:11:32 | Continuing Calibration Verification1 | Y_R (360.074 nm)   | 0.99 (Ratio)    | 0.65     | 0.99 (Ratio)    | 922542.28    |
| 11/2/2017 02:11:32 | Continuing Calibration Verification1 | Zn (213.857 nm)    | 0.9747 (ppm)    | 0.14     | 0.9747 (ppm)    | 28289.5661   |
| 11/2/2017 02:14:50 | Continuing Calibration Blank1        | Ag (328.068 nm)    | 0.0002 (ppm)    | 12.75    | 0.0002 (ppm)    | -109.1379    |
| 11/2/2017 02:14:50 | Continuing Calibration Blank1        | Al (394.401 nm)    | 0.0003 u (ppm)  | > 100.00 | 0.0003 (ppm)    | 87.5482      |
| 11/2/2017 02:14:50 | Continuing Calibration Blank1        | As (188.980 nm)    | 0.0026 (ppm)    | > 100.00 | 0.0026 (ppm)    | -0.5164      |
| 11/2/2017 02:14:50 | Continuing Calibration Blank1        | B (249.772 nm)     | 0.0007 (ppm)    | 96.77    | 0.0007 (ppm)    | 110.1137     |
| 11/2/2017 02:14:50 | Continuing Calibration Blank1        | Ba (230.424 nm)    | 0.0003 (ppm)    | 34.14    | 0.0003 (ppm)    | 18.3083      |
| 11/2/2017 02:14:50 | Continuing Calibration Blank1        | Be (313.107 nm)    | 0.0000 (ppm)    | 16.61    | 0.0000 (ppm)    | -472.2596    |
| 11/2/2017 02:14:50 | Continuing Calibration Blank1        | Ca (227.547 nm)    | -0.0278 u (ppm) | 68.60    | -0.0278 (ppm)   | 4.5360       |
| 11/2/2017 02:14:50 | Continuing Calibration Blank1        | Cd (214.439 nm)    | 0.0001 (ppm)    | 41.16    | 0.0001 (ppm)    | 15.3893      |
| 11/2/2017 02:14:50 | Continuing Calibration Blank1        | Co (230.786 nm)    | 0.0002 (ppm)    | > 100.00 | 0.0002 (ppm)    | 0.4858       |
| 11/2/2017 02:14:50 | Continuing Calibration Blank1        | Cr (267.716 nm)    | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | -0.7763      |
| 11/2/2017 02:14:50 | Continuing Calibration Blank1        | Cu (327.395 nm)    | 0.0001 u (ppm)  | > 100.00 | 0.0001 (ppm)    | 25.5705      |
| 11/2/2017 02:14:50 | Continuing Calibration Blank1        | Fe (234.350 nm)    | 0.0005 (ppm)    | 85.36    | 0.0005 (ppm)    | 78.4184      |

| Date Time          | Label                          | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity  |
|--------------------|--------------------------------|--------------------|-----------------|----------|-----------------|------------|
| 11/2/2017 02:14:50 | Continuing Calibration Blank 1 | K (766.491 nm)     | -0.0005 u (ppm) | > 100.00 | -0.0005 (ppm)   | 55.9105    |
| 11/2/2017 02:14:50 | Continuing Calibration Blank 1 | Mg (279.078 nm)    | 0.0027 (ppm)    | 10.19    | 0.0027 (ppm)    | -1.5585    |
| 11/2/2017 02:14:50 | Continuing Calibration Blank 1 | Mn (257.610 nm)    | 0.0011 (ppm)    | 30.26    | 0.0011 (ppm)    | 394.3589   |
| 11/2/2017 02:14:50 | Continuing Calibration Blank 1 | Mo (202.032 nm)    | 0.0021 (ppm)    | 10.16    | 0.0021 (ppm)    | 38.9455    |
| 11/2/2017 02:14:50 | Continuing Calibration Blank 1 | Na (588.995 nm)    | 0.0079 (ppm)    | 8.30     | 0.0079 (ppm)    | -5617.8302 |
| 11/2/2017 02:14:50 | Continuing Calibration Blank 1 | Ni (230.299 nm)    | 0.0007 (ppm)    | 90.23    | 0.0007 (ppm)    | -21.3309   |
| 11/2/2017 02:14:50 | Continuing Calibration Blank 1 | Pb (220.353 nm)    | 0.0008 (ppm)    | 87.22    | 0.0008 (ppm)    | 7.4007     |
| 11/2/2017 02:14:50 | Continuing Calibration Blank 1 | Sb (217.582 nm)    | -0.0002 u (ppm) | > 100.00 | -0.0002 (ppm)   | 3.8649     |
| 11/2/2017 02:14:50 | Continuing Calibration Blank 1 | Se (196.026 nm)    | -0.0004 u (ppm) | > 100.00 | -0.0004 (ppm)   | 5.1587     |
| 11/2/2017 02:14:50 | Continuing Calibration Blank 1 | Sn (189.925 nm)    | -0.0004 u (ppm) | > 100.00 | -0.0004 (ppm)   | -0.6420    |
| 11/2/2017 02:14:50 | Continuing Calibration Blank 1 | Sr (216.596 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | -0.7042    |
| 11/2/2017 02:14:50 | Continuing Calibration Blank 1 | Ti (336.122 nm)    | 0.0008 (ppm)    | 7.42     | 0.0008 (ppm)    | -243.6503  |
| 11/2/2017 02:14:50 | Continuing Calibration Blank 1 | Tl (351.923 nm)    | 0.0001 u (ppm)  | > 100.00 | 0.0001 (ppm)    | 14.9131    |
| 11/2/2017 02:14:50 | Continuing Calibration Blank 1 | V (292.401 nm)     | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | 107.4852   |
| 11/2/2017 02:14:50 | Continuing Calibration Blank 1 | Y (360.074 nm)     | 1.04 (Ratio)    | 0.66     | 1.04 (Ratio)    | 972554.52  |
| 11/2/2017 02:14:50 | Continuing Calibration Blank 1 | Y_R (360.074 nm)   | 1.04 (Ratio)    | 0.67     | 1.04 (Ratio)    | 971414.47  |
| 11/2/2017 02:14:50 | Continuing Calibration Blank 1 | Zn (213.857 nm)    | 0.0002 (ppm)    | 28.64    | 0.0002 (ppm)    | -23.5898   |
| 11/2/2017 02:18:09 | PBW-301956                     | Ag (328.068 nm)    | 0.0002 (ppm)    | 21.35    | 0.0002 (ppm)    | -108.0716  |
| 11/2/2017 02:18:09 | PBW-301956                     | Al (394.401 nm)    | 0.0002 (ppm)    | 25.22    | 0.0002 (ppm)    | 86.3284    |
| 11/2/2017 02:18:09 | PBW-301956                     | As (188.980 nm)    | 0.0026 (ppm)    | 47.82    | 0.0026 (ppm)    | -0.5178    |
| 11/2/2017 02:18:09 | PBW-301956                     | B (249.772 nm)     | -0.0006 u (ppm) | 10.91    | -0.0006 (ppm)   | 74.7517    |
| 11/2/2017 02:18:09 | PBW-301956                     | Ba (230.424 nm)    | -0.0001 u (ppm) | 50.76    | -0.0001 (ppm)   | 5.0002     |
| 11/2/2017 02:18:09 | PBW-301956                     | Be (313.107 nm)    | 0.0000 (ppm)    | 58.30    | 0.0000 (ppm)    | -503.9039  |
| 11/2/2017 02:18:09 | PBW-301956                     | Ca (227.547 nm)    | -0.0424 u (ppm) | 32.44    | -0.0424 (ppm)   | 3.6813     |
| 11/2/2017 02:18:09 | PBW-301956                     | Cd (214.439 nm)    | -0.0001 u (ppm) | 36.28    | -0.0001 (ppm)   | 9.0993     |
| 11/2/2017 02:18:09 | PBW-301956                     | Ce (230.786 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | -2.8286    |
| 11/2/2017 02:18:09 | PBW-301956                     | Cr (267.716 nm)    | -0.0001 u (ppm) | 39.93    | -0.0001 (ppm)   | -4.5856    |
| 11/2/2017 02:18:09 | PBW-301956                     | Cu (327.395 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | 23.5173    |
| 11/2/2017 02:18:09 | PBW-301956                     | Fe (234.350 nm)    | -0.0048 u (ppm) | 7.69     | -0.0048 (ppm)   | 17.3755    |
| 11/2/2017 02:18:09 | PBW-301956                     | K (766.491 nm)     | -0.0073 u (ppm) | 72.27    | -0.0073 (ppm)   | 34.8706    |
| 11/2/2017 02:18:09 | PBW-301956                     | Mg (279.078 nm)    | 0.0026 (ppm)    | 11.47    | 0.0026 (ppm)    | -1.8659    |
| 11/2/2017 02:18:09 | PBW-301956                     | Mn (257.610 nm)    | 0.0035 (ppm)    | 38.47    | 0.0035 (ppm)    | 1166.0026  |
| 11/2/2017 02:18:09 | PBW-301956                     | Mo (202.032 nm)    | -0.0004 u (ppm) | 78.90    | -0.0004 (ppm)   | 12.4773    |
| 11/2/2017 02:18:09 | PBW-301956                     | Na (588.995 nm)    | 0.0120 (ppm)    | 4.99     | 0.0120 (ppm)    | -5426.2470 |
| 11/2/2017 02:18:09 | PBW-301956                     | Ni (230.299 nm)    | 0.0011 (ppm)    | 43.09    | 0.0011 (ppm)    | -18.3265   |
| 11/2/2017 02:18:09 | PBW-301956                     | Pb (220.353 nm)    | -0.0002 u (ppm) | > 100.00 | -0.0002 (ppm)   | 5.1194     |
| 11/2/2017 02:18:09 | PBW-301956                     | Sb (217.582 nm)    | -0.0019 u (ppm) | 56.09    | -0.0019 (ppm)   | 1.4859     |
| 11/2/2017 02:18:09 | PBW-301956                     | Se (196.026 nm)    | 0.0002 u (ppm)  | > 100.00 | 0.0002 (ppm)    | 5.6722     |
| 11/2/2017 02:18:09 | PBW-301956                     | Sn (189.925 nm)    | 0.0002 u (ppm)  | > 100.00 | 0.0002 (ppm)    | 0.0743     |
| 11/2/2017 02:18:09 | PBW-301956                     | Sr (216.596 nm)    | -0.0001 u (ppm) | 68.60    | -0.0001 (ppm)   | -2.6107    |
| 11/2/2017 02:18:09 | PBW-301956                     | Ti (336.122 nm)    | 0.0005 (ppm)    | 12.67    | 0.0005 (ppm)    | -300.4497  |
| 11/2/2017 02:18:09 | PBW-301956                     | Tl (351.923 nm)    | -0.0007 u (ppm) | > 100.00 | -0.0007 (ppm)   | 12.7149    |
| 11/2/2017 02:18:09 | PBW-301956                     | V (292.401 nm)     | -0.0002 u (ppm) | 92.24    | -0.0002 (ppm)   | 102.4272   |
| 11/2/2017 02:18:09 | PBW-301956                     | Y (360.074 nm)     | 1.05 (Ratio)    | 0.41     | 1.05 (Ratio)    | 982976.01  |
| 11/2/2017 02:18:09 | PBW-301956                     | Y_R (360.074 nm)   | 1.05 (Ratio)    | 0.41     | 1.05 (Ratio)    | 981836.52  |
| 11/2/2017 02:18:09 | PBW-301956                     | Zn (213.857 nm)    | 0.0012 (ppm)    | 7.13     | 0.0012 (ppm)    | 3.1728     |
| 11/2/2017 02:21:28 | LCSW-301956                    | Ag (328.068 nm)    | 0.0485 (ppm)    | 0.47     | 0.0485 (ppm)    | 3438.6221  |
| 11/2/2017 02:21:28 | LCSW-301956                    | Al (394.401 nm)    | 1.8171 (ppm)    | 0.55     | 1.8171 (ppm)    | 24347.8227 |
| 11/2/2017 02:21:28 | LCSW-301956                    | As (188.980 nm)    | 0.0381 (ppm)    | 1.64     | 0.0381 (ppm)    | 32.3656    |
| 11/2/2017 02:21:28 | LCSW-301956                    | B (249.772 nm)     | 0.9353 (ppm)    | 0.31     | 0.9353 (ppm)    | 26893.5945 |
| 11/2/2017 02:21:28 | LCSW-301956                    | Ba (230.424 nm)    | 2.0013 (ppm)    | 0.53     | 2.0013 (ppm)    | 70048.4574 |

| Date Time          | Label        | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|--------------|--------------------|-----------------|----------|-----------------|--------------|
| 11/2/2017 02:21:28 | LCSW-301956  | Be (313.107 nm)    | 0.0489 (ppm)    | 0.40     | 0.0489 (ppm)    | 73543.7682   |
| 11/2/2017 02:21:28 | LCSW-301956  | Ca (227.547 nm)    | 1.8424 (ppm)    | 1.91     | 1.8424 (ppm)    | 114.3669     |
| 11/2/2017 02:21:28 | LCSW-301956  | Cd (214.439 nm)    | 0.0492 (ppm)    | 0.20     | 0.0492 (ppm)    | 1131.9085    |
| 11/2/2017 02:21:28 | LCSW-301956  | Co (230.786 nm)    | 0.4953 (ppm)    | 0.39     | 0.4953 (ppm)    | 5096.1852    |
| 11/2/2017 02:21:28 | LCSW-301956  | Cr (267.716 nm)    | 0.1906 (ppm)    | 0.35     | 0.1906 (ppm)    | 9939.7579    |
| 11/2/2017 02:21:28 | LCSW-301956  | Cu (327.395 nm)    | 0.2413 (ppm)    | 0.84     | 0.2413 (ppm)    | 15180.1164   |
| 11/2/2017 02:21:28 | LCSW-301956  | Fe (234.350 nm)    | 0.9321 (ppm)    | 0.28     | 0.9321 (ppm)    | 10900.5782   |
| 11/2/2017 02:21:28 | LCSW-301956  | K (766.491 nm)     | 19.0606 (ppm)   | 0.75     | 19.0606 (ppm)   | 58908.4333   |
| 11/2/2017 02:21:28 | LCSW-301956  | Mg (279.078 nm)    | 1.9159 (ppm)    | 0.58     | 1.9159 (ppm)    | 3858.7536    |
| 11/2/2017 02:21:28 | LCSW-301956  | Mn (257.610 nm)    | 0.4813 (ppm)    | 0.30     | 0.4813 (ppm)    | 155737.0194  |
| 11/2/2017 02:21:28 | LCSW-301956  | Mo (202.032 nm)    | 0.4602 (ppm)    | 0.31     | 0.4602 (ppm)    | 4941.0496    |
| 11/2/2017 02:21:28 | LCSW-301956  | Na (588.995 nm)    | 19.4963 (ppm)   | 0.81     | 19.4963 (ppm)   | 888645.8259  |
| 11/2/2017 02:21:28 | LCSW-301956  | Ni (230.299 nm)    | 0.4945 (ppm)    | 0.43     | 0.4945 (ppm)    | 3405.6371    |
| 11/2/2017 02:21:28 | LCSW-301956  | Pb (220.353 nm)    | 0.4953 (ppm)    | 0.22     | 0.4953 (ppm)    | 1111.1642    |
| 11/2/2017 02:21:28 | LCSW-301956  | Sb (217.582 nm)    | 0.4766 (ppm)    | 0.06     | 0.4766 (ppm)    | 684.0664     |
| 11/2/2017 02:21:28 | LCSW-301956  | Se (196.026 nm)    | 1.0028 (ppm)    | 0.31     | 1.0028 (ppm)    | 881.5203     |
| 11/2/2017 02:21:28 | LCSW-301956  | Sn (189.925 nm)    | 4.8414 (ppm)    | 0.42     | 4.8414 (ppm)    | 6168.9107    |
| 11/2/2017 02:21:28 | LCSW-301956  | Sr (216.596 nm)    | 1.9573 (ppm)    | 0.57     | 1.9573 (ppm)    | 29196.6588   |
| 11/2/2017 02:21:28 | LCSW-301956  | Tl (336.122 nm)    | 0.4801 (ppm)    | 0.52     | 0.4801 (ppm)    | 104859.8111  |
| 11/2/2017 02:21:28 | LCSW-301956  | Tl (351.923 nm)    | 1.8380 (ppm)    | 0.69     | 1.8380 (ppm)    | 5232.6914    |
| 11/2/2017 02:21:28 | LCSW-301956  | V (292.401 nm)     | 0.4836 (ppm)    | 0.44     | 0.4836 (ppm)    | 17517.3445   |
| 11/2/2017 02:21:28 | LCSW-301956  | Y (360.074 nm)     | 1.02 (Ratio)    | 0.67     | 1.02 (Ratio)    | 951995.68    |
| 11/2/2017 02:21:28 | LCSW-301956  | Y_R (360.074 nm)   | 1.02 (Ratio)    | 0.66     | 1.02 (Ratio)    | 950965.62    |
| 11/2/2017 02:21:28 | LCSW-301956  | Zn (213.857 nm)    | 0.4858 (ppm)    | 0.71     | 0.4858 (ppm)    | 14085.3722   |
| 11/2/2017 02:24:48 | R1710073-023 | Ag (328.068 nm)    | 0.0002 (ppm)    | 62.33    | 0.0002 (ppm)    | -112.6171    |
| 11/2/2017 02:24:48 | R1710073-023 | Al (394.401 nm)    | 0.1974 (ppm)    | 0.73     | 0.1974 (ppm)    | 2719.0163    |
| 11/2/2017 02:24:48 | R1710073-023 | As (188.980 nm)    | 0.1272 (ppm)    | 2.01     | 0.1272 (ppm)    | 114.8361     |
| 11/2/2017 02:24:48 | R1710073-023 | B (249.772 nm)     | 0.0214 (ppm)    | 2.48     | 0.0214 (ppm)    | 703.1178     |
| 11/2/2017 02:24:48 | R1710073-023 | Ba (230.424 nm)    | 0.0201 (ppm)    | 1.44     | 0.0201 (ppm)    | 711.6006     |
| 11/2/2017 02:24:48 | R1710073-023 | Be (313.107 nm)    | 0.0000 (ppm)    | 6.46     | 0.0000 (ppm)    | -439.1808    |
| 11/2/2017 02:24:48 | R1710073-023 | Ca (227.547 nm)    | 28.8501 (ppm)   | 0.39     | 28.8501 (ppm)   | 1700.4708    |
| 11/2/2017 02:24:48 | R1710073-023 | Cd (214.439 nm)    | 0.0001 u (ppm)  | > 100.00 | 0.0001 (ppm)    | 15.4056      |
| 11/2/2017 02:24:48 | R1710073-023 | Co (230.786 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | -2.6907      |
| 11/2/2017 02:24:48 | R1710073-023 | Cr (267.716 nm)    | 0.0006 (ppm)    | 14.36    | 0.0006 (ppm)    | 29.7116      |
| 11/2/2017 02:24:48 | R1710073-023 | Cu (327.395 nm)    | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | 22.4703      |
| 11/2/2017 02:24:48 | R1710073-023 | Fe (234.350 nm)    | 10.5881 (ppm)   | 0.37     | 10.5881 (ppm)   | 123075.3780  |
| 11/2/2017 02:24:48 | R1710073-023 | K (766.491 nm)     | 4.4035 (ppm)    | 0.70     | 4.4035 (ppm)    | 13653.7088   |
| 11/2/2017 02:24:48 | R1710073-023 | Mg (279.078 nm)    | 8.7414 (ppm)    | 0.33     | 8.7414 (ppm)    | 17631.1753   |
| 11/2/2017 02:24:48 | R1710073-023 | Mn (257.610 nm)    | 0.1406 (ppm)    | 0.71     | 0.1406 (ppm)    | 45527.3089   |
| 11/2/2017 02:24:48 | R1710073-023 | Mo (202.032 nm)    | 0.0002 u (ppm)  | > 100.00 | 0.0002 (ppm)    | 19.3525      |
| 11/2/2017 02:24:48 | R1710073-023 | Na (588.995 nm)    | 38.4113 (ppm)   | 0.76     | 38.4113 (ppm)   | 1756594.3220 |
| 11/2/2017 02:24:48 | R1710073-023 | Ni (230.299 nm)    | -0.0113 u (ppm) | 8.71     | -0.0113 (ppm)   | -104.2246    |
| 11/2/2017 02:24:48 | R1710073-023 | Pb (220.353 nm)    | -0.0019 u (ppm) | 58.96    | -0.0019 (ppm)   | 1.4133       |
| 11/2/2017 02:24:48 | R1710073-023 | Sb (217.582 nm)    | -0.0035 u (ppm) | > 100.00 | -0.0035 (ppm)   | -0.8071      |
| 11/2/2017 02:24:48 | R1710073-023 | Se (196.026 nm)    | -0.0014 u (ppm) | > 100.00 | -0.0014 (ppm)   | 4.3184       |
| 11/2/2017 02:24:48 | R1710073-023 | Sn (189.925 nm)    | 0.0006 (ppm)    | > 100.00 | 0.0006 (ppm)    | 0.6336       |
| 11/2/2017 02:24:48 | R1710073-023 | Sr (216.596 nm)    | 0.2100 (ppm)    | 0.32     | 0.2100 (ppm)    | 3131.5783    |
| 11/2/2017 02:24:48 | R1710073-023 | Tl (336.122 nm)    | 0.0025 (ppm)    | 2.68     | 0.0025 (ppm)    | 124.7138     |
| 11/2/2017 02:24:48 | R1710073-023 | Tl (351.923 nm)    | -0.0027 u (ppm) | 50.54    | -0.0027 (ppm)   | 7.0913       |
| 11/2/2017 02:24:48 | R1710073-023 | V (292.401 nm)     | 0.0007 (ppm)    | 40.85    | 0.0007 (ppm)    | 136.2215     |
| 11/2/2017 02:24:48 | R1710073-023 | Y (360.074 nm)     | 1.00 (Ratio)    | 0.70     | 1.00 (Ratio)    | 935779.51    |

| Date Time          | Label        | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|--------------|--------------------|-----------------|----------|-----------------|--------------|
| 11/2/2017 02:24:48 | R1710073-023 | Y_R (360.074 nm)   | 1.00 (Ratio)    | 0.70     | 1.00 (Ratio)    | 934819.23    |
| 11/2/2017 02:24:48 | R1710073-023 | Zn (213.857 nm)    | 0.0037 (ppm)    | 1.50     | 0.0037 (ppm)    | 76.2349      |
| 11/2/2017 02:28:07 | R1710073-024 | Ag (328.068 nm)    | 0.0002 (ppm)    | 12.95    | 0.0002 (ppm)    | -111.3358    |
| 11/2/2017 02:28:07 | R1710073-024 | Al (394.401 nm)    | 0.0279 (ppm)    | 2.11     | 0.0279 (ppm)    | 455.8821     |
| 11/2/2017 02:28:07 | R1710073-024 | As (188.980 nm)    | 0.0189 (ppm)    | 2.87     | 0.0189 (ppm)    | 14.5968      |
| 11/2/2017 02:28:07 | R1710073-024 | B (249.772 nm)     | 0.0182 (ppm)    | 1.41     | 0.0182 (ppm)    | 613.6081     |
| 11/2/2017 02:28:07 | R1710073-024 | Ba (230.424 nm)    | 0.0189 (ppm)    | 0.99     | 0.0189 (ppm)    | 669.1853     |
| 11/2/2017 02:28:07 | R1710073-024 | Be (313.107 nm)    | 0.0000 (ppm)    | 91.10    | 0.0000 (ppm)    | -496.1154    |
| 11/2/2017 02:28:07 | R1710073-024 | Ca (227.547 nm)    | 28.7546 (ppm)   | 0.56     | 28.7546 (ppm)   | 1694.8617    |
| 11/2/2017 02:28:07 | R1710073-024 | Cd (214.439 nm)    | -0.0001 u (ppm) | 49.27    | -0.0001 (ppm)   | 10.4197      |
| 11/2/2017 02:28:07 | R1710073-024 | Co (230.786 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | -1.3143      |
| 11/2/2017 02:28:07 | R1710073-024 | Cr (267.716 nm)    | -0.0001 u (ppm) | 80.48    | -0.0001 (ppm)   | -6.5021      |
| 11/2/2017 02:28:07 | R1710073-024 | Cu (327.395 nm)    | 0.0001 u (ppm)  | > 100.00 | 0.0001 (ppm)    | 25.5684      |
| 11/2/2017 02:28:07 | R1710073-024 | Fe (234.350 nm)    | 5.0320 (ppm)    | 0.34     | 5.0320 (ppm)    | 58530.1663   |
| 11/2/2017 02:28:07 | R1710073-024 | K (766.491 nm)     | 4.3848 (ppm)    | 0.59     | 4.3848 (ppm)    | 13595.9018   |
| 11/2/2017 02:28:07 | R1710073-024 | Mg (279.078 nm)    | 8.6840 (ppm)    | 0.38     | 8.6840 (ppm)    | 17515.4901   |
| 11/2/2017 02:28:07 | R1710073-024 | Mn (257.610 nm)    | 0.1351 (ppm)    | 0.75     | 0.1351 (ppm)    | 43735.4839   |
| 11/2/2017 02:28:07 | R1710073-024 | Mo (202.032 nm)    | -0.0007 u (ppm) | 47.64    | -0.0007 (ppm)   | 9.6409       |
| 11/2/2017 02:28:07 | R1710073-024 | Na (588.995 nm)    | 38.3116 (ppm)   | 0.70     | 38.3116 (ppm)   | 1752019.1404 |
| 11/2/2017 02:28:07 | R1710073-024 | Ni (230.299 nm)    | -0.0102 u (ppm) | 10.16    | -0.0102 (ppm)   | -96.5457     |
| 11/2/2017 02:28:07 | R1710073-024 | Pb (220.353 nm)    | -0.0003 u (ppm) | > 100.00 | -0.0003 (ppm)   | 5.0502       |
| 11/2/2017 02:28:07 | R1710073-024 | Sb (217.582 nm)    | -0.0051 u (ppm) | 47.79    | -0.0051 (ppm)   | -3.1294      |
| 11/2/2017 02:28:07 | R1710073-024 | Se (196.026 nm)    | 0.0004 u (ppm)  | > 100.00 | 0.0004 (ppm)    | 5.9050       |
| 11/2/2017 02:28:07 | R1710073-024 | Sn (189.925 nm)    | -0.0007 u (ppm) | > 100.00 | -0.0007 (ppm)   | -0.9980      |
| 11/2/2017 02:28:07 | R1710073-024 | Sr (216.596 nm)    | 0.2059 (ppm)    | 0.11     | 0.2059 (ppm)    | 3070.6334    |
| 11/2/2017 02:28:07 | R1710073-024 | Ti (336.122 nm)    | 0.0006 (ppm)    | 8.19     | 0.0006 (ppm)    | -292.8699    |
| 11/2/2017 02:28:07 | R1710073-024 | Tl (351.923 nm)    | -0.0036 u (ppm) | 28.13    | -0.0036 (ppm)   | 4.2999       |
| 11/2/2017 02:28:07 | R1710073-024 | V (292.401 nm)     | 0.0002 (ppm)    | 70.33    | 0.0002 (ppm)    | 118.4927     |
| 11/2/2017 02:28:07 | R1710073-024 | Y (360.074 nm)     | 1.00 (Ratio)    | 0.66     | 1.00 (Ratio)    | 939967.09    |
| 11/2/2017 02:28:07 | R1710073-024 | Y_R (360.074 nm)   | 1.00 (Ratio)    | 0.65     | 1.00 (Ratio)    | 938928.64    |
| 11/2/2017 02:28:07 | R1710073-024 | Zn (213.857 nm)    | 0.0025 (ppm)    | 3.31     | 0.0025 (ppm)    | 42.2726      |
| 11/2/2017 02:31:26 | R1710073-028 | Ag (328.068 nm)    | 0.0001 (ppm)    | 32.16    | 0.0001 (ppm)    | -114.7052    |
| 11/2/2017 02:31:26 | R1710073-028 | Al (394.401 nm)    | 0.0299 (ppm)    | 9.23     | 0.0299 (ppm)    | 482.2403     |
| 11/2/2017 02:31:26 | R1710073-028 | As (188.980 nm)    | 0.0188 (ppm)    | 1.97     | 0.0188 (ppm)    | 14.4865      |
| 11/2/2017 02:31:26 | R1710073-028 | B (249.772 nm)     | 0.1571 (ppm)    | 0.30     | 0.1571 (ppm)    | 4593.7873    |
| 11/2/2017 02:31:26 | R1710073-028 | Ba (230.424 nm)    | 0.0471 (ppm)    | 0.09     | 0.0471 (ppm)    | 1655.1573    |
| 11/2/2017 02:31:26 | R1710073-028 | Be (313.107 nm)    | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | -512.8870    |
| 11/2/2017 02:31:26 | R1710073-028 | Ca (227.547 nm)    | 25.4667 (ppm)   | 0.34     | 25.4667 (ppm)   | 1501.7667    |
| 11/2/2017 02:31:26 | R1710073-028 | Cd (214.439 nm)    | 0.0001 (ppm)    | 44.00    | 0.0001 (ppm)    | 14.8283      |
| 11/2/2017 02:31:26 | R1710073-028 | Co (230.786 nm)    | 0.0021 (ppm)    | 13.86    | 0.0021 (ppm)    | 20.0654      |
| 11/2/2017 02:31:26 | R1710073-028 | Cr (267.716 nm)    | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | 2.0498       |
| 11/2/2017 02:31:26 | R1710073-028 | Cu (327.395 nm)    | 0.0002 (ppm)    | 16.13    | 0.0002 (ppm)    | 32.4352      |
| 11/2/2017 02:31:26 | R1710073-028 | Fe (234.350 nm)    | 17.0753 u (ppm) | 0.19     | 17.0753 (ppm)   | 198437.9674  |
| 11/2/2017 02:31:26 | R1710073-028 | K (766.491 nm)     | 17.4089 (ppm)   | 0.52     | 17.4089 (ppm)   | 53808.6328   |
| 11/2/2017 02:31:26 | R1710073-028 | Mg (279.078 nm)    | 8.0437 (ppm)    | 0.25     | 8.0437 (ppm)    | 16223.4900   |
| 11/2/2017 02:31:26 | R1710073-028 | Mn (257.610 nm)    | 0.9762 (ppm)    | 0.11     | 0.9762 (ppm)    | 315854.1672  |
| 11/2/2017 02:31:26 | R1710073-028 | Mo (202.032 nm)    | -0.0006 u (ppm) | 78.98    | -0.0006 (ppm)   | 10.1498      |
| 11/2/2017 02:31:26 | R1710073-028 | Na (588.995 nm)    | 49.5259 (ppm)   | 0.56     | 49.5259 (ppm)   | 2266603.8559 |
| 11/2/2017 02:31:26 | R1710073-028 | Ni (230.299 nm)    | -0.0072 u (ppm) | 7.31     | -0.0072 (ppm)   | -75.9613     |
| 11/2/2017 02:31:26 | R1710073-028 | Pb (220.353 nm)    | -0.0010 u (ppm) | 65.50    | -0.0010 (ppm)   | 3.4398       |
| 11/2/2017 02:31:26 | R1710073-028 | Sb (217.582 nm)    | -0.0037 u (ppm) | 97.31    | -0.0037 (ppm)   | -1.1426      |

| Date Time          | Label        | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|--------------|--------------------|-----------------|----------|-----------------|--------------|
| 11/2/2017 02:31:26 | R1710073-028 | Se (196.026 nm)    | -0.0010 u (ppm) | > 100.00 | -0.0010 (ppm)   | 4.6248       |
| 11/2/2017 02:31:26 | R1710073-028 | Sn (189.925 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | -0.1025      |
| 11/2/2017 02:31:26 | R1710073-028 | Sr (216.596 nm)    | 0.2127 (ppm)    | 0.11     | 0.2127 (ppm)    | 3172.3073    |
| 11/2/2017 02:31:26 | R1710073-028 | Tl (336.122 nm)    | 0.0007 (ppm)    | 3.64     | 0.0007 (ppm)    | -258.8097    |
| 11/2/2017 02:31:26 | R1710073-028 | Tl (351.923 nm)    | -0.0043 u (ppm) | 55.38    | -0.0043 (ppm)   | 2.4789       |
| 11/2/2017 02:31:26 | R1710073-028 | V (292.401 nm)     | 0.0013 (ppm)    | 4.83     | 0.0013 (ppm)    | 155.6139     |
| 11/2/2017 02:31:26 | R1710073-028 | Y (360.074 nm)     | 0.99 (Ratio)    | 0.63     | 0.99 (Ratio)    | 924585.49    |
| 11/2/2017 02:31:26 | R1710073-028 | Y_R (360.074 nm)   | 0.99 (Ratio)    | 0.62     | 0.99 (Ratio)    | 923388.21    |
| 11/2/2017 02:31:26 | R1710073-028 | Zn (213.857 nm)    | 0.0054 (ppm)    | 1.00     | 0.0054 (ppm)    | 127.1423     |
| 11/2/2017 02:34:46 | R1710073-029 | Ag (328.068 nm)    | 0.0002 (ppm)    | 54.88    | 0.0002 (ppm)    | -109.9123    |
| 11/2/2017 02:34:46 | R1710073-029 | Al (394.401 nm)    | 0.0204 (ppm)    | 12.74    | 0.0204 (ppm)    | 355.6447     |
| 11/2/2017 02:34:46 | R1710073-029 | As (188.980 nm)    | 0.0167 (ppm)    | 12.81    | 0.0167 (ppm)    | 12.6026      |
| 11/2/2017 02:34:46 | R1710073-029 | B (249.772 nm)     | 0.1589 (ppm)    | 0.34     | 0.1589 (ppm)    | 4645.8188    |
| 11/2/2017 02:34:46 | R1710073-029 | Ba (230.424 nm)    | 0.0471 (ppm)    | 1.14     | 0.0471 (ppm)    | 1655.9814    |
| 11/2/2017 02:34:46 | R1710073-029 | Be (313.107 nm)    | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | -506.9831    |
| 11/2/2017 02:34:46 | R1710073-029 | Ca (227.547 nm)    | 25.6660 (ppm)   | 0.39     | 25.6660 (ppm)   | 1513.4719    |
| 11/2/2017 02:34:46 | R1710073-029 | Cd (214.439 nm)    | 0.0001 (ppm)    | > 100.00 | 0.0001 (ppm)    | 14.7824      |
| 11/2/2017 02:34:46 | R1710073-029 | Co (230.786 nm)    | 0.0022 (ppm)    | 9.70     | 0.0022 (ppm)    | 21.7252      |
| 11/2/2017 02:34:46 | R1710073-029 | Cr (267.716 nm)    | 0.0001 (ppm)    | 89.47    | 0.0001 (ppm)    | 4.0921       |
| 11/2/2017 02:34:46 | R1710073-029 | Cu (327.395 nm)    | 0.0001 u (ppm)  | > 100.00 | 0.0001 (ppm)    | 29.5846      |
| 11/2/2017 02:34:46 | R1710073-029 | Fe (234.350 nm)    | 17.1437 u (ppm) | 0.40     | 17.1437 (ppm)   | 199232.8050  |
| 11/2/2017 02:34:46 | R1710073-029 | K (766.491 nm)     | 17.5826 (ppm)   | 0.57     | 17.5826 (ppm)   | 54344.8598   |
| 11/2/2017 02:34:46 | R1710073-029 | Mg (279.078 nm)    | 8.1228 (ppm)    | 0.48     | 8.1228 (ppm)    | 16383.0167   |
| 11/2/2017 02:34:46 | R1710073-029 | Mn (257.610 nm)    | 0.9879 (ppm)    | 0.29     | 0.9879 (ppm)    | 319661.3727  |
| 11/2/2017 02:34:46 | R1710073-029 | Mo (202.032 nm)    | -0.0007 u (ppm) | 16.29    | -0.0007 (ppm)   | 9.5166       |
| 11/2/2017 02:34:46 | R1710073-029 | Na (588.995 nm)    | 49.9024 (ppm)   | 0.75     | 49.9024 (ppm)   | 2283881.7674 |
| 11/2/2017 02:34:46 | R1710073-029 | Ni (230.299 nm)    | -0.0072 u (ppm) | 9.63     | -0.0072 (ppm)   | -76.2897     |
| 11/2/2017 02:34:46 | R1710073-029 | Pb (220.353 nm)    | -0.0014 u (ppm) | > 100.00 | -0.0014 (ppm)   | 2.4979       |
| 11/2/2017 02:34:46 | R1710073-029 | Sb (217.582 nm)    | -0.0027 u (ppm) | 29.18    | -0.0027 (ppm)   | 0.2630       |
| 11/2/2017 02:34:46 | R1710073-029 | Se (196.026 nm)    | -0.0012 u (ppm) | > 100.00 | -0.0012 (ppm)   | 4.4505       |
| 11/2/2017 02:34:46 | R1710073-029 | Sn (189.925 nm)    | -0.0020 u (ppm) | 28.42    | -0.0020 (ppm)   | -2.6791      |
| 11/2/2017 02:34:46 | R1710073-029 | Sr (216.596 nm)    | 0.2156 (ppm)    | 0.58     | 0.2156 (ppm)    | 3214.4249    |
| 11/2/2017 02:34:46 | R1710073-029 | Tl (336.122 nm)    | 0.0006 (ppm)    | 6.82     | 0.0006 (ppm)    | -293.6554    |
| 11/2/2017 02:34:46 | R1710073-029 | Tl (351.923 nm)    | -0.0025 u (ppm) | 56.36    | -0.0025 (ppm)   | 7.6154       |
| 11/2/2017 02:34:46 | R1710073-029 | V (292.401 nm)     | 0.0013 (ppm)    | 13.43    | 0.0013 (ppm)    | 155.0838     |
| 11/2/2017 02:34:46 | R1710073-029 | Y (360.074 nm)     | 0.99 (Ratio)    | 0.76     | 0.99 (Ratio)    | 927689.85    |
| 11/2/2017 02:34:46 | R1710073-029 | Y_R (360.074 nm)   | 0.99 (Ratio)    | 0.77     | 0.99 (Ratio)    | 926552.36    |
| 11/2/2017 02:34:46 | R1710073-029 | Zn (213.857 nm)    | 0.0064 (ppm)    | 1.40     | 0.0064 (ppm)    | 155.2160     |
| 11/2/2017 02:38:07 | R1710073-030 | Ag (328.068 nm)    | 0.0003 (ppm)    | 33.51    | 0.0003 (ppm)    | -107.0752    |
| 11/2/2017 02:38:07 | R1710073-030 | Al (394.401 nm)    | 2.0267 (ppm)    | 0.68     | 2.0267 (ppm)    | 27146.6331   |
| 11/2/2017 02:38:07 | R1710073-030 | As (188.980 nm)    | 0.1119 (ppm)    | 0.90     | 0.1119 (ppm)    | 100.6359     |
| 11/2/2017 02:38:07 | R1710073-030 | B (249.772 nm)     | 0.3977 (ppm)    | 0.24     | 0.3977 (ppm)    | 11488.1717   |
| 11/2/2017 02:38:07 | R1710073-030 | Ba (230.424 nm)    | 0.1260 (ppm)    | 0.53     | 0.1260 (ppm)    | 4416.8972    |
| 11/2/2017 02:38:07 | R1710073-030 | Be (313.107 nm)    | 0.0002 (ppm)    | 4.37     | 0.0002 (ppm)    | -170.4985    |
| 11/2/2017 02:38:07 | R1710073-030 | Ca (227.547 nm)    | 25.5334 (ppm)   | 0.78     | 25.5334 (ppm)   | 1505.6845    |
| 11/2/2017 02:38:07 | R1710073-030 | Cd (214.439 nm)    | 0.0002 (ppm)    | 29.71    | 0.0002 (ppm)    | 16.7209      |
| 11/2/2017 02:38:07 | R1710073-030 | Co (230.786 nm)    | 0.0020 (ppm)    | 20.34    | 0.0020 (ppm)    | 19.6468      |
| 11/2/2017 02:38:07 | R1710073-030 | Cr (267.716 nm)    | 0.0034 (ppm)    | 5.43     | 0.0034 (ppm)    | 177.1458     |
| 11/2/2017 02:38:07 | R1710073-030 | Cu (327.395 nm)    | 0.0027 (ppm)    | 9.27     | 0.0027 (ppm)    | 194.0368     |
| 11/2/2017 02:38:07 | R1710073-030 | Fe (234.350 nm)    | 11.2810 u (ppm) | 0.35     | 11.2810 (ppm)   | 131124.7940  |
| 11/2/2017 02:38:07 | R1710073-030 | K (766.491 nm)     | 21.5630 (ppm)   | 0.69     | 21.5630 (ppm)   | 66634.6616   |



| Date Time          | Label        | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|--------------|--------------------|-----------------|----------|-----------------|--------------|
| 11/2/2017 02:38:07 | R1710073-030 | Mg (279.078 nm)    | 10.4465 (ppm)   | 0.39     | 10.4465 (ppm)   | 21071.6907   |
| 11/2/2017 02:38:07 | R1710073-030 | Mn (257.610 nm)    | 0.4605 (ppm)    | 0.28     | 0.4605 (ppm)    | 149005.4930  |
| 11/2/2017 02:38:07 | R1710073-030 | Mo (202.032 nm)    | 0.0005 (ppm)    | 15.47    | 0.0005 (ppm)    | 22.2770      |
| 11/2/2017 02:38:07 | R1710073-030 | Na (588.995 nm)    | 71.2398 o (ppm) | 0.93     | 71.2398 (ppm)   | 3262986.6494 |
| 11/2/2017 02:38:07 | R1710073-030 | Ni (230.299 nm)    | -0.0050 u (ppm) | 15.89    | -0.0050 (ppm)   | -60.9895     |
| 11/2/2017 02:38:07 | R1710073-030 | Pb (220.353 nm)    | -0.0013 u (ppm) | 29.97    | -0.0013 (ppm)   | 2.6957       |
| 11/2/2017 02:38:07 | R1710073-030 | Sb (217.582 nm)    | -0.0042 u (ppm) | 27.50    | -0.0042 (ppm)   | -1.8931      |
| 11/2/2017 02:38:07 | R1710073-030 | Se (196.026 nm)    | -0.0029 u (ppm) | 27.36    | -0.0029 (ppm)   | 2.9736       |
| 11/2/2017 02:38:07 | R1710073-030 | Sn (189.925 nm)    | -0.0022 u (ppm) | 31.56    | -0.0022 (ppm)   | -3.0067      |
| 11/2/2017 02:38:07 | R1710073-030 | Sr (216.596 nm)    | 0.2198 (ppm)    | 0.55     | 0.2198 (ppm)    | 3277.6989    |
| 11/2/2017 02:38:07 | R1710073-030 | Ti (336.122 nm)    | 0.1202 (ppm)    | 0.87     | 0.1202 (ppm)    | 25930.6964   |
| 11/2/2017 02:38:07 | R1710073-030 | Ti (351.923 nm)    | -0.0010 u (ppm) | 86.48    | -0.0010 (ppm)   | 11.7409      |
| 11/2/2017 02:38:07 | R1710073-030 | V (292.401 nm)     | 0.0053 (ppm)    | 1.00     | 0.0053 (ppm)    | 301.3426     |
| 11/2/2017 02:38:07 | R1710073-030 | Y (360.074 nm)     | 0.99 (Ratio)    | 0.78     | 0.99 (Ratio)    | 927317.91    |
| 11/2/2017 02:38:07 | R1710073-030 | Y_R (360.074 nm)   | 0.99 (Ratio)    | 0.78     | 0.99 (Ratio)    | 926110.22    |
| 11/2/2017 02:38:07 | R1710073-030 | Zn (213.857 nm)    | 0.0121 (ppm)    | 0.64     | 0.0121 (ppm)    | 321.8605     |
| 11/2/2017 02:41:27 | R1710073-031 | Ag (328.068 nm)    | 0.0002 (ppm)    | 18.95    | 0.0002 (ppm)    | -111.7763    |
| 11/2/2017 02:41:27 | R1710073-031 | Al (394.401 nm)    | 0.3645 (ppm)    | 1.00     | 0.3645 (ppm)    | 4950.1306    |
| 11/2/2017 02:41:27 | R1710073-031 | As (188.980 nm)    | 0.1103 (ppm)    | 1.10     | 0.1103 (ppm)    | 99.2308      |
| 11/2/2017 02:41:27 | R1710073-031 | B (249.772 nm)     | 0.3889 (ppm)    | 0.25     | 0.3889 (ppm)    | 11234.4394   |
| 11/2/2017 02:41:27 | R1710073-031 | Ba (230.424 nm)    | 0.1156 (ppm)    | 0.37     | 0.1156 (ppm)    | 4051.9957    |
| 11/2/2017 02:41:27 | R1710073-031 | Be (313.107 nm)    | 0.0001 (ppm)    | 4.61     | 0.0001 (ppm)    | -378.9149    |
| 11/2/2017 02:41:27 | R1710073-031 | Ca (227.547 nm)    | 24.8638 (ppm)   | 0.84     | 24.8638 (ppm)   | 1466.3616    |
| 11/2/2017 02:41:27 | R1710073-031 | Cd (214.439 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | 13.3843      |
| 11/2/2017 02:41:27 | R1710073-031 | Co (230.786 nm)    | 0.0010 (ppm)    | 74.70    | 0.0010 (ppm)    | 8.9249       |
| 11/2/2017 02:41:27 | R1710073-031 | Cr (267.716 nm)    | 0.0008 (ppm)    | 8.23     | 0.0008 (ppm)    | 41.6793      |
| 11/2/2017 02:41:27 | R1710073-031 | Cu (327.395 nm)    | 0.0004 (ppm)    | 45.06    | 0.0004 (ppm)    | 47.1718      |
| 11/2/2017 02:41:27 | R1710073-031 | Fe (234.350 nm)    | 9.4756 (ppm)    | 0.26     | 9.4756 (ppm)    | 110151.8507  |
| 11/2/2017 02:41:27 | R1710073-031 | K (766.491 nm)     | 20.8104 (ppm)   | 0.63     | 20.8104 (ppm)   | 64310.8254   |
| 11/2/2017 02:41:27 | R1710073-031 | Mg (279.078 nm)    | 9.7666 (ppm)    | 0.25     | 9.7666 (ppm)    | 19699.7743   |
| 11/2/2017 02:41:27 | R1710073-031 | Mn (257.610 nm)    | 0.4316 (ppm)    | 0.28     | 0.4316 (ppm)    | 139678.7451  |
| 11/2/2017 02:41:27 | R1710073-031 | Mo (202.032 nm)    | 0.0002 (ppm)    | > 100.00 | 0.0002 (ppm)    | 19.0292      |
| 11/2/2017 02:41:27 | R1710073-031 | Na (588.995 nm)    | 69.7829 o (ppm) | 0.66     | 69.7829 (ppm)   | 3196135.9349 |
| 11/2/2017 02:41:27 | R1710073-031 | Ni (230.299 nm)    | -0.0045 u (ppm) | 9.68     | -0.0045 (ppm)   | -57.4302     |
| 11/2/2017 02:41:27 | R1710073-031 | Pb (220.353 nm)    | -0.0023 u (ppm) | 20.23    | -0.0023 (ppm)   | 0.5163       |
| 11/2/2017 02:41:27 | R1710073-031 | Sb (217.582 nm)    | -0.0038 u (ppm) | 62.79    | -0.0038 (ppm)   | -1.3203      |
| 11/2/2017 02:41:27 | R1710073-031 | Se (196.026 nm)    | -0.0019 u (ppm) | 93.41    | -0.0019 (ppm)   | 3.8674       |
| 11/2/2017 02:41:27 | R1710073-031 | Sn (189.925 nm)    | -0.0018 u (ppm) | 53.13    | -0.0018 (ppm)   | -2.3998      |
| 11/2/2017 02:41:27 | R1710073-031 | Sr (216.596 nm)    | 0.2120 (ppm)    | 0.72     | 0.2120 (ppm)    | 3161.5641    |
| 11/2/2017 02:41:27 | R1710073-031 | Ti (336.122 nm)    | 0.0209 (ppm)    | 0.68     | 0.0209 (ppm)    | 4162.0068    |
| 11/2/2017 02:41:27 | R1710073-031 | Ti (351.923 nm)    | -0.0045 u (ppm) | > 100.00 | -0.0045 (ppm)   | 1.7303       |
| 11/2/2017 02:41:27 | R1710073-031 | V (292.401 nm)     | 0.0016 (ppm)    | 7.77     | 0.0016 (ppm)    | 169.3723     |
| 11/2/2017 02:41:27 | R1710073-031 | Y (360.074 nm)     | 0.99 (Ratio)    | 0.72     | 0.99 (Ratio)    | 923870.91    |
| 11/2/2017 02:41:27 | R1710073-031 | Y_R (360.074 nm)   | 0.99 (Ratio)    | 0.72     | 0.99 (Ratio)    | 922677.88    |
| 11/2/2017 02:41:27 | R1710073-031 | Zn (213.857 nm)    | 0.0043 (ppm)    | 3.72     | 0.0043 (ppm)    | 92.7668      |
| 11/2/2017 02:44:48 | R1710073-032 | Ag (328.068 nm)    | 0.0003 (ppm)    | 47.70    | 0.0003 (ppm)    | -106.2372    |
| 11/2/2017 02:44:48 | R1710073-032 | Al (394.401 nm)    | 0.0420 (ppm)    | 1.25     | 0.0420 (ppm)    | 643.7658     |
| 11/2/2017 02:44:48 | R1710073-032 | As (188.980 nm)    | 0.1801 (ppm)    | 1.51     | 0.1801 (ppm)    | 163.8133     |
| 11/2/2017 02:44:48 | R1710073-032 | B (249.772 nm)     | 0.5766 (ppm)    | 0.35     | 0.5766 (ppm)    | 16614.0522   |
| 11/2/2017 02:44:48 | R1710073-032 | Ba (230.424 nm)    | 0.0789 (ppm)    | 0.78     | 0.0789 (ppm)    | 2769.4546    |
| 11/2/2017 02:44:48 | R1710073-032 | Be (313.107 nm)    | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | -500.8199    |

| Date Time          | Label        | Element Label (nm) | Conc          | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|--------------|--------------------|---------------|----------|-----------------|--------------|
| 11/2/2017 02:44:48 | R1710073-032 | Ca (227.547 nm)    | 16.8349 (ppm) | 0.71     | 16.8349 (ppm)   | 994.8438     |
| 11/2/2017 02:44:48 | R1710073-032 | Cd (214.439 nm)    | 0.0001 (ppm)  | > 100.00 | 0.0001 (ppm)    | 13.6119      |
| 11/2/2017 02:44:48 | R1710073-032 | Co (230.786 nm)    | 0.0026 (ppm)  | 4.08     | 0.0026 (ppm)    | 25.5787      |
| 11/2/2017 02:44:48 | R1710073-032 | Cr (267.716 nm)    | 0.0016 (ppm)  | 5.16     | 0.0016 (ppm)    | 82.5244      |
| 11/2/2017 02:44:48 | R1710073-032 | Cu (327.395 nm)    | 0.0051 (ppm)  | 3.78     | 0.0051 (ppm)    | 342.0698     |
| 11/2/2017 02:44:48 | R1710073-032 | Fe (234.350 nm)    | 11.6704 (ppm) | 0.24     | 11.6704 (ppm)   | 135648.4017  |
| 11/2/2017 02:44:48 | R1710073-032 | K (766.491 nm)     | 34.7916 (ppm) | 0.61     | 34.7916 (ppm)   | 107478.7780  |
| 11/2/2017 02:44:48 | R1710073-032 | Mg (279.078 nm)    | 6.4185 (ppm)  | 0.31     | 6.4185 (ppm)    | 12944.0837   |
| 11/2/2017 02:44:48 | R1710073-032 | Mn (257.610 nm)    | 0.4291 (ppm)  | 0.41     | 0.4291 (ppm)    | 138855.1555  |
| 11/2/2017 02:44:48 | R1710073-032 | Mo (202.032 nm)    | 0.0023 (ppm)  | 21.99    | 0.0023 (ppm)    | 41.7929      |
| 11/2/2017 02:44:48 | R1710073-032 | Na (588.995 nm)    | 81.2594 (ppm) | 0.72     | 81.2594 (ppm)   | 3722756.1494 |
| 11/2/2017 02:44:48 | R1710073-032 | Ni (230.299 nm)    | 0.0024 (ppm)  | 52.83    | 0.0024 (ppm)    | -9.5086      |
| 11/2/2017 02:44:48 | R1710073-032 | Pb (220.353 nm)    | -0.0009 (ppm) | 94.82    | -0.0009 (ppm)   | 3.6870       |
| 11/2/2017 02:44:48 | R1710073-032 | Sb (217.582 nm)    | -0.0029 (ppm) | 28.95    | -0.0029 (ppm)   | -0.0520      |
| 11/2/2017 02:44:48 | R1710073-032 | Se (196.026 nm)    | -0.0030 (ppm) | 31.14    | -0.0030 (ppm)   | 2.9350       |
| 11/2/2017 02:44:48 | R1710073-032 | Sn (189.925 nm)    | 0.0004 (ppm)  | > 100.00 | 0.0004 (ppm)    | 0.3924       |
| 11/2/2017 02:44:48 | R1710073-032 | Sr (216.596 nm)    | 0.1437 (ppm)  | 0.09     | 0.1437 (ppm)    | 2142.1905    |
| 11/2/2017 02:44:48 | R1710073-032 | Ti (336.122 nm)    | 0.0014 (ppm)  | 0.66     | 0.0014 (ppm)    | -103.6093    |
| 11/2/2017 02:44:48 | R1710073-032 | Tl (351.923 nm)    | -0.0041 (ppm) | 17.61    | -0.0041 (ppm)   | 3.0641       |
| 11/2/2017 02:44:48 | R1710073-032 | V (292.401 nm)     | 0.0023 (ppm)  | 1.73     | 0.0023 (ppm)    | 193.8258     |
| 11/2/2017 02:44:48 | R1710073-032 | Y (360.074 nm)     | 0.99 (Ratio)  | 0.67     | 0.99 (Ratio)    | 923516.84    |
| 11/2/2017 02:44:48 | R1710073-032 | Y_R (360.074 nm)   | 0.99 (Ratio)  | 0.68     | 0.99 (Ratio)    | 922176.93    |
| 11/2/2017 02:44:48 | R1710073-032 | Zn (213.857 nm)    | 0.0069 (ppm)  | 1.39     | 0.0069 (ppm)    | 168.9943     |
| 11/2/2017 02:48:09 | R1710073-033 | Ag (328.068 nm)    | 0.0003 (ppm)  | 22.27    | 0.0003 (ppm)    | -105.3191    |
| 11/2/2017 02:48:09 | R1710073-033 | Al (394.401 nm)    | 0.0154 (ppm)  | 2.16     | 0.0154 (ppm)    | 288.8989     |
| 11/2/2017 02:48:09 | R1710073-033 | As (188.980 nm)    | 0.1725 (ppm)  | 0.68     | 0.1725 (ppm)    | 156.7569     |
| 11/2/2017 02:48:09 | R1710073-033 | B (249.772 nm)     | 0.5630 (ppm)  | 0.43     | 0.5630 (ppm)    | 16225.3244   |
| 11/2/2017 02:48:09 | R1710073-033 | Ba (230.424 nm)    | 0.0749 (ppm)  | 0.50     | 0.0749 (ppm)    | 2628.0676    |
| 11/2/2017 02:48:09 | R1710073-033 | Be (313.107 nm)    | 0.0000 (ppm)  | > 100.00 | 0.0000 (ppm)    | -499.8386    |
| 11/2/2017 02:48:09 | R1710073-033 | Ca (227.547 nm)    | 16.2481 (ppm) | 0.59     | 16.2481 (ppm)   | 960.3800     |
| 11/2/2017 02:48:09 | R1710073-033 | Cd (214.439 nm)    | 0.0001 (ppm)  | > 100.00 | 0.0001 (ppm)    | 14.1263      |
| 11/2/2017 02:48:09 | R1710073-033 | Co (230.786 nm)    | 0.0028 (ppm)  | 5.00     | 0.0028 (ppm)    | 27.3980      |
| 11/2/2017 02:48:09 | R1710073-033 | Cr (267.716 nm)    | 0.0011 (ppm)  | 11.04    | 0.0011 (ppm)    | 56.8758      |
| 11/2/2017 02:48:09 | R1710073-033 | Cu (327.395 nm)    | 0.0002 (ppm)  | 83.06    | 0.0002 (ppm)    | 33.2788      |
| 11/2/2017 02:48:09 | R1710073-033 | Fe (234.350 nm)    | 10.9589 (ppm) | 0.35     | 10.9589 (ppm)   | 127383.5779  |
| 11/2/2017 02:48:09 | R1710073-033 | K (766.491 nm)     | 33.7311 (ppm) | 0.54     | 33.7311 (ppm)   | 104204.5162  |
| 11/2/2017 02:48:09 | R1710073-033 | Mg (279.078 nm)    | 6.2024 (ppm)  | 0.41     | 6.2024 (ppm)    | 12508.0570   |
| 11/2/2017 02:48:09 | R1710073-033 | Mn (257.610 nm)    | 0.4070 (ppm)  | 0.49     | 0.4070 (ppm)    | 131718.3726  |
| 11/2/2017 02:48:09 | R1710073-033 | Mo (202.032 nm)    | 0.0023 (ppm)  | 4.14     | 0.0023 (ppm)    | 41.1696      |
| 11/2/2017 02:48:09 | R1710073-033 | Na (588.995 nm)    | 78.7902 (ppm) | 0.61     | 78.7902 (ppm)   | 3609451.0494 |
| 11/2/2017 02:48:09 | R1710073-033 | Ni (230.299 nm)    | 0.0027 (ppm)  | 2.56     | 0.0027 (ppm)    | -7.2630      |
| 11/2/2017 02:48:09 | R1710073-033 | Pb (220.353 nm)    | -0.0015 (ppm) | 87.04    | -0.0015 (ppm)   | 2.2778       |
| 11/2/2017 02:48:09 | R1710073-033 | Sb (217.582 nm)    | -0.0036 (ppm) | 40.46    | -0.0036 (ppm)   | -1.0514      |
| 11/2/2017 02:48:09 | R1710073-033 | Se (196.026 nm)    | -0.0013 (ppm) | > 100.00 | -0.0013 (ppm)   | 4.3976       |
| 11/2/2017 02:48:09 | R1710073-033 | Sn (189.925 nm)    | 0.0010 (ppm)  | 21.16    | 0.0010 (ppm)    | 1.1769       |
| 11/2/2017 02:48:09 | R1710073-033 | Sr (216.596 nm)    | 0.1389 (ppm)  | 0.63     | 0.1389 (ppm)    | 2071.4121    |
| 11/2/2017 02:48:09 | R1710073-033 | Ti (336.122 nm)    | 0.0008 (ppm)  | 3.09     | 0.0008 (ppm)    | -235.5668    |
| 11/2/2017 02:48:09 | R1710073-033 | Tl (351.923 nm)    | -0.0038 (ppm) | 68.66    | -0.0038 (ppm)   | 3.7974       |
| 11/2/2017 02:48:09 | R1710073-033 | V (292.401 nm)     | 0.0021 (ppm)  | 7.15     | 0.0021 (ppm)    | 186.2137     |
| 11/2/2017 02:48:09 | R1710073-033 | Y (360.074 nm)     | 0.99 (Ratio)  | 0.62     | 0.99 (Ratio)    | 927335.17    |
| 11/2/2017 02:48:09 | R1710073-033 | Y_R (360.074 nm)   | 0.99 (Ratio)  | 0.62     | 0.99 (Ratio)    | 925986.49    |

| Date Time          | Label                                | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|--------------------------------------|--------------------|-----------------|----------|-----------------|--------------|
| 11/2/2017 02:48:09 | R1710073-033                         | Zn (213.857 nm)    | 0.0030 (ppm)    | 2.47     | 0.0030 (ppm)    | 57.7992      |
| 11/2/2017 02:51:28 | Continuing Calibration Verification1 | Ag (328.068 nm)    | 0.4800 (ppm)    | 0.38     | 0.4800 (ppm)    | 35132.9165   |
| 11/2/2017 02:51:28 | Continuing Calibration Verification1 | Al (394.401 nm)    | 9.4390 (ppm)    | 0.58     | 9.4390 (ppm)    | 126125.9932  |
| 11/2/2017 02:51:28 | Continuing Calibration Verification1 | As (188.980 nm)    | 0.9409 (ppm)    | 1.12     | 0.9409 (ppm)    | 867.9482     |
| 11/2/2017 02:51:28 | Continuing Calibration Verification1 | B (249.772 nm)     | 2.3597 (ppm)    | 0.41     | 2.3597 (ppm)    | 67713.8803   |
| 11/2/2017 02:51:28 | Continuing Calibration Verification1 | Ba (230.424 nm)    | 9.9374 (ppm)    | 0.26     | 9.9374 (ppm)    | 347793.7202  |
| 11/2/2017 02:51:28 | Continuing Calibration Verification1 | Be (313.107 nm)    | 0.2475 (ppm)    | 0.41     | 0.2475 (ppm)    | 374939.3814  |
| 11/2/2017 02:51:28 | Continuing Calibration Verification1 | Ca (227.547 nm)    | 23.9991 (ppm)   | 0.51     | 23.9991 (ppm)   | 1415.5811    |
| 11/2/2017 02:51:28 | Continuing Calibration Verification1 | Cd (214.439 nm)    | 0.4783 (ppm)    | 0.21     | 0.4783 (ppm)    | 10890.1561   |
| 11/2/2017 02:51:28 | Continuing Calibration Verification1 | Co (230.786 nm)    | 2.5024 (ppm)    | 0.38     | 2.5024 (ppm)    | 25753.7950   |
| 11/2/2017 02:51:28 | Continuing Calibration Verification1 | Cr (267.716 nm)    | 0.4834 (ppm)    | 0.40     | 0.4834 (ppm)    | 25212.3295   |
| 11/2/2017 02:51:28 | Continuing Calibration Verification1 | Cu (327.395 nm)    | 1.2008 (ppm)    | 0.65     | 1.2008 (ppm)    | 75443.9382   |
| 11/2/2017 02:51:28 | Continuing Calibration Verification1 | Fe (234.350 nm)    | 4.6767 (ppm)    | 0.39     | 4.6767 (ppm)    | 54402.0775   |
| 11/2/2017 02:51:28 | Continuing Calibration Verification1 | K (766.491 nm)     | 24.6665 (ppm)   | 0.72     | 24.6665 (ppm)   | 76216.9204   |
| 11/2/2017 02:51:28 | Continuing Calibration Verification1 | Mg (279.078 nm)    | 24.0300 (ppm)   | 0.40     | 24.0300 (ppm)   | 48480.2776   |
| 11/2/2017 02:51:28 | Continuing Calibration Verification1 | Mn (257.610 nm)    | 0.7313 (ppm)    | 0.33     | 0.7313 (ppm)    | 236615.6747  |
| 11/2/2017 02:51:28 | Continuing Calibration Verification1 | Mo (202.032 nm)    | 2.3328 (ppm)    | 0.31     | 2.3328 (ppm)    | 24977.1817   |
| 11/2/2017 02:51:28 | Continuing Calibration Verification1 | Na (588.995 nm)    | 24.8816 (ppm)   | 0.73     | 24.8816 (ppm)   | 1135757.5902 |
| 11/2/2017 02:51:28 | Continuing Calibration Verification1 | Ni (230.299 nm)    | 1.9653 (ppm)    | 0.32     | 1.9653 (ppm)    | 13611.4477   |
| 11/2/2017 02:51:28 | Continuing Calibration Verification1 | Pb (220.353 nm)    | 0.4814 (ppm)    | 0.67     | 0.4814 (ppm)    | 1080.2117    |
| 11/2/2017 02:51:28 | Continuing Calibration Verification1 | Sb (217.582 nm)    | 4.7740 (ppm)    | 0.46     | 4.7740 (ppm)    | 6814.6993    |
| 11/2/2017 02:51:28 | Continuing Calibration Verification1 | Se (196.026 nm)    | 0.4703 (ppm)    | 0.51     | 0.4703 (ppm)    | 416.3737     |
| 11/2/2017 02:51:28 | Continuing Calibration Verification1 | Sn (189.925 nm)    | 4.8771 (ppm)    | 0.37     | 4.8771 (ppm)    | 6214.3551    |
| 11/2/2017 02:51:28 | Continuing Calibration Verification1 | Sr (216.596 nm)    | 2.4134 (ppm)    | 0.43     | 2.4134 (ppm)    | 35999.7811   |
| 11/2/2017 02:51:28 | Continuing Calibration Verification1 | Ti (336.122 nm)    | 2.4461 (ppm)    | 0.69     | 2.4461 (ppm)    | 536012.7233  |
| 11/2/2017 02:51:28 | Continuing Calibration Verification1 | Tl (351.923 nm)    | 0.9738 (ppm)    | 0.46     | 0.9738 (ppm)    | 2779.2724    |
| 11/2/2017 02:51:28 | Continuing Calibration Verification1 | V (292.401 nm)     | 2.4485 (ppm)    | 0.44     | 2.4485 (ppm)    | 88246.6301   |
| 11/2/2017 02:51:28 | Continuing Calibration Verification1 | Y (360.074 nm)     | 0.99 (Ratio)    | 0.87     | 0.99 (Ratio)    | 925914.32    |
| 11/2/2017 02:51:28 | Continuing Calibration Verification1 | Y_R (360.074 nm)   | 0.99 (Ratio)    | 0.86     | 0.99 (Ratio)    | 924542.89    |
| 11/2/2017 02:51:28 | Continuing Calibration Verification1 | Zn (213.857 nm)    | 0.9652 (ppm)    | 0.30     | 0.9652 (ppm)    | 28014.3955   |
| 11/2/2017 02:54:47 | Continuing Calibration Blank1        | Ag (328.068 nm)    | 0.0002 (ppm)    | 34.52    | 0.0002 (ppm)    | -107.9570    |
| 11/2/2017 02:54:47 | Continuing Calibration Blank1        | Al (394.401 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | 82.0424      |
| 11/2/2017 02:54:47 | Continuing Calibration Blank1        | As (188.980 nm)    | 0.0012 u (ppm)  | 95.98    | 0.0012 (ppm)    | -1.7723      |
| 11/2/2017 02:54:47 | Continuing Calibration Blank1        | B (249.772 nm)     | 0.0012 (ppm)    | 61.43    | 0.0012 (ppm)    | 124.1417     |
| 11/2/2017 02:54:47 | Continuing Calibration Blank1        | Ba (230.424 nm)    | 0.0004 (ppm)    | 21.10    | 0.0004 (ppm)    | 20.4791      |
| 11/2/2017 02:54:47 | Continuing Calibration Blank1        | Be (313.107 nm)    | 0.0000 (ppm)    | 52.41    | 0.0000 (ppm)    | -484.2296    |
| 11/2/2017 02:54:47 | Continuing Calibration Blank1        | Ca (227.547 nm)    | 0.0189 (ppm)    | > 100.00 | 0.0189 (ppm)    | 7.2815       |
| 11/2/2017 02:54:47 | Continuing Calibration Blank1        | Cd (214.439 nm)    | 0.0001 (ppm)    | 29.77    | 0.0001 (ppm)    | 15.1981      |
| 11/2/2017 02:54:47 | Continuing Calibration Blank1        | Co (230.786 nm)    | -0.0002 u (ppm) | > 100.00 | -0.0002 (ppm)   | -3.5334      |
| 11/2/2017 02:54:47 | Continuing Calibration Blank1        | Cr (267.716 nm)    | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | -1.6637      |
| 11/2/2017 02:54:47 | Continuing Calibration Blank1        | Cu (327.395 nm)    | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | 22.4674      |
| 11/2/2017 02:54:47 | Continuing Calibration Blank1        | Fe (234.350 nm)    | 0.0004 (ppm)    | 69.77    | 0.0004 (ppm)    | 77.2796      |
| 11/2/2017 02:54:47 | Continuing Calibration Blank1        | K (766.491 nm)     | 0.0142 (ppm)    | 43.56    | 0.0142 (ppm)    | 101.3742     |
| 11/2/2017 02:54:47 | Continuing Calibration Blank1        | Mg (279.078 nm)    | 0.0026 (ppm)    | 34.29    | 0.0026 (ppm)    | -1.7868      |
| 11/2/2017 02:54:47 | Continuing Calibration Blank1        | Mn (257.610 nm)    | 0.0009 (ppm)    | 27.93    | 0.0009 (ppm)    | 309.3093     |
| 11/2/2017 02:54:47 | Continuing Calibration Blank1        | Mo (202.032 nm)    | 0.0018 (ppm)    | 3.51     | 0.0018 (ppm)    | 36.1575      |
| 11/2/2017 02:54:47 | Continuing Calibration Blank1        | Na (588.995 nm)    | 0.0120 (ppm)    | 8.05     | 0.0120 (ppm)    | -5429.4631   |
| 11/2/2017 02:54:47 | Continuing Calibration Blank1        | Ni (230.299 nm)    | 0.0008 (ppm)    | 9.51     | 0.0008 (ppm)    | -20.7389     |
| 11/2/2017 02:54:47 | Continuing Calibration Blank1        | Pb (220.353 nm)    | -0.0002 u (ppm) | > 100.00 | -0.0002 (ppm)   | 5.1972       |
| 11/2/2017 02:54:47 | Continuing Calibration Blank1        | Sb (217.582 nm)    | 0.0005 u (ppm)  | > 100.00 | 0.0005 (ppm)    | 4.8073       |
| 11/2/2017 02:54:47 | Continuing Calibration Blank1        | Se (196.026 nm)    | -0.0012 u (ppm) | 67.03    | -0.0012 (ppm)   | 4.4300       |

| Date Time          | Label                          | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity   |
|--------------------|--------------------------------|--------------------|-----------------|----------|-----------------|-------------|
| 11/2/2017 02:54:47 | Continuing Calibration Blank 1 | Sn (189.925 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | -0.3324     |
| 11/2/2017 02:54:47 | Continuing Calibration Blank 1 | Sr (216.596 nm)    | 0.0002 u (ppm)  | > 100.00 | 0.0002 (ppm)    | 1.5288      |
| 11/2/2017 02:54:47 | Continuing Calibration Blank 1 | Ti (336.122 nm)    | 0.0008 (ppm)    | 5.61     | 0.0008 (ppm)    | -233.9718   |
| 11/2/2017 02:54:47 | Continuing Calibration Blank 1 | Tl (351.923 nm)    | -0.0007 u (ppm) | > 100.00 | -0.0007 (ppm)   | 12.7537     |
| 11/2/2017 02:54:47 | Continuing Calibration Blank 1 | V (292.401 nm)     | -0.0002 u (ppm) | 33.17    | -0.0002 (ppm)   | 104.1886    |
| 11/2/2017 02:54:47 | Continuing Calibration Blank 1 | Y (360.074 nm)     | 1.04 (Ratio)    | 0.77     | 1.04 (Ratio)    | 972229.96   |
| 11/2/2017 02:54:47 | Continuing Calibration Blank 1 | Y_R (360.074 nm)   | 1.04 (Ratio)    | 0.77     | 1.04 (Ratio)    | 970582.49   |
| 11/2/2017 02:54:47 | Continuing Calibration Blank 1 | Zn (213.857 nm)    | 0.0002 (ppm)    | 18.67    | 0.0002 (ppm)    | -24.1423    |
| 11/2/2017 02:58:06 | R1710073-033L                  | Ag (328.068 nm)    | 0.0003 (ppm)    | 21.46    | 0.0003 (ppm)    | -104.6547   |
| 11/2/2017 02:58:06 | R1710073-033L                  | Al (394.401 nm)    | 0.0036 (ppm)    | 8.83     | 0.0036 (ppm)    | 131.1040    |
| 11/2/2017 02:58:06 | R1710073-033L                  | As (188.980 nm)    | 0.0347 (ppm)    | 9.52     | 0.0347 (ppm)    | 29.2151     |
| 11/2/2017 02:58:06 | R1710073-033L                  | B (249.772 nm)     | 0.1065 (ppm)    | 0.58     | 0.1065 (ppm)    | 3141.9380   |
| 11/2/2017 02:58:06 | R1710073-033L                  | Ba (230.424 nm)    | 0.0151 (ppm)    | 1.09     | 0.0151 (ppm)    | 537.5726    |
| 11/2/2017 02:58:06 | R1710073-033L                  | Be (313.107 nm)    | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | -506.6826   |
| 11/2/2017 02:58:06 | R1710073-033L                  | Ca (227.547 nm)    | 3.0124 (ppm)    | 2.52     | 3.0124 (ppm)    | 183.0816    |
| 11/2/2017 02:58:06 | R1710073-033L                  | Cd (214.439 nm)    | 0.0001 (ppm)    | 71.83    | 0.0001 (ppm)    | 13.9535     |
| 11/2/2017 02:58:06 | R1710073-033L                  | Co (230.786 nm)    | 0.0004 (ppm)    | 55.67    | 0.0004 (ppm)    | 2.3812      |
| 11/2/2017 02:58:06 | R1710073-033L                  | Cr (267.716 nm)    | 0.0002 (ppm)    | 37.28    | 0.0002 (ppm)    | 10.0029     |
| 11/2/2017 02:58:06 | R1710073-033L                  | Cu (327.395 nm)    | 0.0001 (ppm)    | 57.59    | 0.0001 (ppm)    | 30.5942     |
| 11/2/2017 02:58:06 | R1710073-033L                  | Fe (234.350 nm)    | 2.2408 (ppm)    | 0.38     | 2.2408 (ppm)    | 26103.9159  |
| 11/2/2017 02:58:06 | R1710073-033L                  | K (766.491 nm)     | 6.3554 (ppm)    | 0.90     | 6.3554 (ppm)    | 19680.2613  |
| 11/2/2017 02:58:06 | R1710073-033L                  | Mg (279.078 nm)    | 1.2380 (ppm)    | 0.13     | 1.2380 (ppm)    | 2491.0754   |
| 11/2/2017 02:58:06 | R1710073-033L                  | Mn (257.610 nm)    | 0.0839 (ppm)    | 0.25     | 0.0839 (ppm)    | 27168.8233  |
| 11/2/2017 02:58:06 | R1710073-033L                  | Mo (202.032 nm)    | 0.0006 (ppm)    | 85.62    | 0.0006 (ppm)    | 22.7489     |
| 11/2/2017 02:58:06 | R1710073-033L                  | Na (588.995 nm)    | 15.8456 (ppm)   | 0.84     | 15.8456 (ppm)   | 721123.9519 |
| 11/2/2017 02:58:06 | R1710073-033L                  | Ni (230.299 nm)    | 0.0014 (ppm)    | 52.22    | 0.0014 (ppm)    | -16.1463    |
| 11/2/2017 02:58:06 | R1710073-033L                  | Pb (220.353 nm)    | -0.0004 u (ppm) | > 100.00 | -0.0004 (ppm)   | 4.8371      |
| 11/2/2017 02:58:06 | R1710073-033L                  | Sb (217.582 nm)    | -0.0028 u (ppm) | 15.26    | -0.0028 (ppm)   | 0.1358      |
| 11/2/2017 02:58:06 | R1710073-033L                  | Se (196.026 nm)    | 0.0001 u (ppm)  | > 100.00 | 0.0001 (ppm)    | 5.5822      |
| 11/2/2017 02:58:06 | R1710073-033L                  | Sn (189.925 nm)    | 0.0001 u (ppm)  | > 100.00 | 0.0001 (ppm)    | 0.0364      |
| 11/2/2017 02:58:06 | R1710073-033L                  | Sr (216.596 nm)    | 0.0277 (ppm)    | 1.38     | 0.0277 (ppm)    | 412.6250    |
| 11/2/2017 02:58:06 | R1710073-033L                  | Ti (336.122 nm)    | 0.0002 (ppm)    | 21.85    | 0.0002 (ppm)    | -376.6992   |
| 11/2/2017 02:58:06 | R1710073-033L                  | Tl (351.923 nm)    | -0.0008 u (ppm) | > 100.00 | -0.0008 (ppm)   | 12.2353     |
| 11/2/2017 02:58:06 | R1710073-033L                  | V (292.401 nm)     | 0.0003 (ppm)    | 10.69    | 0.0003 (ppm)    | 121.3801    |
| 11/2/2017 02:58:06 | R1710073-033L                  | Y (360.074 nm)     | 1.02 (Ratio)    | 0.79     | 1.02 (Ratio)    | 957178.71   |
| 11/2/2017 02:58:06 | R1710073-033L                  | Y_R (360.074 nm)   | 1.02 (Ratio)    | 0.79     | 1.02 (Ratio)    | 955744.61   |
| 11/2/2017 02:58:06 | R1710073-033L                  | Zn (213.857 nm)    | 0.0013 (ppm)    | 7.92     | 0.0013 (ppm)    | 7.6747      |
| 11/2/2017 03:01:26 | R1710163-003                   | Ag (328.068 nm)    | 0.0003 (ppm)    | 45.76    | 0.0003 (ppm)    | -103.1505   |
| 11/2/2017 03:01:26 | R1710163-003                   | Al (394.401 nm)    | 0.0254 (ppm)    | 1.70     | 0.0254 (ppm)    | 422.3816    |
| 11/2/2017 03:01:26 | R1710163-003                   | As (188.980 nm)    | 0.0012 u (ppm)  | > 100.00 | 0.0012 (ppm)    | -1.7821     |
| 11/2/2017 03:01:26 | R1710163-003                   | B (249.772 nm)     | 0.1164 (ppm)    | 0.63     | 0.1164 (ppm)    | 3425.6545   |
| 11/2/2017 03:01:26 | R1710163-003                   | Ba (230.424 nm)    | 0.0497 (ppm)    | 0.14     | 0.0497 (ppm)    | 1748.8587   |
| 11/2/2017 03:01:26 | R1710163-003                   | Be (313.107 nm)    | 0.0000 (ppm)    | 35.56    | 0.0000 (ppm)    | -528.4362   |
| 11/2/2017 03:01:26 | R1710163-003                   | Ca (227.547 nm)    | 64.0336 u (ppm) | 0.49     | 64.0336 (ppm)   | 3766.7146   |
| 11/2/2017 03:01:26 | R1710163-003                   | Cd (214.439 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | 11.2697     |
| 11/2/2017 03:01:26 | R1710163-003                   | Co (230.786 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | -2.6683     |
| 11/2/2017 03:01:26 | R1710163-003                   | Cr (267.716 nm)    | 0.0008 (ppm)    | 6.77     | 0.0008 (ppm)    | 42.9502     |
| 11/2/2017 03:01:26 | R1710163-003                   | Cu (327.395 nm)    | 0.0034 (ppm)    | 1.17     | 0.0034 (ppm)    | 237.8785    |
| 11/2/2017 03:01:26 | R1710163-003                   | Fe (234.350 nm)    | 0.1719 (ppm)    | 0.20     | 0.1719 (ppm)    | 2069.8343   |
| 11/2/2017 03:01:26 | R1710163-003                   | K (766.491 nm)     | 5.2602 (ppm)    | 0.48     | 5.2602 (ppm)    | 16298.7678  |
| 11/2/2017 03:01:26 | R1710163-003                   | Mg (279.078 nm)    | 38.0931 (ppm)   | 0.33     | 38.0931 (ppm)   | 76856.4999  |

| Date Time          | Label        | Element Label (nm) | Conc             | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|--------------|--------------------|------------------|----------|-----------------|--------------|
| 11/2/2017 03:01:26 | R1710163-003 | Mn (257.610 nm)    | 0.0078 (ppm)     | 9.96     | 0.0078 (ppm)    | 2564.0028    |
| 11/2/2017 03:01:26 | R1710163-003 | Mo (202.032 nm)    | 0.0116 (ppm)     | 3.56     | 0.0116 (ppm)    | 140.7295     |
| 11/2/2017 03:01:26 | R1710163-003 | Na (588.995 nm)    | 87.1418 o (ppm)  | 0.73     | 87.1418 (ppm)   | 3992681.1509 |
| 11/2/2017 03:01:26 | R1710163-003 | Ni (230.299 nm)    | -0.0112 u (ppm)  | 9.96     | -0.0112 (ppm)   | -103.8256    |
| 11/2/2017 03:01:26 | R1710163-003 | Pb (220.353 nm)    | 0.0128 (ppm)     | 9.75     | 0.0128 (ppm)    | 34.1093      |
| 11/2/2017 03:01:26 | R1710163-003 | Sb (217.582 nm)    | -0.0035 u (ppm)  | 27.72    | -0.0035 (ppm)   | -0.9316      |
| 11/2/2017 03:01:26 | R1710163-003 | Se (196.026 nm)    | -0.0014 u (ppm)  | 83.65    | -0.0014 (ppm)   | 4.2837       |
| 11/2/2017 03:01:26 | R1710163-003 | Sn (189.925 nm)    | -0.0018 u (ppm)  | 63.76    | -0.0018 (ppm)   | -2.4195      |
| 11/2/2017 03:01:26 | R1710163-003 | Sr (216.596 nm)    | 2.5917 (ppm)     | 0.40     | 2.5917 (ppm)    | 38660.2919   |
| 11/2/2017 03:01:26 | R1710163-003 | Ti (336.122 nm)    | 0.0009 (ppm)     | 2.40     | 0.0009 (ppm)    | -213.2097    |
| 11/2/2017 03:01:26 | R1710163-003 | Tl (351.923 nm)    | -0.0019 u (ppm)  | 10.23    | -0.0019 (ppm)   | 9.3443       |
| 11/2/2017 03:01:26 | R1710163-003 | V (292.401 nm)     | 0.0125 (ppm)     | 0.48     | 0.0125 (ppm)    | 558.8603     |
| 11/2/2017 03:01:26 | R1710163-003 | Y (360.074 nm)     | 0.98 (Ratio)     | 0.66     | 0.98 (Ratio)    | 913427.81    |
| 11/2/2017 03:01:26 | R1710163-003 | Y_R (360.074 nm)   | 0.97 (Ratio)     | 0.67     | 0.97 (Ratio)    | 912287.47    |
| 11/2/2017 03:01:26 | R1710163-003 | Zn (213.857 nm)    | 0.0863 (ppm)     | 0.51     | 0.0863 (ppm)    | 2477.4628    |
| 11/2/2017 03:04:46 | R1710163-010 | Ag (328.068 nm)    | 0.0004 (ppm)     | 21.95    | 0.0004 (ppm)    | -97.9552     |
| 11/2/2017 03:04:46 | R1710163-010 | Al (394.401 nm)    | 0.0225 (ppm)     | 3.28     | 0.0225 (ppm)    | 384.3774     |
| 11/2/2017 03:04:46 | R1710163-010 | As (188.980 nm)    | 0.0039 (ppm)     | 38.68    | 0.0039 (ppm)    | 0.7323       |
| 11/2/2017 03:04:46 | R1710163-010 | B (249.772 nm)     | 0.1507 (ppm)     | 0.16     | 0.1507 (ppm)    | 4410.7769    |
| 11/2/2017 03:04:46 | R1710163-010 | Ba (230.424 nm)    | 0.0184 (ppm)     | 0.67     | 0.0184 (ppm)    | 651.5447     |
| 11/2/2017 03:04:46 | R1710163-010 | Be (313.107 nm)    | 0.0000 (ppm)     | 24.51    | 0.0000 (ppm)    | -531.9262    |
| 11/2/2017 03:04:46 | R1710163-010 | Ca (227.547 nm)    | 59.7991 o (ppm)  | 0.44     | 59.7991 (ppm)   | 3518.0318    |
| 11/2/2017 03:04:46 | R1710163-010 | Cd (214.439 nm)    | -0.0001 u (ppm)  | 42.28    | -0.0001 (ppm)   | 9.2153       |
| 11/2/2017 03:04:46 | R1710163-010 | Co (230.786 nm)    | 0.0002 (ppm)     | > 100.00 | 0.0002 (ppm)    | 1.2148       |
| 11/2/2017 03:04:46 | R1710163-010 | Cr (267.716 nm)    | 0.0014 (ppm)     | 8.04     | 0.0014 (ppm)    | 70.8735      |
| 11/2/2017 03:04:46 | R1710163-010 | Cu (327.395 nm)    | 0.0004 (ppm)     | 9.78     | 0.0004 (ppm)    | 49.2618      |
| 11/2/2017 03:04:46 | R1710163-010 | Fe (234.350 nm)    | 0.1730 (ppm)     | 0.45     | 0.1730 (ppm)    | 2081.9731    |
| 11/2/2017 03:04:46 | R1710163-010 | K (766.491 nm)     | 3.8728 (ppm)     | 0.45     | 3.8728 (ppm)    | 12015.1547   |
| 11/2/2017 03:04:46 | R1710163-010 | Mg (279.078 nm)    | 35.8105 (ppm)    | 0.27     | 35.8105 (ppm)   | 72250.7944   |
| 11/2/2017 03:04:46 | R1710163-010 | Mn (257.610 nm)    | 0.0079 (ppm)     | 9.70     | 0.0079 (ppm)    | 2601.7125    |
| 11/2/2017 03:04:46 | R1710163-010 | Mo (202.032 nm)    | 0.0143 (ppm)     | 0.97     | 0.0143 (ppm)    | 169.3191     |
| 11/2/2017 03:04:46 | R1710163-010 | Na (588.995 nm)    | 80.4997 o (ppm)  | 0.79     | 80.4997 (ppm)   | 3687892.2365 |
| 11/2/2017 03:04:46 | R1710163-010 | Ni (230.299 nm)    | -0.0125 u (ppm)  | 5.81     | -0.0125 (ppm)   | -112.6681    |
| 11/2/2017 03:04:46 | R1710163-010 | Pb (220.353 nm)    | -0.0021 u (ppm)  | 34.45    | -0.0021 (ppm)   | 0.8906       |
| 11/2/2017 03:04:46 | R1710163-010 | Sb (217.582 nm)    | -0.0037 u (ppm)  | 9.64     | -0.0037 (ppm)   | -1.1362      |
| 11/2/2017 03:04:46 | R1710163-010 | Se (196.026 nm)    | 0.0004 u (ppm)   | > 100.00 | 0.0004 (ppm)    | 5.8916       |
| 11/2/2017 03:04:46 | R1710163-010 | Sn (189.925 nm)    | -0.0025 u (ppm)  | 53.27    | -0.0025 (ppm)   | -3.3490      |
| 11/2/2017 03:04:46 | R1710163-010 | Sr (216.596 nm)    | 1.8659 (ppm)     | 0.70     | 1.8659 (ppm)    | 27833.3674   |
| 11/2/2017 03:04:46 | R1710163-010 | Ti (336.122 nm)    | 0.0010 (ppm)     | 7.30     | 0.0010 (ppm)    | -208.9533    |
| 11/2/2017 03:04:46 | R1710163-010 | Tl (351.923 nm)    | -0.0010 u (ppm)  | > 100.00 | -0.0010 (ppm)   | 11.7984      |
| 11/2/2017 03:04:46 | R1710163-010 | V (292.401 nm)     | 0.0149 (ppm)     | 0.59     | 0.0149 (ppm)    | 647.3649     |
| 11/2/2017 03:04:46 | R1710163-010 | Y (360.074 nm)     | 0.98 (Ratio)     | 0.60     | 0.98 (Ratio)    | 914432.63    |
| 11/2/2017 03:04:46 | R1710163-010 | Y_R (360.074 nm)   | 0.98 (Ratio)     | 0.60     | 0.98 (Ratio)    | 913229.05    |
| 11/2/2017 03:04:46 | R1710163-010 | Zn (213.857 nm)    | 0.0268 (ppm)     | 0.42     | 0.0268 (ppm)    | 747.0604     |
| 11/2/2017 03:08:07 | R1710194-001 | Ag (328.068 nm)    | 0.0003 (ppm)     | 14.22    | 0.0003 (ppm)    | -106.0752    |
| 11/2/2017 03:08:07 | R1710194-001 | Al (394.401 nm)    | 0.0543 (ppm)     | 1.99     | 0.0543 (ppm)    | 808.7464     |
| 11/2/2017 03:08:07 | R1710194-001 | As (188.980 nm)    | -0.0009 u (ppm)  | > 100.00 | -0.0009 (ppm)   | -3.7003      |
| 11/2/2017 03:08:07 | R1710194-001 | B (249.772 nm)     | 0.1233 (ppm)     | 0.37     | 0.1233 (ppm)    | 3623.4112    |
| 11/2/2017 03:08:07 | R1710194-001 | Ba (230.424 nm)    | 0.1696 (ppm)     | 0.30     | 0.1696 (ppm)    | 5944.2041    |
| 11/2/2017 03:08:07 | R1710194-001 | Be (313.107 nm)    | 0.0000 (ppm)     | > 100.00 | 0.0000 (ppm)    | -509.2863    |
| 11/2/2017 03:08:07 | R1710194-001 | Ca (227.547 nm)    | 102.7501 o (ppm) | 0.63     | 102.7501 (ppm)  | 6040.4440    |

| Date Time          | Label        | Element Label (nm) | Conc             | %RSD     | Unadjusted Conc | Intensity   |
|--------------------|--------------|--------------------|------------------|----------|-----------------|-------------|
| 11/2/2017 03:08:07 | R1710194-001 | Cd (214.439 nm)    | 0.0003 (ppm)     | 58.97    | 0.0003 (ppm)    | 19.3580     |
| 11/2/2017 03:08:07 | R1710194-001 | Co (230.786 nm)    | -0.0008 u (ppm)  | 54.48    | -0.0008 (ppm)   | -9.8180     |
| 11/2/2017 03:08:07 | R1710194-001 | Cr (267.716 nm)    | 0.0012 (ppm)     | 4.22     | 0.0012 (ppm)    | 62.3618     |
| 11/2/2017 03:08:07 | R1710194-001 | Cu (327.395 nm)    | 0.0003 (ppm)     | 10.61    | 0.0003 (ppm)    | 38.6859     |
| 11/2/2017 03:08:07 | R1710194-001 | Fe (234.350 nm)    | 41.3419 o (ppm)  | 0.26     | 41.3419 (ppm)   | 480345.3050 |
| 11/2/2017 03:08:07 | R1710194-001 | K (766.491 nm)     | 4.0748 (ppm)     | 0.83     | 4.0748 (ppm)    | 12638.6802  |
| 11/2/2017 03:08:07 | R1710194-001 | Mg (279.078 nm)    | 12.9427 (ppm)    | 0.32     | 12.9427 (ppm)   | 26108.4399  |
| 11/2/2017 03:08:07 | R1710194-001 | Mn (257.610 nm)    | 0.8572 (ppm)     | 0.23     | 0.8572 (ppm)    | 277370.5634 |
| 11/2/2017 03:08:07 | R1710194-001 | Mo (202.032 nm)    | -0.0008 u (ppm)  | 23.06    | -0.0008 (ppm)   | 8.3247      |
| 11/2/2017 03:08:07 | R1710194-001 | Na (588.995 nm)    | 2.8204 (ppm)     | 0.62     | 2.8204 (ppm)    | 123438.5920 |
| 11/2/2017 03:08:07 | R1710194-001 | Ni (230.299 nm)    | -0.0058 u (ppm)  | 3.35     | -0.0058 (ppm)   | -66.5797    |
| 11/2/2017 03:08:07 | R1710194-001 | Pb (220.353 nm)    | -0.0016 u (ppm)  | 24.28    | -0.0016 (ppm)   | 2.0887      |
| 11/2/2017 03:08:07 | R1710194-001 | Sb (217.582 nm)    | -0.0045 u (ppm)  | 39.45    | -0.0045 (ppm)   | -2.2875     |
| 11/2/2017 03:08:07 | R1710194-001 | Se (196.026 nm)    | -0.0027 u (ppm)  | 78.36    | -0.0027 (ppm)   | 3.1740      |
| 11/2/2017 03:08:07 | R1710194-001 | Sn (189.925 nm)    | 0.0002 u (ppm)   | > 100.00 | 0.0002 (ppm)    | 0.1411      |
| 11/2/2017 03:08:07 | R1710194-001 | Sr (216.596 nm)    | 0.2624 (ppm)     | 0.29     | 0.2624 (ppm)    | 3912.4296   |
| 11/2/2017 03:08:07 | R1710194-001 | Ti (336.122 nm)    | 0.0020 (ppm)     | 2.00     | 0.0020 (ppm)    | 12.8967     |
| 11/2/2017 03:08:07 | R1710194-001 | Tl (351.923 nm)    | -0.0018 u (ppm)  | > 100.00 | -0.0018 (ppm)   | 9.3778      |
| 11/2/2017 03:08:07 | R1710194-001 | V (292.401 nm)     | 0.0037 (ppm)     | 0.99     | 0.0037 (ppm)    | 242.6597    |
| 11/2/2017 03:08:07 | R1710194-001 | Y (360.074 nm)     | 0.99 (Ratio)     | 0.75     | 0.99 (Ratio)    | 922585.91   |
| 11/2/2017 03:08:07 | R1710194-001 | Y_R (360.074 nm)   | 0.98 (Ratio)     | 0.75     | 0.98 (Ratio)    | 921220.45   |
| 11/2/2017 03:08:07 | R1710194-001 | Zn (213.857 nm)    | 0.0084 (ppm)     | 1.98     | 0.0084 (ppm)    | 213.7819    |
| 11/2/2017 03:11:26 | R1710194-002 | Ag (328.068 nm)    | 0.0003 (ppm)     | 10.04    | 0.0003 (ppm)    | -102.2939   |
| 11/2/2017 03:11:26 | R1710194-002 | Al (394.401 nm)    | 0.0662 (ppm)     | 0.67     | 0.0662 (ppm)    | 967.1174    |
| 11/2/2017 03:11:26 | R1710194-002 | As (188.980 nm)    | 0.0039 (ppm)     | 78.11    | 0.0039 (ppm)    | 0.6979      |
| 11/2/2017 03:11:26 | R1710194-002 | B (249.772 nm)     | 0.0320 (ppm)     | 0.47     | 0.0320 (ppm)    | 1007.9382   |
| 11/2/2017 03:11:26 | R1710194-002 | Ba (230.424 nm)    | 0.0632 (ppm)     | 0.38     | 0.0632 (ppm)    | 2219.0471   |
| 11/2/2017 03:11:26 | R1710194-002 | Be (313.107 nm)    | 0.0000 (ppm)     | 60.19    | 0.0000 (ppm)    | -498.2967   |
| 11/2/2017 03:11:26 | R1710194-002 | Ca (227.547 nm)    | 107.7210 o (ppm) | 0.52     | 107.7210 (ppm)  | 6332.3730   |
| 11/2/2017 03:11:26 | R1710194-002 | Cd (214.439 nm)    | 0.0009 (ppm)     | 6.44     | 0.0009 (ppm)    | 32.7300     |
| 11/2/2017 03:11:26 | R1710194-002 | Co (230.786 nm)    | 0.0037 (ppm)     | 11.85    | 0.0037 (ppm)    | 36.6935     |
| 11/2/2017 03:11:26 | R1710194-002 | Cr (267.716 nm)    | 0.0002 (ppm)     | 28.93    | 0.0002 (ppm)    | 8.5469      |
| 11/2/2017 03:11:26 | R1710194-002 | Cu (327.395 nm)    | 0.0426 (ppm)     | 0.54     | 0.0426 (ppm)    | 2697.2694   |
| 11/2/2017 03:11:26 | R1710194-002 | Fe (234.350 nm)    | 3.4769 (ppm)     | 0.21     | 3.4769 (ppm)    | 40464.0904  |
| 11/2/2017 03:11:26 | R1710194-002 | K (766.491 nm)     | 3.4308 (ppm)     | 0.86     | 3.4308 (ppm)    | 10650.2791  |
| 11/2/2017 03:11:26 | R1710194-002 | Mg (279.078 nm)    | 7.5837 (ppm)     | 0.21     | 7.5837 (ppm)    | 15295.1555  |
| 11/2/2017 03:11:26 | R1710194-002 | Mn (257.610 nm)    | 0.1613 (ppm)     | 0.67     | 0.1613 (ppm)    | 52203.2640  |
| 11/2/2017 03:11:26 | R1710194-002 | Mo (202.032 nm)    | -0.0003 u (ppm)  | 11.07    | -0.0003 (ppm)   | 13.6278     |
| 11/2/2017 03:11:26 | R1710194-002 | Na (588.995 nm)    | 0.5811 (ppm)     | 0.63     | 0.5811 (ppm)    | 20686.2926  |
| 11/2/2017 03:11:26 | R1710194-002 | Ni (230.299 nm)    | 0.0165 (ppm)     | 0.96     | 0.0165 (ppm)    | 88.6618     |
| 11/2/2017 03:11:26 | R1710194-002 | Pb (220.353 nm)    | 0.0022 (ppm)     | 13.52    | 0.0022 (ppm)    | 10.5152     |
| 11/2/2017 03:11:26 | R1710194-002 | Sb (217.582 nm)    | -0.0011 u (ppm)  | > 100.00 | -0.0011 (ppm)   | 2.6114      |
| 11/2/2017 03:11:26 | R1710194-002 | Se (196.026 nm)    | -0.0016 u (ppm)  | > 100.00 | -0.0016 (ppm)   | 4.1546      |
| 11/2/2017 03:11:26 | R1710194-002 | Sn (189.925 nm)    | -0.0009 u (ppm)  | > 100.00 | -0.0009 (ppm)   | -1.3506     |
| 11/2/2017 03:11:26 | R1710194-002 | Sr (216.596 nm)    | 0.2579 (ppm)     | 0.21     | 0.2579 (ppm)    | 3846.7282   |
| 11/2/2017 03:11:26 | R1710194-002 | Ti (336.122 nm)    | 0.0016 (ppm)     | 1.20     | 0.0016 (ppm)    | -68.0609    |
| 11/2/2017 03:11:26 | R1710194-002 | Tl (351.923 nm)    | 0.0011 u (ppm)   | > 100.00 | 0.0011 (ppm)    | 17.8371     |
| 11/2/2017 03:11:26 | R1710194-002 | V (292.401 nm)     | 0.0098 (ppm)     | 1.55     | 0.0098 (ppm)    | 463.8031    |
| 11/2/2017 03:11:26 | R1710194-002 | Y (360.074 nm)     | 0.99 (Ratio)     | 0.67     | 0.99 (Ratio)    | 931008.54   |
| 11/2/2017 03:11:26 | R1710194-002 | Y_R (360.074 nm)   | 0.99 (Ratio)     | 0.68     | 0.99 (Ratio)    | 929629.44   |
| 11/2/2017 03:11:26 | R1710194-002 | Zn (213.857 nm)    | 0.4962 (ppm)     | 0.33     | 0.4962 (ppm)    | 14385.3390  |

| Date Time          | Label          | Element Label (nm) | Conc             | %RSD  | Unadjusted Conc | Intensity   |
|--------------------|----------------|--------------------|------------------|-------|-----------------|-------------|
| 11/2/2017 03:14:46 | R1710194-002S  | Ag (328.068 nm)    | 0.0503 (ppm)     | 0.29  | 0.0503 (ppm)    | 3572.8079   |
| 11/2/2017 03:14:46 | R1710194-002S  | Al (394.401 nm)    | 2.0211 (ppm)     | 0.65  | 2.0211 (ppm)    | 27071.4753  |
| 11/2/2017 03:14:46 | R1710194-002S  | As (188.980 nm)    | 0.0432 (ppm)     | 12.08 | 0.0432 (ppm)    | 37.0828     |
| 11/2/2017 03:14:46 | R1710194-002S  | B (249.772 nm)     | 1.0152 (ppm)     | 0.29  | 1.0152 (ppm)    | 29184.0087  |
| 11/2/2017 03:14:46 | R1710194-002S  | Ba (230.424 nm)    | 2.0732 (ppm)     | 0.35  | 2.0732 (ppm)    | 72566.1941  |
| 11/2/2017 03:14:46 | R1710194-002S  | Be (313.107 nm)    | 0.0502 (ppm)     | 0.40  | 0.0502 (ppm)    | 75646.6933  |
| 11/2/2017 03:14:46 | R1710194-002S  | Ca (227.547 nm)    | 113.8071 o (ppm) | 0.66  | 113.8071 (ppm)  | 6689.7952   |
| 11/2/2017 03:14:46 | R1710194-002S  | Cd (214.439 nm)    | 0.0496 (ppm)     | 0.41  | 0.0496 (ppm)    | 1141.4053   |
| 11/2/2017 03:14:46 | R1710194-002S  | Co (230.786 nm)    | 0.5015 (ppm)     | 0.21  | 0.5015 (ppm)    | 5160.3523   |
| 11/2/2017 03:14:46 | R1710194-002S  | Cr (267.716 nm)    | 0.1925 (ppm)     | 0.48  | 0.1925 (ppm)    | 10040.3129  |
| 11/2/2017 03:14:46 | R1710194-002S  | Cu (327.395 nm)    | 0.2939 (ppm)     | 0.74  | 0.2939 (ppm)    | 18481.2938  |
| 11/2/2017 03:14:46 | R1710194-002S  | Fe (234.350 nm)    | 4.5057 (ppm)     | 0.39  | 4.5057 (ppm)    | 52415.6197  |
| 11/2/2017 03:14:46 | R1710194-002S  | K (766.491 nm)     | 24.1094 (ppm)    | 0.78  | 24.1094 (ppm)   | 74496.9479  |
| 11/2/2017 03:14:46 | R1710194-002S  | Mg (279.078 nm)    | 9.6986 (ppm)     | 0.28  | 9.6986 (ppm)    | 19562.5587  |
| 11/2/2017 03:14:46 | R1710194-002S  | Mn (257.610 nm)    | 0.6502 (ppm)     | 0.32  | 0.6502 (ppm)    | 210403.5746 |
| 11/2/2017 03:14:46 | R1710194-002S  | Mo (202.032 nm)    | 0.4729 (ppm)     | 0.32  | 0.4729 (ppm)    | 5077.0363   |
| 11/2/2017 03:14:46 | R1710194-002S  | Na (588.995 nm)    | 21.5321 (ppm)    | 0.82  | 21.5321 (ppm)   | 982060.2283 |
| 11/2/2017 03:14:46 | R1710194-002S  | Ni (230.299 nm)    | 0.5098 (ppm)     | 0.17  | 0.5098 (ppm)    | 3511.5577   |
| 11/2/2017 03:14:46 | R1710194-002S  | Pb (220.353 nm)    | 0.4994 (ppm)     | 0.75  | 0.4994 (ppm)    | 1120.4879   |
| 11/2/2017 03:14:46 | R1710194-002S  | Sb (217.582 nm)    | 0.5034 (ppm)     | 0.57  | 0.5034 (ppm)    | 722.2864    |
| 11/2/2017 03:14:46 | R1710194-002S  | Se (196.026 nm)    | 1.0532 (ppm)     | 0.25  | 1.0532 (ppm)    | 925.5199    |
| 11/2/2017 03:14:46 | R1710194-002S  | Sn (189.925 nm)    | 4.9753 (ppm)     | 0.46  | 4.9753 (ppm)    | 6339.5642   |
| 11/2/2017 03:14:46 | R1710194-002S  | Sr (216.596 nm)    | 2.2033 (ppm)     | 0.41  | 2.2033 (ppm)    | 32865.3637  |
| 11/2/2017 03:14:46 | R1710194-002S  | Ti (336.122 nm)    | 0.4944 (ppm)     | 0.45  | 0.4944 (ppm)    | 107996.8209 |
| 11/2/2017 03:14:46 | R1710194-002S  | Tl (351.923 nm)    | 1.9617 (ppm)     | 0.69  | 1.9617 (ppm)    | 5583.9567   |
| 11/2/2017 03:14:46 | R1710194-002S  | V (292.401 nm)     | 0.5079 (ppm)     | 0.53  | 0.5079 (ppm)    | 18393.8700  |
| 11/2/2017 03:14:46 | R1710194-002S  | Y (360.074 nm)     | 0.97 (Ratio)     | 0.79  | 0.97 (Ratio)    | 910219.17   |
| 11/2/2017 03:14:46 | R1710194-002S  | Y_R (360.074 nm)   | 0.97 (Ratio)     | 0.78  | 0.97 (Ratio)    | 908919.14   |
| 11/2/2017 03:14:46 | R1710194-002S  | Zn (213.857 nm)    | 1.0016 (ppm)     | 0.43  | 1.0016 (ppm)    | 29070.1816  |
| 11/2/2017 03:18:06 | R1710194-002SD | Ag (328.068 nm)    | 0.0498 (ppm)     | 0.16  | 0.0498 (ppm)    | 3534.4542   |
| 11/2/2017 03:18:06 | R1710194-002SD | Al (394.401 nm)    | 1.9923 (ppm)     | 0.59  | 1.9923 (ppm)    | 26687.5335  |
| 11/2/2017 03:18:06 | R1710194-002SD | As (188.980 nm)    | 0.0447 (ppm)     | 7.66  | 0.0447 (ppm)    | 38.4432     |
| 11/2/2017 03:18:06 | R1710194-002SD | B (249.772 nm)     | 1.0023 (ppm)     | 0.37  | 1.0023 (ppm)    | 28812.6005  |
| 11/2/2017 03:18:06 | R1710194-002SD | Ba (230.424 nm)    | 2.0479 (ppm)     | 0.17  | 2.0479 (ppm)    | 71677.8330  |
| 11/2/2017 03:18:06 | R1710194-002SD | Be (313.107 nm)    | 0.0495 (ppm)     | 0.30  | 0.0495 (ppm)    | 74617.5056  |
| 11/2/2017 03:18:06 | R1710194-002SD | Ca (227.547 nm)    | 110.9197 o (ppm) | 0.64  | 110.9197 (ppm)  | 6520.2258   |
| 11/2/2017 03:18:06 | R1710194-002SD | Cd (214.439 nm)    | 0.0491 (ppm)     | 1.10  | 0.0491 (ppm)    | 1128.3764   |
| 11/2/2017 03:18:06 | R1710194-002SD | Co (230.786 nm)    | 0.4940 (ppm)     | 0.24  | 0.4940 (ppm)    | 5082.8364   |
| 11/2/2017 03:18:06 | R1710194-002SD | Cr (267.716 nm)    | 0.1898 (ppm)     | 0.38  | 0.1898 (ppm)    | 9899.4124   |
| 11/2/2017 03:18:06 | R1710194-002SD | Cu (327.395 nm)    | 0.2898 (ppm)     | 0.77  | 0.2898 (ppm)    | 18225.6586  |
| 11/2/2017 03:18:06 | R1710194-002SD | Fe (234.350 nm)    | 4.4006 (ppm)     | 0.28  | 4.4006 (ppm)    | 51194.6732  |
| 11/2/2017 03:18:06 | R1710194-002SD | K (766.491 nm)     | 23.7947 (ppm)    | 0.63  | 23.7947 (ppm)   | 73525.3377  |
| 11/2/2017 03:18:06 | R1710194-002SD | Mg (279.078 nm)    | 9.4741 (ppm)     | 0.26  | 9.4741 (ppm)    | 19109.7187  |
| 11/2/2017 03:18:06 | R1710194-002SD | Mn (257.610 nm)    | 0.6393 (ppm)     | 0.26  | 0.6393 (ppm)    | 206860.8340 |
| 11/2/2017 03:18:06 | R1710194-002SD | Mo (202.032 nm)    | 0.4670 (ppm)     | 0.20  | 0.4670 (ppm)    | 5013.7315   |
| 11/2/2017 03:18:06 | R1710194-002SD | Na (588.995 nm)    | 21.1896 (ppm)    | 0.76  | 21.1896 (ppm)   | 966343.5000 |
| 11/2/2017 03:18:06 | R1710194-002SD | Ni (230.299 nm)    | 0.5030 (ppm)     | 0.30  | 0.5030 (ppm)    | 3464.6270   |
| 11/2/2017 03:18:06 | R1710194-002SD | Pb (220.353 nm)    | 0.4936 (ppm)     | 0.22  | 0.4936 (ppm)    | 1107.3968   |
| 11/2/2017 03:18:06 | R1710194-002SD | Sb (217.582 nm)    | 0.4961 (ppm)     | 0.70  | 0.4961 (ppm)    | 711.9095    |
| 11/2/2017 03:18:06 | R1710194-002SD | Se (196.026 nm)    | 1.0388 (ppm)     | 0.53  | 1.0388 (ppm)    | 912.9133    |
| 11/2/2017 03:18:06 | R1710194-002SD | Sn (189.925 nm)    | 4.8962 (ppm)     | 0.31  | 4.8962 (ppm)    | 6238.7025   |

| Date Time          | Label          | Element Label (nm) | Conc           | %RSD     | Unadjusted Conc | Intensity   |
|--------------------|----------------|--------------------|----------------|----------|-----------------|-------------|
| 11/2/2017 03:18:06 | R1710194-002SD | Sr (216.596 nm)    | 2.1748 (ppm)   | 0.36     | 2.1748 (ppm)    | 32441.5787  |
| 11/2/2017 03:18:06 | R1710194-002SD | Ti (336.122 nm)    | 0.4876 (ppm)   | 0.44     | 0.4876 (ppm)    | 106502.5911 |
| 11/2/2017 03:18:06 | R1710194-002SD | Tl (351.923 nm)    | 1.9317 (ppm)   | 0.62     | 1.9317 (ppm)    | 5498.7244   |
| 11/2/2017 03:18:06 | R1710194-002SD | V (292.401 nm)     | 0.5011 (ppm)   | 0.38     | 0.5011 (ppm)    | 18148.1564  |
| 11/2/2017 03:18:06 | R1710194-002SD | Y (360.074 nm)     | 0.98 (Ratio)   | 0.79     | 0.98 (Ratio)    | 914882.40   |
| 11/2/2017 03:18:06 | R1710194-002SD | Y_R (360.074 nm)   | 0.98 (Ratio)   | 0.79     | 0.98 (Ratio)    | 913554.02   |
| 11/2/2017 03:18:06 | R1710194-002SD | Zn (213.857 nm)    | 0.9823 (ppm)   | 0.35     | 0.9823 (ppm)    | 28511.2596  |
| 11/2/2017 03:21:27 | R1710194-002A  | Ag (328.068 nm)    | 0.0472 (ppm)   | 0.30     | 0.0472 (ppm)    | 3341.4869   |
| 11/2/2017 03:21:27 | R1710194-002A  | Al (394.401 nm)    | 1.9336 (ppm)   | 0.50     | 1.9336 (ppm)    | 25903.0296  |
| 11/2/2017 03:21:27 | R1710194-002A  | As (188.980 nm)    | 0.0388 (ppm)   | 2.24     | 0.0388 (ppm)    | 32.9816     |
| 11/2/2017 03:21:27 | R1710194-002A  | B (249.772 nm)     | 1.1357 (ppm)   | 0.43     | 1.1357 (ppm)    | 32637.7292  |
| 11/2/2017 03:21:27 | R1710194-002A  | Ba (230.424 nm)    | 1.9541 (ppm)   | 0.36     | 1.9541 (ppm)    | 68397.3945  |
| 11/2/2017 03:21:27 | R1710194-002A  | Be (313.107 nm)    | 0.0473 (ppm)   | 0.25     | 0.0473 (ppm)    | 71296.8558  |
| 11/2/2017 03:21:27 | R1710194-002A  | Ca (227.547 nm)    | 108.1079 (ppm) | 0.61     | 108.1079 (ppm)  | 6355.0947   |
| 11/2/2017 03:21:27 | R1710194-002A  | Cd (214.439 nm)    | 0.0469 (ppm)   | 0.39     | 0.0469 (ppm)    | 1078.7603   |
| 11/2/2017 03:21:27 | R1710194-002A  | Co (230.786 nm)    | 0.4721 (ppm)   | 0.29     | 0.4721 (ppm)    | 4857.3705   |
| 11/2/2017 03:21:27 | R1710194-002A  | Cr (267.716 nm)    | 0.1814 (ppm)   | 0.12     | 0.1814 (ppm)    | 9461.2390   |
| 11/2/2017 03:21:27 | R1710194-002A  | Cu (327.395 nm)    | 0.2776 (ppm)   | 0.10     | 0.2776 (ppm)    | 17454.5934  |
| 11/2/2017 03:21:27 | R1710194-002A  | Fe (234.350 nm)    | 4.2725 (ppm)   | 0.17     | 4.2725 (ppm)    | 49706.4411  |
| 11/2/2017 03:21:27 | R1710194-002A  | K (766.491 nm)     | 22.7841 (ppm)  | 0.63     | 22.7841 (ppm)   | 70404.8827  |
| 11/2/2017 03:21:27 | R1710194-002A  | Mg (279.078 nm)    | 9.2025 (ppm)   | 0.20     | 9.2025 (ppm)    | 18561.5494  |
| 11/2/2017 03:21:27 | R1710194-002A  | Mn (257.610 nm)    | 0.6298 (ppm)   | 0.75     | 0.6298 (ppm)    | 203799.9345 |
| 11/2/2017 03:21:27 | R1710194-002A  | Mo (202.032 nm)    | 0.4525 (ppm)   | 0.14     | 0.4525 (ppm)    | 4858.8267   |
| 11/2/2017 03:21:27 | R1710194-002A  | Na (588.995 nm)    | 20.4623 (ppm)  | 0.52     | 20.4623 (ppm)   | 932969.3954 |
| 11/2/2017 03:21:27 | R1710194-002A  | Ni (230.299 nm)    | 0.4803 (ppm)   | 0.28     | 0.4803 (ppm)    | 3306.9406   |
| 11/2/2017 03:21:27 | R1710194-002A  | Pb (220.353 nm)    | 0.4714 (ppm)   | 0.25     | 0.4714 (ppm)    | 1057.8022   |
| 11/2/2017 03:21:27 | R1710194-002A  | Sb (217.582 nm)    | 0.4782 (ppm)   | 0.59     | 0.4782 (ppm)    | 686.2822    |
| 11/2/2017 03:21:27 | R1710194-002A  | Se (196.026 nm)    | 1.0570 (ppm)   | 0.26     | 1.0570 (ppm)    | 928.8804    |
| 11/2/2017 03:21:27 | R1710194-002A  | Sn (189.925 nm)    | 4.6956 (ppm)   | 0.30     | 4.6956 (ppm)    | 5983.1431   |
| 11/2/2017 03:21:27 | R1710194-002A  | Sr (216.596 nm)    | 2.1519 (ppm)   | 0.14     | 2.1519 (ppm)    | 32099.3626  |
| 11/2/2017 03:21:27 | R1710194-002A  | Ti (336.122 nm)    | 0.4724 (ppm)   | 0.30     | 0.4724 (ppm)    | 103167.7478 |
| 11/2/2017 03:21:27 | R1710194-002A  | Tl (351.923 nm)    | 1.8406 (ppm)   | 0.25     | 1.8406 (ppm)    | 5240.1837   |
| 11/2/2017 03:21:27 | R1710194-002A  | V (292.401 nm)     | 0.4790 (ppm)   | 0.31     | 0.4790 (ppm)    | 17351.4486  |
| 11/2/2017 03:21:27 | R1710194-002A  | Y (360.074 nm)     | 0.98 (Ratio)   | 0.67     | 0.98 (Ratio)    | 918722.26   |
| 11/2/2017 03:21:27 | R1710194-002A  | Y_R (360.074 nm)   | 0.98 (Ratio)   | 0.66     | 0.98 (Ratio)    | 917223.36   |
| 11/2/2017 03:21:27 | R1710194-002A  | Zn (213.857 nm)    | 0.9526 (ppm)   | 0.29     | 0.9526 (ppm)    | 27648.4198  |
| 11/2/2017 03:24:47 | R1710194-002L  | Ag (328.068 nm)    | 0.0003 (ppm)   | 20.50    | 0.0003 (ppm)    | -105.2029   |
| 11/2/2017 03:24:47 | R1710194-002L  | Al (394.401 nm)    | 0.0178 (ppm)   | 0.63     | 0.0178 (ppm)    | 321.1912    |
| 11/2/2017 03:24:47 | R1710194-002L  | As (188.980 nm)    | 0.0006 (ppm)   | > 100.00 | 0.0006 (ppm)    | -2.3622     |
| 11/2/2017 03:24:47 | R1710194-002L  | B (249.772 nm)     | 0.0064 (ppm)   | 4.99     | 0.0064 (ppm)    | 274.8680    |
| 11/2/2017 03:24:47 | R1710194-002L  | Ba (230.424 nm)    | 0.0126 (ppm)   | 2.26     | 0.0126 (ppm)    | 449.8070    |
| 11/2/2017 03:24:47 | R1710194-002L  | Be (313.107 nm)    | 0.0000 (ppm)   | 99.39    | 0.0000 (ppm)    | -496.9841   |
| 11/2/2017 03:24:47 | R1710194-002L  | Ca (227.547 nm)    | 20.2935 (ppm)  | 0.55     | 20.2935 (ppm)   | 1197.9602   |
| 11/2/2017 03:24:47 | R1710194-002L  | Cd (214.439 nm)    | 0.0002 (ppm)   | 43.04    | 0.0002 (ppm)    | 16.5934     |
| 11/2/2017 03:24:47 | R1710194-002L  | Co (230.786 nm)    | 0.0005 (ppm)   | 30.16    | 0.0005 (ppm)    | 3.9400      |
| 11/2/2017 03:24:47 | R1710194-002L  | Cr (267.716 nm)    | 0.0000 (ppm)   | > 100.00 | 0.0000 (ppm)    | -2.5759     |
| 11/2/2017 03:24:47 | R1710194-002L  | Cu (327.395 nm)    | 0.0084 (ppm)   | 0.82     | 0.0084 (ppm)    | 546.4395    |
| 11/2/2017 03:24:47 | R1710194-002L  | Fe (234.350 nm)    | 0.6937 (ppm)   | 0.33     | 0.6937 (ppm)    | 8131.5399   |
| 11/2/2017 03:24:47 | R1710194-002L  | K (766.491 nm)     | 0.6459 (ppm)   | 3.12     | 0.6459 (ppm)    | 2051.8687   |
| 11/2/2017 03:24:47 | R1710194-002L  | Mg (279.078 nm)    | 1.4810 (ppm)   | 0.28     | 1.4810 (ppm)    | 2981.2890   |
| 11/2/2017 03:24:47 | R1710194-002L  | Mn (257.610 nm)    | 0.0328 (ppm)   | 0.88     | 0.0328 (ppm)    | 10630.4412  |



| Date Time          | Label                                | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity   |
|--------------------|--------------------------------------|--------------------|-----------------|----------|-----------------|-------------|
| 11/2/2017 03:24:47 | R1710194-002L                        | Mo (202.032 nm)    | 0.0005 (ppm)    | 41.69    | 0.0005 (ppm)    | 21.7092     |
| 11/2/2017 03:24:47 | R1710194-002L                        | Na (588.995 nm)    | 0.1160 (ppm)    | 0.82     | 0.1160 (ppm)    | -656.4404   |
| 11/2/2017 03:24:47 | R1710194-002L                        | Ni (230.299 nm)    | 0.0037 (ppm)    | 4.11     | 0.0037 (ppm)    | -0.1498     |
| 11/2/2017 03:24:47 | R1710194-002L                        | Pb (220.353 nm)    | -0.0002 u (ppm) | > 100.00 | -0.0002 (ppm)   | 5.1346      |
| 11/2/2017 03:24:47 | R1710194-002L                        | Sb (217.582 nm)    | -0.0016 u (ppm) | > 100.00 | -0.0016 (ppm)   | 1.9027      |
| 11/2/2017 03:24:47 | R1710194-002L                        | Se (196.026 nm)    | 0.0010 u (ppm)  | > 100.00 | 0.0010 (ppm)    | 6.3626      |
| 11/2/2017 03:24:47 | R1710194-002L                        | Sn (189.925 nm)    | 0.0009 u (ppm)  | > 100.00 | 0.0009 (ppm)    | 1.0267      |
| 11/2/2017 03:24:47 | R1710194-002L                        | Sr (216.596 nm)    | 0.0516 (ppm)    | 0.99     | 0.0516 (ppm)    | 768.5304    |
| 11/2/2017 03:24:47 | R1710194-002L                        | Ti (336.122 nm)    | 0.0005 (ppm)    | 17.83    | 0.0005 (ppm)    | -318.1685   |
| 11/2/2017 03:24:47 | R1710194-002L                        | Tl (351.923 nm)    | -0.0044 u (ppm) | 21.18    | -0.0044 (ppm)   | 2.2197      |
| 11/2/2017 03:24:47 | R1710194-002L                        | V (292.401 nm)     | 0.0018 (ppm)    | 8.46     | 0.0018 (ppm)    | 174.1375    |
| 11/2/2017 03:24:47 | R1710194-002L                        | Y (360.074 nm)     | 1.03 (Ratio)    | 0.86     | 1.03 (Ratio)    | 961700.59   |
| 11/2/2017 03:24:47 | R1710194-002L                        | Y_R (360.074 nm)   | 1.03 (Ratio)    | 0.86     | 1.03 (Ratio)    | 960012.63   |
| 11/2/2017 03:24:47 | R1710194-002L                        | Zn (213.857 nm)    | 0.0957 (ppm)    | 0.22     | 0.0957 (ppm)    | 2750.9119   |
| 11/2/2017 03:28:08 | R1710194-003                         | Ag (328.068 nm)    | 0.0003 (ppm)    | 11.68    | 0.0003 (ppm)    | -100.7061   |
| 11/2/2017 03:28:08 | R1710194-003                         | Al (394.401 nm)    | 0.1535 (ppm)    | 0.61     | 0.1535 (ppm)    | 2133.1466   |
| 11/2/2017 03:28:08 | R1710194-003                         | As (188.980 nm)    | 0.0069 (ppm)    | 28.10    | 0.0069 (ppm)    | 3.4953      |
| 11/2/2017 03:28:08 | R1710194-003                         | B (249.772 nm)     | 0.0494 (ppm)    | 0.19     | 0.0494 (ppm)    | 1506.5241   |
| 11/2/2017 03:28:08 | R1710194-003                         | Ba (230.424 nm)    | 0.0470 (ppm)    | 0.46     | 0.0470 (ppm)    | 1651.9569   |
| 11/2/2017 03:28:08 | R1710194-003                         | Be (313.107 nm)    | 0.0000 (ppm)    | 7.01     | 0.0000 (ppm)    | -462.8399   |
| 11/2/2017 03:28:08 | R1710194-003                         | Ca (227.547 nm)    | 53.5627 (ppm)   | 0.62     | 53.5627 (ppm)   | 3151.7798   |
| 11/2/2017 03:28:08 | R1710194-003                         | Cd (214.439 nm)    | 0.0004 (ppm)    | 23.86    | 0.0004 (ppm)    | 22.0404     |
| 11/2/2017 03:28:08 | R1710194-003                         | Co (230.786 nm)    | -0.0010 u (ppm) | 29.58    | -0.0010 (ppm)   | -11.4246    |
| 11/2/2017 03:28:08 | R1710194-003                         | Cr (267.716 nm)    | 0.0002 (ppm)    | 56.08    | 0.0002 (ppm)    | 10.6601     |
| 11/2/2017 03:28:08 | R1710194-003                         | Cu (327.395 nm)    | 0.0001 (ppm)    | 87.73    | 0.0001 (ppm)    | 27.8329     |
| 11/2/2017 03:28:08 | R1710194-003                         | Fe (234.350 nm)    | 54.3570 u (ppm) | 0.30     | 54.3570 (ppm)   | 631543.0697 |
| 11/2/2017 03:28:08 | R1710194-003                         | K (766.491 nm)     | 2.6223 (ppm)    | 0.66     | 2.6223 (ppm)    | 8154.1231   |
| 11/2/2017 03:28:08 | R1710194-003                         | Mg (279.078 nm)    | 9.8192 (ppm)    | 0.38     | 9.8192 (ppm)    | 19805.9079  |
| 11/2/2017 03:28:08 | R1710194-003                         | Mn (257.610 nm)    | 2.0314 u (ppm)  | 0.33     | 2.0314 (ppm)    | 657236.1929 |
| 11/2/2017 03:28:08 | R1710194-003                         | Mo (202.032 nm)    | -0.0007 u (ppm) | 18.54    | -0.0007 (ppm)   | 9.8104      |
| 11/2/2017 03:28:08 | R1710194-003                         | Na (588.995 nm)    | 1.3191 (ppm)    | 0.63     | 1.3191 (ppm)    | 54551.9492  |
| 11/2/2017 03:28:08 | R1710194-003                         | Ni (230.299 nm)    | -0.0038 u (ppm) | 3.60     | -0.0038 (ppm)   | -52.7535    |
| 11/2/2017 03:28:08 | R1710194-003                         | Pb (220.353 nm)    | -0.0004 u (ppm) | > 100.00 | -0.0004 (ppm)   | 4.8248      |
| 11/2/2017 03:28:08 | R1710194-003                         | Sb (217.582 nm)    | -0.0045 u (ppm) | 23.73    | -0.0045 (ppm)   | -2.3137     |
| 11/2/2017 03:28:08 | R1710194-003                         | Se (196.026 nm)    | 0.0014 u (ppm)  | > 100.00 | 0.0014 (ppm)    | 6.7456      |
| 11/2/2017 03:28:08 | R1710194-003                         | Sn (189.925 nm)    | -0.0003 u (ppm) | > 100.00 | -0.0003 (ppm)   | -0.5568     |
| 11/2/2017 03:28:08 | R1710194-003                         | Sr (216.596 nm)    | 0.0915 (ppm)    | 0.58     | 0.0915 (ppm)    | 1363.4028   |
| 11/2/2017 03:28:08 | R1710194-003                         | Ti (336.122 nm)    | 0.0047 (ppm)    | 1.24     | 0.0047 (ppm)    | 614.8543    |
| 11/2/2017 03:28:08 | R1710194-003                         | Tl (351.923 nm)    | -0.0052 u (ppm) | 17.22    | -0.0052 (ppm)   | -0.0357     |
| 11/2/2017 03:28:08 | R1710194-003                         | V (292.401 nm)     | 0.0058 (ppm)    | 1.67     | 0.0058 (ppm)    | 317.2632    |
| 11/2/2017 03:28:08 | R1710194-003                         | Y (360.074 nm)     | 1.01 (Ratio)    | 0.68     | 1.01 (Ratio)    | 943114.99   |
| 11/2/2017 03:28:08 | R1710194-003                         | Y_R (360.074 nm)   | 1.01 (Ratio)    | 0.69     | 1.01 (Ratio)    | 941541.19   |
| 11/2/2017 03:28:08 | R1710194-003                         | Zn (213.857 nm)    | 0.0096 (ppm)    | 0.24     | 0.0096 (ppm)    | 247.8821    |
| 11/2/2017 03:31:27 | Continuing Calibration Verification1 | Ag (328.068 nm)    | 0.4807 (ppm)    | 0.33     | 0.4807 (ppm)    | 35184.9235  |
| 11/2/2017 03:31:27 | Continuing Calibration Verification1 | Al (394.401 nm)    | 9.4327 (ppm)    | 0.39     | 9.4327 (ppm)    | 126042.6183 |
| 11/2/2017 03:31:27 | Continuing Calibration Verification1 | As (188.980 nm)    | 0.9357 (ppm)    | 0.32     | 0.9357 (ppm)    | 863.1651    |
| 11/2/2017 03:31:27 | Continuing Calibration Verification1 | B (249.772 nm)     | 2.3667 (ppm)    | 0.24     | 2.3667 (ppm)    | 67912.9019  |
| 11/2/2017 03:31:27 | Continuing Calibration Verification1 | Ba (230.424 nm)    | 9.9695 (ppm)    | 0.25     | 9.9695 (ppm)    | 348915.2912 |
| 11/2/2017 03:31:27 | Continuing Calibration Verification1 | Be (313.107 nm)    | 0.2487 (ppm)    | 0.35     | 0.2487 (ppm)    | 376658.2371 |
| 11/2/2017 03:31:27 | Continuing Calibration Verification1 | Ca (227.547 nm)    | 23.9548 (ppm)   | 0.54     | 23.9548 (ppm)   | 1412.9779   |
| 11/2/2017 03:31:27 | Continuing Calibration Verification1 | Cd (214.439 nm)    | 0.4820 (ppm)    | 0.27     | 0.4820 (ppm)    | 10973.1246  |

| Date Time          | Label                                | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|--------------------------------------|--------------------|-----------------|----------|-----------------|--------------|
| 11/2/2017 03:31:27 | Continuing Calibration Verification1 | Co (230.786 nm)    | 2.5133 (ppm)    | 0.21     | 2.5133 (ppm)    | 25865.3244   |
| 11/2/2017 03:31:27 | Continuing Calibration Verification1 | Cr (267.716 nm)    | 0.4850 (ppm)    | 0.20     | 0.4850 (ppm)    | 25292.9768   |
| 11/2/2017 03:31:27 | Continuing Calibration Verification1 | Cu (327.395 nm)    | 1.2020 (ppm)    | 0.42     | 1.2020 (ppm)    | 75517.6474   |
| 11/2/2017 03:31:27 | Continuing Calibration Verification1 | Fe (234.350 nm)    | 4.6997 (ppm)    | 0.26     | 4.6997 (ppm)    | 54669.0454   |
| 11/2/2017 03:31:27 | Continuing Calibration Verification1 | K (766.491 nm)     | 24.5314 (ppm)   | 0.53     | 24.5314 (ppm)   | 75799.7806   |
| 11/2/2017 03:31:27 | Continuing Calibration Verification1 | Mg (279.078 nm)    | 24.1057 (ppm)   | 0.25     | 24.1057 (ppm)   | 48632.9452   |
| 11/2/2017 03:31:27 | Continuing Calibration Verification1 | Mn (257.610 nm)    | 0.7334 (ppm)    | 0.27     | 0.7334 (ppm)    | 237302.9293  |
| 11/2/2017 03:31:27 | Continuing Calibration Verification1 | Mo (202.032 nm)    | 2.3440 (ppm)    | 0.25     | 2.3440 (ppm)    | 25097.6234   |
| 11/2/2017 03:31:27 | Continuing Calibration Verification1 | Na (588.995 nm)    | 24.7805 (ppm)   | 0.60     | 24.7805 (ppm)   | 1131119.8423 |
| 11/2/2017 03:31:27 | Continuing Calibration Verification1 | Ni (230.299 nm)    | 1.9728 (ppm)    | 0.20     | 1.9728 (ppm)    | 13663.7034   |
| 11/2/2017 03:31:27 | Continuing Calibration Verification1 | Pb (220.353 nm)    | 0.4842 (ppm)    | 0.56     | 0.4842 (ppm)    | 1086.4670    |
| 11/2/2017 03:31:27 | Continuing Calibration Verification1 | Sb (217.582 nm)    | 4.7691 (ppm)    | 0.37     | 4.7691 (ppm)    | 6807.6693    |
| 11/2/2017 03:31:27 | Continuing Calibration Verification1 | Se (196.026 nm)    | 0.4713 (ppm)    | 0.55     | 0.4713 (ppm)    | 417.1985     |
| 11/2/2017 03:31:27 | Continuing Calibration Verification1 | Sn (189.925 nm)    | 4.8950 (ppm)    | 0.54     | 4.8950 (ppm)    | 6237.1788    |
| 11/2/2017 03:31:27 | Continuing Calibration Verification1 | Sr (216.596 nm)    | 2.4194 (ppm)    | 0.29     | 2.4194 (ppm)    | 36089.5777   |
| 11/2/2017 03:31:27 | Continuing Calibration Verification1 | Ti (336.122 nm)    | 2.4519 (ppm)    | 0.61     | 2.4519 (ppm)    | 537288.8461  |
| 11/2/2017 03:31:27 | Continuing Calibration Verification1 | Ti (351.923 nm)    | 0.9728 (ppm)    | 0.18     | 0.9728 (ppm)    | 2776.4696    |
| 11/2/2017 03:31:27 | Continuing Calibration Verification1 | V (292.401 nm)     | 2.4537 (ppm)    | 0.27     | 2.4537 (ppm)    | 88436.8316   |
| 11/2/2017 03:31:27 | Continuing Calibration Verification1 | Y (360.074 nm)     | 0.98 (Ratio)    | 0.71     | 0.98 (Ratio)    | 920985.31    |
| 11/2/2017 03:31:27 | Continuing Calibration Verification1 | Y_R (360.074 nm)   | 0.98 (Ratio)    | 0.71     | 0.98 (Ratio)    | 919333.24    |
| 11/2/2017 03:31:27 | Continuing Calibration Verification1 | Zn (213.857 nm)    | 0.9691 (ppm)    | 0.27     | 0.9691 (ppm)    | 28126.8133   |
| 11/2/2017 03:34:46 | Continuing Calibration Blank1        | Ag (328.068 nm)    | 0.0003 (ppm)    | 43.68    | 0.0003 (ppm)    | -106.5289    |
| 11/2/2017 03:34:46 | Continuing Calibration Blank1        | Al (394.401 nm)    | 0.0004 (ppm)    | 89.24    | 0.0004 (ppm)    | 88.8019      |
| 11/2/2017 03:34:46 | Continuing Calibration Blank1        | As (188.980 nm)    | 0.0011 u (ppm)  | > 100.00 | 0.0011 (ppm)    | -1.9196      |
| 11/2/2017 03:34:46 | Continuing Calibration Blank1        | B (249.772 nm)     | 0.0011 (ppm)    | 68.69    | 0.0011 (ppm)    | 121.4584     |
| 11/2/2017 03:34:46 | Continuing Calibration Blank1        | Ba (230.424 nm)    | 0.0005 (ppm)    | 23.38    | 0.0005 (ppm)    | 25.7348      |
| 11/2/2017 03:34:46 | Continuing Calibration Blank1        | Be (313.107 nm)    | 0.0000 (ppm)    | 11.05    | 0.0000 (ppm)    | -472.9106    |
| 11/2/2017 03:34:46 | Continuing Calibration Blank1        | Ca (227.547 nm)    | -0.0205 u (ppm) | 95.65    | -0.0205 (ppm)   | 4.9682       |
| 11/2/2017 03:34:46 | Continuing Calibration Blank1        | Cd (214.439 nm)    | 0.0001 (ppm)    | 20.83    | 0.0001 (ppm)    | 14.6010      |
| 11/2/2017 03:34:46 | Continuing Calibration Blank1        | Co (230.786 nm)    | -0.0003 u (ppm) | 96.67    | -0.0003 (ppm)   | -4.1006      |
| 11/2/2017 03:34:46 | Continuing Calibration Blank1        | Cr (267.716 nm)    | 0.0001 (ppm)    | 25.85    | 0.0001 (ppm)    | 5.2769       |
| 11/2/2017 03:34:46 | Continuing Calibration Blank1        | Cu (327.395 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | 24.2697      |
| 11/2/2017 03:34:46 | Continuing Calibration Blank1        | Fe (234.350 nm)    | 0.0007 (ppm)    | 10.36    | 0.0007 (ppm)    | 81.3149      |
| 11/2/2017 03:34:46 | Continuing Calibration Blank1        | K (766.491 nm)     | 0.0200 (ppm)    | 28.66    | 0.0200 (ppm)    | 119.3016     |
| 11/2/2017 03:34:46 | Continuing Calibration Blank1        | Mg (279.078 nm)    | 0.0027 (ppm)    | 16.99    | 0.0027 (ppm)    | -1.5834      |
| 11/2/2017 03:34:46 | Continuing Calibration Blank1        | Mn (257.610 nm)    | 0.0005 (ppm)    | 24.34    | 0.0005 (ppm)    | 207.7294     |
| 11/2/2017 03:34:46 | Continuing Calibration Blank1        | Mo (202.032 nm)    | 0.0018 (ppm)    | 7.66     | 0.0018 (ppm)    | 35.9711      |
| 11/2/2017 03:34:46 | Continuing Calibration Blank1        | Na (588.995 nm)    | 0.0078 (ppm)    | 24.63    | 0.0078 (ppm)    | -5623.0648   |
| 11/2/2017 03:34:46 | Continuing Calibration Blank1        | Ni (230.299 nm)    | 0.0008 (ppm)    | 20.45    | 0.0008 (ppm)    | -20.2099     |
| 11/2/2017 03:34:46 | Continuing Calibration Blank1        | Pb (220.353 nm)    | -0.0005 u (ppm) | 26.61    | -0.0005 (ppm)   | 4.4695       |
| 11/2/2017 03:34:46 | Continuing Calibration Blank1        | Sb (217.582 nm)    | -0.0014 u (ppm) | 58.69    | -0.0014 (ppm)   | 2.1885       |
| 11/2/2017 03:34:46 | Continuing Calibration Blank1        | Se (196.026 nm)    | -0.0026 u (ppm) | > 100.00 | -0.0026 (ppm)   | 3.2233       |
| 11/2/2017 03:34:46 | Continuing Calibration Blank1        | Sn (189.925 nm)    | 0.0012 (ppm)    | 91.83    | 0.0012 (ppm)    | 1.3822       |
| 11/2/2017 03:34:46 | Continuing Calibration Blank1        | Sr (216.596 nm)    | 0.0001 u (ppm)  | > 100.00 | 0.0001 (ppm)    | 0.2897       |
| 11/2/2017 03:34:46 | Continuing Calibration Blank1        | Ti (336.122 nm)    | 0.0009 (ppm)    | 7.87     | 0.0009 (ppm)    | -230.9162    |
| 11/2/2017 03:34:46 | Continuing Calibration Blank1        | Ti (351.923 nm)    | -0.0013 u (ppm) | 22.53    | -0.0013 (ppm)   | 10.9832      |
| 11/2/2017 03:34:46 | Continuing Calibration Blank1        | V (292.401 nm)     | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | 109.0589     |
| 11/2/2017 03:34:46 | Continuing Calibration Blank1        | Y (360.074 nm)     | 1.03 (Ratio)    | 0.75     | 1.03 (Ratio)    | 968661.06    |
| 11/2/2017 03:34:46 | Continuing Calibration Blank1        | Y_R (360.074 nm)   | 1.03 (Ratio)    | 0.75     | 1.03 (Ratio)    | 966645.77    |
| 11/2/2017 03:34:46 | Continuing Calibration Blank1        | Zn (213.857 nm)    | 0.0003 (ppm)    | 16.60    | 0.0003 (ppm)    | -22.8963     |
| 11/2/2017 03:38:06 | R1710194-004                         | Ag (328.068 nm)    | 0.0002 (ppm)    | 11.54    | 0.0002 (ppm)    | -107.7845    |

| Date Time          | Label        | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity   |
|--------------------|--------------|--------------------|-----------------|----------|-----------------|-------------|
| 11/2/2017 03:38:06 | R1710194-004 | Al (394.401 nm)    | 0.0259 (ppm)    | 0.15     | 0.0259 (ppm)    | 428.8581    |
| 11/2/2017 03:38:06 | R1710194-004 | As (188.980 nm)    | 0.0185 (ppm)    | 6.76     | 0.0185 (ppm)    | 14.2462     |
| 11/2/2017 03:38:06 | R1710194-004 | B (249.772 nm)     | 0.1022 (ppm)    | 0.57     | 0.1022 (ppm)    | 3018.8236   |
| 11/2/2017 03:38:06 | R1710194-004 | Ba (230.424 nm)    | 0.1180 (ppm)    | 0.66     | 0.1180 (ppm)    | 4137.0870   |
| 11/2/2017 03:38:06 | R1710194-004 | Be (313.107 nm)    | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | -504.1594   |
| 11/2/2017 03:38:06 | R1710194-004 | Ca (227.547 nm)    | 97.3218 o (ppm) | 0.58     | 97.3218 (ppm)   | 5721.6513   |
| 11/2/2017 03:38:06 | R1710194-004 | Cd (214.439 nm)    | 0.0001 (ppm)    | > 100.00 | 0.0001 (ppm)    | 13.9377     |
| 11/2/2017 03:38:06 | R1710194-004 | Co (230.786 nm)    | 0.0005 u (ppm)  | > 100.00 | 0.0005 (ppm)    | 3.8250      |
| 11/2/2017 03:38:06 | R1710194-004 | Cr (267.716 nm)    | -0.0004 u (ppm) | 14.03    | -0.0004 (ppm)   | -20.1543    |
| 11/2/2017 03:38:06 | R1710194-004 | Cu (327.395 nm)    | 0.0014 (ppm)    | 6.33     | 0.0014 (ppm)    | 112.1408    |
| 11/2/2017 03:38:06 | R1710194-004 | Fe (234.350 nm)    | 16.0120 o (ppm) | 0.23     | 16.0120 (ppm)   | 186085.2896 |
| 11/2/2017 03:38:06 | R1710194-004 | K (766.491 nm)     | 16.2262 (ppm)   | 0.74     | 16.2262 (ppm)   | 50157.0489  |
| 11/2/2017 03:38:06 | R1710194-004 | Mg (279.078 nm)    | 11.7797 (ppm)   | 0.34     | 11.7797 (ppm)   | 23761.8059  |
| 11/2/2017 03:38:06 | R1710194-004 | Mn (257.610 nm)    | 0.7429 (ppm)    | 0.23     | 0.7429 (ppm)    | 240381.3854 |
| 11/2/2017 03:38:06 | R1710194-004 | Mo (202.032 nm)    | -0.0005 u (ppm) | 82.13    | -0.0005 (ppm)   | 11.2189     |
| 11/2/2017 03:38:06 | R1710194-004 | Na (588.995 nm)    | 5.2077 (ppm)    | 0.66     | 5.2077 (ppm)    | 232983.7084 |
| 11/2/2017 03:38:06 | R1710194-004 | Ni (230.299 nm)    | -0.0039 u (ppm) | 52.74    | -0.0039 (ppm)   | -53.0864    |
| 11/2/2017 03:38:06 | R1710194-004 | Pb (220.353 nm)    | -0.0002 u (ppm) | > 100.00 | -0.0002 (ppm)   | 5.2667      |
| 11/2/2017 03:38:06 | R1710194-004 | Sb (217.582 nm)    | -0.0003 u (ppm) | > 100.00 | -0.0003 (ppm)   | 3.7720      |
| 11/2/2017 03:38:06 | R1710194-004 | Se (196.026 nm)    | -0.0007 u (ppm) | 85.97    | -0.0007 (ppm)   | 4.8920      |
| 11/2/2017 03:38:06 | R1710194-004 | Sn (189.925 nm)    | -0.0021 u (ppm) | 63.35    | -0.0021 (ppm)   | -2.7972     |
| 11/2/2017 03:38:06 | R1710194-004 | Sr (216.596 nm)    | 0.2551 (ppm)    | 0.33     | 0.2551 (ppm)    | 3804.3197   |
| 11/2/2017 03:38:06 | R1710194-004 | Ti (336.122 nm)    | 0.0012 (ppm)    | 4.42     | 0.0012 (ppm)    | -148.4829   |
| 11/2/2017 03:38:06 | R1710194-004 | Tl (351.923 nm)    | -0.0021 u (ppm) | 44.32    | -0.0021 (ppm)   | 8.8043      |
| 11/2/2017 03:38:06 | R1710194-004 | V (292.401 nm)     | 0.0017 (ppm)    | 6.66     | 0.0017 (ppm)    | 171.0564    |
| 11/2/2017 03:38:06 | R1710194-004 | Y (360.074 nm)     | 0.99 (Ratio)    | 0.70     | 0.99 (Ratio)    | 928788.21   |
| 11/2/2017 03:38:06 | R1710194-004 | Y_R (360.074 nm)   | 0.99 (Ratio)    | 0.70     | 0.99 (Ratio)    | 927103.32   |
| 11/2/2017 03:38:06 | R1710194-004 | Zn (213.857 nm)    | 0.0178 (ppm)    | 2.72     | 0.0178 (ppm)    | 485.6310    |
| 11/2/2017 03:41:27 | R1710194-005 | Ag (328.068 nm)    | 0.0004 (ppm)    | 20.54    | 0.0004 (ppm)    | -94.9068    |
| 11/2/2017 03:41:27 | R1710194-005 | Al (394.401 nm)    | 0.1547 (ppm)    | 0.54     | 0.1547 (ppm)    | 2149.2509   |
| 11/2/2017 03:41:27 | R1710194-005 | As (188.980 nm)    | 0.0065 (ppm)    | 57.27    | 0.0065 (ppm)    | 3.1366      |
| 11/2/2017 03:41:27 | R1710194-005 | B (249.772 nm)     | 0.0500 (ppm)    | 0.64     | 0.0500 (ppm)    | 1523.1383   |
| 11/2/2017 03:41:27 | R1710194-005 | Ba (230.424 nm)    | 0.0471 (ppm)    | 0.14     | 0.0471 (ppm)    | 1657.2938   |
| 11/2/2017 03:41:27 | R1710194-005 | Be (313.107 nm)    | 0.0000 (ppm)    | 29.79    | 0.0000 (ppm)    | -472.1749   |
| 11/2/2017 03:41:27 | R1710194-005 | Ca (227.547 nm)    | 54.1074 (ppm)   | 0.77     | 54.1074 (ppm)   | 3183.7692   |
| 11/2/2017 03:41:27 | R1710194-005 | Cd (214.439 nm)    | 0.0004 (ppm)    | 37.90    | 0.0004 (ppm)    | 20.7381     |
| 11/2/2017 03:41:27 | R1710194-005 | Co (230.786 nm)    | -0.0012 u (ppm) | 24.67    | -0.0012 (ppm)   | -13.4779    |
| 11/2/2017 03:41:27 | R1710194-005 | Cr (267.716 nm)    | 0.0001 (ppm)    | 17.55    | 0.0001 (ppm)    | 7.0450      |
| 11/2/2017 03:41:27 | R1710194-005 | Cu (327.395 nm)    | 0.0001 (ppm)    | > 100.00 | 0.0001 (ppm)    | 27.1073     |
| 11/2/2017 03:41:27 | R1710194-005 | Fe (234.350 nm)    | 54.8251 o (ppm) | 0.35     | 54.8251 (ppm)   | 636980.7623 |
| 11/2/2017 03:41:27 | R1710194-005 | K (766.491 nm)     | 2.6746 (ppm)    | 0.61     | 2.6746 (ppm)    | 8315.3584   |
| 11/2/2017 03:41:27 | R1710194-005 | Mg (279.078 nm)    | 9.9124 (ppm)    | 0.46     | 9.9124 (ppm)    | 19993.9386  |
| 11/2/2017 03:41:27 | R1710194-005 | Mn (257.610 nm)    | 2.0542 o (ppm)  | 0.33     | 2.0542 (ppm)    | 664637.0985 |
| 11/2/2017 03:41:27 | R1710194-005 | Mo (202.032 nm)    | -0.0007 u (ppm) | 35.50    | -0.0007 (ppm)   | 9.7172      |
| 11/2/2017 03:41:27 | R1710194-005 | Na (588.995 nm)    | 1.3325 (ppm)    | 0.80     | 1.3325 (ppm)    | 55163.6870  |
| 11/2/2017 03:41:27 | R1710194-005 | Ni (230.299 nm)    | -0.0032 u (ppm) | 13.94    | -0.0032 (ppm)   | -48.4775    |
| 11/2/2017 03:41:27 | R1710194-005 | Pb (220.353 nm)    | -0.0016 u (ppm) | 4.26     | -0.0016 (ppm)   | 2.0314      |
| 11/2/2017 03:41:27 | R1710194-005 | Sb (217.582 nm)    | -0.0037 u (ppm) | 16.70    | -0.0037 (ppm)   | -1.1071     |
| 11/2/2017 03:41:27 | R1710194-005 | Se (196.026 nm)    | 0.0014 u (ppm)  | > 100.00 | 0.0014 (ppm)    | 6.7698      |
| 11/2/2017 03:41:27 | R1710194-005 | Sn (189.925 nm)    | -0.0016 u (ppm) | 64.60    | -0.0016 (ppm)   | -2.1484     |
| 11/2/2017 03:41:27 | R1710194-005 | Sr (216.596 nm)    | 0.0919 (ppm)    | 0.11     | 0.0919 (ppm)    | 1369.0149   |

| Date Time          | Label        | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity  |
|--------------------|--------------|--------------------|-----------------|----------|-----------------|------------|
| 11/2/2017 03:41:27 | R1710194-005 | Ti (336.122 nm)    | 0.0048 (ppm)    | 0.58     | 0.0048 (ppm)    | 628.6881   |
| 11/2/2017 03:41:27 | R1710194-005 | Ti (351.923 nm)    | -0.0059 u (ppm) | 26.29    | -0.0059 (ppm)   | -2.0951    |
| 11/2/2017 03:41:27 | R1710194-005 | V (292.401 nm)     | 0.0058 (ppm)    | 2.50     | 0.0058 (ppm)    | 317.2493   |
| 11/2/2017 03:41:27 | R1710194-005 | Y (360.074 nm)     | 1.00 (Ratio)    | 0.74     | 1.00 (Ratio)    | 940909.07  |
| 11/2/2017 03:41:27 | R1710194-005 | Y_R (360.074 nm)   | 1.00 (Ratio)    | 0.73     | 1.00 (Ratio)    | 938926.95  |
| 11/2/2017 03:41:27 | R1710194-005 | Zn (213.857 nm)    | 0.0075 (ppm)    | 0.41     | 0.0075 (ppm)    | 187.4458   |
| 11/2/2017 03:44:47 | R1710194-007 | Ag (328.068 nm)    | 0.0002 (ppm)    | 28.58    | 0.0002 (ppm)    | -108.3735  |
| 11/2/2017 03:44:47 | R1710194-007 | Al (394.401 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | 82.3897    |
| 11/2/2017 03:44:47 | R1710194-007 | As (188.980 nm)    | 0.0009 u (ppm)  | > 100.00 | 0.0009 (ppm)    | -2.0562    |
| 11/2/2017 03:44:47 | R1710194-007 | B (249.772 nm)     | -0.0009 u (ppm) | 14.63    | -0.0009 (ppm)   | 63.9354    |
| 11/2/2017 03:44:47 | R1710194-007 | Ba (230.424 nm)    | -0.0002 u (ppm) | 6.97     | -0.0002 (ppm)   | 0.8584     |
| 11/2/2017 03:44:47 | R1710194-007 | Be (313.107 nm)    | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | -506.7709  |
| 11/2/2017 03:44:47 | R1710194-007 | Ca (227.547 nm)    | -0.0172 u (ppm) | > 100.00 | -0.0172 (ppm)   | 5.1617     |
| 11/2/2017 03:44:47 | R1710194-007 | Cd (214.439 nm)    | -0.0001 u (ppm) | 33.21    | -0.0001 (ppm)   | 9.2544     |
| 11/2/2017 03:44:47 | R1710194-007 | Co (230.786 nm)    | -0.0002 u (ppm) | > 100.00 | -0.0002 (ppm)   | -2.8754    |
| 11/2/2017 03:44:47 | R1710194-007 | Cr (267.716 nm)    | 0.0000 u (ppm)  | 22.20    | 0.0000 (ppm)    | -2.7520    |
| 11/2/2017 03:44:47 | R1710194-007 | Cu (327.395 nm)    | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | 21.3032    |
| 11/2/2017 03:44:47 | R1710194-007 | Fe (234.350 nm)    | -0.0002 u (ppm) | > 100.00 | -0.0002 (ppm)   | 70.4601    |
| 11/2/2017 03:44:47 | R1710194-007 | K (766.491 nm)     | -0.0035 u (ppm) | 55.98    | -0.0035 (ppm)   | 46.7951    |
| 11/2/2017 03:44:47 | R1710194-007 | Mg (279.078 nm)    | 0.0020 (ppm)    | 58.97    | 0.0020 (ppm)    | -3.0160    |
| 11/2/2017 03:44:47 | R1710194-007 | Mn (257.610 nm)    | 0.0016 (ppm)    | 33.60    | 0.0016 (ppm)    | 555.4556   |
| 11/2/2017 03:44:47 | R1710194-007 | Mo (202.032 nm)    | -0.0008 u (ppm) | 22.97    | -0.0008 (ppm)   | 7.8649     |
| 11/2/2017 03:44:47 | R1710194-007 | Na (588.995 nm)    | 0.0377 (ppm)    | 1.50     | 0.0377 (ppm)    | -4250.6683 |
| 11/2/2017 03:44:47 | R1710194-007 | Ni (230.299 nm)    | 0.0013 (ppm)    | 70.21    | 0.0013 (ppm)    | -16.8355   |
| 11/2/2017 03:44:47 | R1710194-007 | Pb (220.353 nm)    | 0.0001 u (ppm)  | > 100.00 | 0.0001 (ppm)    | 5.7460     |
| 11/2/2017 03:44:47 | R1710194-007 | Sb (217.582 nm)    | -0.0029 u (ppm) | 48.94    | -0.0029 (ppm)   | 0.0551     |
| 11/2/2017 03:44:47 | R1710194-007 | Se (196.026 nm)    | -0.0036 u (ppm) | 72.05    | -0.0036 (ppm)   | 2.4155     |
| 11/2/2017 03:44:47 | R1710194-007 | Sn (189.925 nm)    | 0.0001 u (ppm)  | > 100.00 | 0.0001 (ppm)    | 0.0257     |
| 11/2/2017 03:44:47 | R1710194-007 | Sr (216.596 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | -2.2865    |
| 11/2/2017 03:44:47 | R1710194-007 | Ti (336.122 nm)    | 0.0004 (ppm)    | 18.61    | 0.0004 (ppm)    | -328.7507  |
| 11/2/2017 03:44:47 | R1710194-007 | Ti (351.923 nm)    | -0.0028 u (ppm) | 63.82    | -0.0028 (ppm)   | 6.7852     |
| 11/2/2017 03:44:47 | R1710194-007 | V (292.401 nm)     | -0.0003 u (ppm) | 73.32    | -0.0003 (ppm)   | 99.3862    |
| 11/2/2017 03:44:47 | R1710194-007 | Y (360.074 nm)     | 1.05 (Ratio)    | 0.60     | 1.05 (Ratio)    | 979371.26  |
| 11/2/2017 03:44:47 | R1710194-007 | Y_R (360.074 nm)   | 1.04 (Ratio)    | 0.60     | 1.04 (Ratio)    | 977059.25  |
| 11/2/2017 03:44:47 | R1710194-007 | Zn (213.857 nm)    | 0.0013 (ppm)    | 6.84     | 0.0013 (ppm)    | 6.0658     |
| 11/2/2017 03:48:07 | R1710208-003 | Ag (328.068 nm)    | 0.0003 (ppm)    | 2.64     | 0.0003 (ppm)    | -102.8666  |
| 11/2/2017 03:48:07 | R1710208-003 | Al (394.401 nm)    | 0.0164 (ppm)    | 2.33     | 0.0164 (ppm)    | 302.2016   |
| 11/2/2017 03:48:07 | R1710208-003 | As (188.980 nm)    | 0.0084 (ppm)    | 19.80    | 0.0084 (ppm)    | 4.8566     |
| 11/2/2017 03:48:07 | R1710208-003 | B (249.772 nm)     | 0.1507 (ppm)    | 0.26     | 0.1507 (ppm)    | 4408.6353  |
| 11/2/2017 03:48:07 | R1710208-003 | Be (230.424 nm)    | 0.0246 (ppm)    | 0.48     | 0.0246 (ppm)    | 868.2184   |
| 11/2/2017 03:48:07 | R1710208-003 | Be (313.107 nm)    | 0.0000 (ppm)    | 54.72    | 0.0000 (ppm)    | -524.5022  |
| 11/2/2017 03:48:07 | R1710208-003 | Ca (227.547 nm)    | 18.0632 (ppm)   | 0.71     | 18.0632 (ppm)   | 1066.9813  |
| 11/2/2017 03:48:07 | R1710208-003 | Cd (214.439 nm)    | -0.0001 u (ppm) | 32.79    | -0.0001 (ppm)   | 9.2142     |
| 11/2/2017 03:48:07 | R1710208-003 | Co (230.786 nm)    | -0.0005 u (ppm) | 15.08    | -0.0005 (ppm)   | -6.8439    |
| 11/2/2017 03:48:07 | R1710208-003 | Cr (267.716 nm)    | 0.0009 (ppm)    | 13.63    | 0.0009 (ppm)    | 44.0666    |
| 11/2/2017 03:48:07 | R1710208-003 | Cu (327.395 nm)    | 0.0017 (ppm)    | 5.32     | 0.0017 (ppm)    | 130.9889   |
| 11/2/2017 03:48:07 | R1710208-003 | Fe (234.350 nm)    | -0.0021 u (ppm) | 3.88     | -0.0021 (ppm)   | 48.4130    |
| 11/2/2017 03:48:07 | R1710208-003 | K (766.491 nm)     | 4.4061 (ppm)    | 0.36     | 4.4061 (ppm)    | 13661.7684 |
| 11/2/2017 03:48:07 | R1710208-003 | Mg (279.078 nm)    | 28.7993 (ppm)   | 0.27     | 28.7993 (ppm)   | 58103.7701 |
| 11/2/2017 03:48:07 | R1710208-003 | Mn (257.610 nm)    | 0.0021 (ppm)    | 25.62    | 0.0021 (ppm)    | 705.3637   |
| 11/2/2017 03:48:07 | R1710208-003 | Mo (202.032 nm)    | 0.0055 (ppm)    | 7.41     | 0.0055 (ppm)    | 76.1050    |

| Date Time          | Label                                | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|--------------------------------------|--------------------|-----------------|----------|-----------------|--------------|
| 11/2/2017 03:48:07 | R1710208-003                         | Na (588.995 nm)    | 33.8540 (ppm)   | 0.63     | 33.8540 (ppm)   | 1547473.1001 |
| 11/2/2017 03:48:07 | R1710208-003                         | Ni (230.299 nm)    | -0.0109 u (ppm) | 2.57     | -0.0109 (ppm)   | -101.5018    |
| 11/2/2017 03:48:07 | R1710208-003                         | Pb (220.353 nm)    | -0.0016 u (ppm) | 30.97    | -0.0016 (ppm)   | 2.0958       |
| 11/2/2017 03:48:07 | R1710208-003                         | Sb (217.582 nm)    | -0.0013 u (ppm) | > 100.00 | -0.0013 (ppm)   | 2.3067       |
| 11/2/2017 03:48:07 | R1710208-003                         | Se (196.026 nm)    | -0.0004 u (ppm) | > 100.00 | -0.0004 (ppm)   | 5.1455       |
| 11/2/2017 03:48:07 | R1710208-003                         | Sn (189.925 nm)    | -0.0002 u (ppm) | > 100.00 | -0.0002 (ppm)   | -0.4105      |
| 11/2/2017 03:48:07 | R1710208-003                         | Sr (216.596 nm)    | 0.7695 (ppm)    | 0.15     | 0.7695 (ppm)    | 11477.1856   |
| 11/2/2017 03:48:07 | R1710208-003                         | Ti (336.122 nm)    | 0.0007 (ppm)    | 4.78     | 0.0007 (ppm)    | -274.6201    |
| 11/2/2017 03:48:07 | R1710208-003                         | Tl (351.923 nm)    | -0.0021 u (ppm) | 42.41    | -0.0021 (ppm)   | 8.7469       |
| 11/2/2017 03:48:07 | R1710208-003                         | V (292.401 nm)     | 0.0060 (ppm)    | 3.18     | 0.0060 (ppm)    | 327.0328     |
| 11/2/2017 03:48:07 | R1710208-003                         | Y (360.074 nm)     | 1.00 (Ratio)    | 0.58     | 1.00 (Ratio)    | 933072.09    |
| 11/2/2017 03:48:07 | R1710208-003                         | Y_R (360.074 nm)   | 0.99 (Ratio)    | 0.58     | 0.99 (Ratio)    | 931013.69    |
| 11/2/2017 03:48:07 | R1710208-003                         | Zn (213.857 nm)    | 0.0014 (ppm)    | 3.55     | 0.0014 (ppm)    | 11.0822      |
| 11/2/2017 03:51:27 | R1710208-008                         | Ag (328.068 nm)    | 0.0203 (ppm)    | 1.00     | 0.0203 (ppm)    | 1368.7308    |
| 11/2/2017 03:51:27 | R1710208-008                         | Al (394.401 nm)    | 0.0070 (ppm)    | 7.57     | 0.0070 (ppm)    | 176.4907     |
| 11/2/2017 03:51:27 | R1710208-008                         | As (188.980 nm)    | 0.0412 (ppm)    | 10.28    | 0.0412 (ppm)    | 35.2425      |
| 11/2/2017 03:51:27 | R1710208-008                         | B (249.772 nm)     | 0.0417 (ppm)    | 0.53     | 0.0417 (ppm)    | 1284.9847    |
| 11/2/2017 03:51:27 | R1710208-008                         | Ba (230.424 nm)    | 0.0430 (ppm)    | 0.90     | 0.0430 (ppm)    | 1512.5193    |
| 11/2/2017 03:51:27 | R1710208-008                         | Be (313.107 nm)    | 0.0405 (ppm)    | 0.46     | 0.0405 (ppm)    | 60861.7177   |
| 11/2/2017 03:51:27 | R1710208-008                         | Ca (227.547 nm)    | -0.0048 u (ppm) | > 100.00 | -0.0048 (ppm)   | 5.8884       |
| 11/2/2017 03:51:27 | R1710208-008                         | Cd (214.439 nm)    | 0.0409 (ppm)    | 0.46     | 0.0409 (ppm)    | 942.6905     |
| 11/2/2017 03:51:27 | R1710208-008                         | Co (230.786 nm)    | 0.0425 (ppm)    | 0.69     | 0.0425 (ppm)    | 436.4495     |
| 11/2/2017 03:51:27 | R1710208-008                         | Cr (267.716 nm)    | 0.0409 (ppm)    | 0.50     | 0.0409 (ppm)    | 2130.6379    |
| 11/2/2017 03:51:27 | R1710208-008                         | Cu (327.395 nm)    | 0.0403 (ppm)    | 0.45     | 0.0403 (ppm)    | 2553.2200    |
| 11/2/2017 03:51:27 | R1710208-008                         | Fe (234.350 nm)    | -0.0035 u (ppm) | 7.00     | -0.0035 (ppm)   | 31.8799      |
| 11/2/2017 03:51:27 | R1710208-008                         | K (766.491 nm)     | -0.0024 u (ppm) | > 100.00 | -0.0024 (ppm)   | 50.1874      |
| 11/2/2017 03:51:27 | R1710208-008                         | Mg (279.078 nm)    | 0.0442 (ppm)    | 2.48     | 0.0442 (ppm)    | 82.0727      |
| 11/2/2017 03:51:27 | R1710208-008                         | Mn (257.610 nm)    | 0.0450 (ppm)    | 0.98     | 0.0450 (ppm)    | 14588.3500   |
| 11/2/2017 03:51:27 | R1710208-008                         | Mo (202.032 nm)    | -0.0009 u (ppm) | 12.29    | -0.0009 (ppm)   | 7.2490       |
| 11/2/2017 03:51:27 | R1710208-008                         | Na (588.995 nm)    | 0.0266 (ppm)    | 2.94     | 0.0266 (ppm)    | -4757.0997   |
| 11/2/2017 03:51:27 | R1710208-008                         | Ni (230.299 nm)    | 0.0430 (ppm)    | 1.18     | 0.0430 (ppm)    | 272.6470     |
| 11/2/2017 03:51:27 | R1710208-008                         | Pb (220.353 nm)    | 0.0411 (ppm)    | 3.02     | 0.0411 (ppm)    | 97.2987      |
| 11/2/2017 03:51:27 | R1710208-008                         | Sb (217.582 nm)    | -0.0028 u (ppm) | 37.52    | -0.0028 (ppm)   | 0.0995       |
| 11/2/2017 03:51:27 | R1710208-008                         | Se (196.026 nm)    | 0.0368 (ppm)    | 6.56     | 0.0368 (ppm)    | 37.6454      |
| 11/2/2017 03:51:27 | R1710208-008                         | Sn (189.925 nm)    | 0.0007 u (ppm)  | > 100.00 | 0.0007 (ppm)    | 0.7007       |
| 11/2/2017 03:51:27 | R1710208-008                         | Sr (216.596 nm)    | 0.0410 (ppm)    | 0.63     | 0.0410 (ppm)    | 609.6860     |
| 11/2/2017 03:51:27 | R1710208-008                         | Ti (336.122 nm)    | 0.0007 (ppm)    | 6.01     | 0.0007 (ppm)    | -265.0601    |
| 11/2/2017 03:51:27 | R1710208-008                         | Tl (351.923 nm)    | 0.0354 (ppm)    | 8.53     | 0.0354 (ppm)    | 115.0627     |
| 11/2/2017 03:51:27 | R1710208-008                         | V (292.401 nm)     | 0.0401 (ppm)    | 0.50     | 0.0401 (ppm)    | 1553.6341    |
| 11/2/2017 03:51:27 | R1710208-008                         | Y (360.074 nm)     | 1.04 (Ratio)    | 0.74     | 1.04 (Ratio)    | 977334.36    |
| 11/2/2017 03:51:27 | R1710208-008                         | Y_R (360.074 nm)   | 1.04 (Ratio)    | 0.75     | 1.04 (Ratio)    | 975123.88    |
| 11/2/2017 03:51:27 | R1710208-008                         | Zn (213.857 nm)    | 0.0417 (ppm)    | 0.39     | 0.0417 (ppm)    | 1181.3614    |
| 11/2/2017 03:54:47 | Continuing Calibration Verification1 | Ag (328.068 nm)    | 0.4796 (ppm)    | 0.40     | 0.4796 (ppm)    | 35109.3405   |
| 11/2/2017 03:54:47 | Continuing Calibration Verification1 | Al (394.401 nm)    | 9.4067 (ppm)    | 0.52     | 9.4067 (ppm)    | 125695.3557  |
| 11/2/2017 03:54:47 | Continuing Calibration Verification1 | As (188.980 nm)    | 0.9353 (ppm)    | 0.45     | 0.9353 (ppm)    | 862.7921     |
| 11/2/2017 03:54:47 | Continuing Calibration Verification1 | B (249.772 nm)     | 2.3596 (ppm)    | 0.32     | 2.3596 (ppm)    | 67709.9136   |
| 11/2/2017 03:54:47 | Continuing Calibration Verification1 | Ba (230.424 nm)    | 9.9447 (ppm)    | 0.27     | 9.9447 (ppm)    | 348047.5053  |
| 11/2/2017 03:54:47 | Continuing Calibration Verification1 | Be (313.107 nm)    | 0.2484 (ppm)    | 0.58     | 0.2484 (ppm)    | 376323.0169  |
| 11/2/2017 03:54:47 | Continuing Calibration Verification1 | Ca (227.547 nm)    | 23.7859 (ppm)   | 0.53     | 23.7859 (ppm)   | 1403.0581    |
| 11/2/2017 03:54:47 | Continuing Calibration Verification1 | Cd (214.439 nm)    | 0.4803 (ppm)    | 0.17     | 0.4803 (ppm)    | 10935.2049   |
| 11/2/2017 03:54:47 | Continuing Calibration Verification1 | Co (230.786 nm)    | 2.5073 (ppm)    | 0.20     | 2.5073 (ppm)    | 25803.4946   |

| Date Time          | Label                                | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|--------------------------------------|--------------------|-----------------|----------|-----------------|--------------|
| 11/2/2017 03:54:47 | Continuing Calibration Verification1 | Cr (267.716 nm)    | 0.4822 (ppm)    | 0.22     | 0.4822 (ppm)    | 25148.6726   |
| 11/2/2017 03:54:47 | Continuing Calibration Verification1 | Cu (327.395 nm)    | 1.1986 (ppm)    | 0.56     | 1.1986 (ppm)    | 75305.8654   |
| 11/2/2017 03:54:47 | Continuing Calibration Verification1 | Fe (234.350 nm)    | 4.6739 (ppm)    | 0.28     | 4.6739 (ppm)    | 54369.3359   |
| 11/2/2017 03:54:47 | Continuing Calibration Verification1 | K (766.491 nm)     | 24.4693 (ppm)   | 0.63     | 24.4693 (ppm)   | 75607.9947   |
| 11/2/2017 03:54:47 | Continuing Calibration Verification1 | Mg (279.078 nm)    | 24.0402 (ppm)   | 0.24     | 24.0402 (ppm)   | 48500.8761   |
| 11/2/2017 03:54:47 | Continuing Calibration Verification1 | Mn (257.610 nm)    | 0.7303 (ppm)    | 0.25     | 0.7303 (ppm)    | 236295.7487  |
| 11/2/2017 03:54:47 | Continuing Calibration Verification1 | Mo (202.032 nm)    | 2.3359 (ppm)    | 0.21     | 2.3359 (ppm)    | 25010.9218   |
| 11/2/2017 03:54:47 | Continuing Calibration Verification1 | Na (588.995 nm)    | 24.7348 (ppm)   | 0.72     | 24.7348 (ppm)   | 1129024.2180 |
| 11/2/2017 03:54:47 | Continuing Calibration Verification1 | Ni (230.299 nm)    | 1.9710 (ppm)    | 0.15     | 1.9710 (ppm)    | 13651.1011   |
| 11/2/2017 03:54:47 | Continuing Calibration Verification1 | Pb (220.353 nm)    | 0.4818 (ppm)    | 0.32     | 0.4818 (ppm)    | 1081.2377    |
| 11/2/2017 03:54:47 | Continuing Calibration Verification1 | Sb (217.582 nm)    | 4.7622 (ppm)    | 0.64     | 4.7622 (ppm)    | 6797.8894    |
| 11/2/2017 03:54:47 | Continuing Calibration Verification1 | Se (196.026 nm)    | 0.4679 (ppm)    | 0.72     | 0.4679 (ppm)    | 414.2516     |
| 11/2/2017 03:54:47 | Continuing Calibration Verification1 | Sn (189.925 nm)    | 4.8792 (ppm)    | 0.30     | 4.8792 (ppm)    | 6217.0472    |
| 11/2/2017 03:54:47 | Continuing Calibration Verification1 | Sr (216.596 nm)    | 2.4111 (ppm)    | 0.30     | 2.4111 (ppm)    | 35966.5826   |
| 11/2/2017 03:54:47 | Continuing Calibration Verification1 | Ti (336.122 nm)    | 2.4523 (ppm)    | 0.44     | 2.4523 (ppm)    | 537379.4884  |
| 11/2/2017 03:54:47 | Continuing Calibration Verification1 | Ti (351.923 nm)    | 0.9730 (ppm)    | 0.71     | 0.9730 (ppm)    | 2776.9297    |
| 11/2/2017 03:54:47 | Continuing Calibration Verification1 | V (292.401 nm)     | 2.4448 (ppm)    | 0.30     | 2.4448 (ppm)    | 88115.9875   |
| 11/2/2017 03:54:47 | Continuing Calibration Verification1 | Y (360.074 nm)     | 0.99 (Ratio)    | 0.82     | 0.99 (Ratio)    | 922894.75    |
| 11/2/2017 03:54:47 | Continuing Calibration Verification1 | Y_R (360.074 nm)   | 0.98 (Ratio)    | 0.82     | 0.98 (Ratio)    | 920955.57    |
| 11/2/2017 03:54:47 | Continuing Calibration Verification1 | Zn (213.857 nm)    | 0.9669 (ppm)    | 0.32     | 0.9669 (ppm)    | 28061.3260   |
| 11/2/2017 03:58:06 | Continuing Calibration Blank1        | Ag (328.068 nm)    | 0.0003 (ppm)    | 6.18     | 0.0003 (ppm)    | -106.7774    |
| 11/2/2017 03:58:06 | Continuing Calibration Blank1        | Al (394.401 nm)    | 0.0013 (ppm)    | 40.43    | 0.0013 (ppm)    | 101.2905     |
| 11/2/2017 03:58:06 | Continuing Calibration Blank1        | As (188.980 nm)    | 0.0023 (ppm)    | 30.11    | 0.0023 (ppm)    | -0.7588      |
| 11/2/2017 03:58:06 | Continuing Calibration Blank1        | B (249.772 nm)     | 0.0008 (ppm)    | 85.52    | 0.0008 (ppm)    | 113.7554     |
| 11/2/2017 03:58:06 | Continuing Calibration Blank1        | Ba (230.424 nm)    | 0.0005 (ppm)    | 20.99    | 0.0005 (ppm)    | 26.7000      |
| 11/2/2017 03:58:06 | Continuing Calibration Blank1        | Be (313.107 nm)    | 0.0000 (ppm)    | 29.92    | 0.0000 (ppm)    | -480.6653    |
| 11/2/2017 03:58:06 | Continuing Calibration Blank1        | Ca (227.547 nm)    | -0.0095 u (ppm) | > 100.00 | -0.0095 (ppm)   | 5.6132       |
| 11/2/2017 03:58:06 | Continuing Calibration Blank1        | Cd (214.439 nm)    | 0.0001 (ppm)    | 23.54    | 0.0001 (ppm)    | 15.4875      |
| 11/2/2017 03:58:06 | Continuing Calibration Blank1        | Co (230.786 nm)    | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | -2.7011      |
| 11/2/2017 03:58:06 | Continuing Calibration Blank1        | Cr (267.716 nm)    | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | 1.0935       |
| 11/2/2017 03:58:06 | Continuing Calibration Blank1        | Cu (327.395 nm)    | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | 24.1173      |
| 11/2/2017 03:58:06 | Continuing Calibration Blank1        | Fe (234.350 nm)    | 0.0004 (ppm)    | > 100.00 | 0.0004 (ppm)    | 77.8943      |
| 11/2/2017 03:58:06 | Continuing Calibration Blank1        | K (766.491 nm)     | 0.0163 (ppm)    | 32.12    | 0.0163 (ppm)    | 107.9340     |
| 11/2/2017 03:58:06 | Continuing Calibration Blank1        | Mg (279.078 nm)    | 0.0030 (ppm)    | 40.63    | 0.0030 (ppm)    | -0.9055      |
| 11/2/2017 03:58:06 | Continuing Calibration Blank1        | Mn (257.610 nm)    | 0.0005 (ppm)    | 18.26    | 0.0005 (ppm)    | 179.6530     |
| 11/2/2017 03:58:06 | Continuing Calibration Blank1        | Mo (202.032 nm)    | 0.0020 (ppm)    | 8.32     | 0.0020 (ppm)    | 38.3433      |
| 11/2/2017 03:58:06 | Continuing Calibration Blank1        | Na (588.995 nm)    | 0.0076 (ppm)    | 6.70     | 0.0076 (ppm)    | -5628.8593   |
| 11/2/2017 03:58:06 | Continuing Calibration Blank1        | Ni (230.299 nm)    | 0.0005 (ppm)    | 75.25    | 0.0005 (ppm)    | -22.8332     |
| 11/2/2017 03:58:06 | Continuing Calibration Blank1        | Pb (220.353 nm)    | -0.0004 u (ppm) | 92.89    | -0.0004 (ppm)   | 4.7442       |
| 11/2/2017 03:58:06 | Continuing Calibration Blank1        | Sb (217.582 nm)    | -0.0004 u (ppm) | > 100.00 | -0.0004 (ppm)   | 3.5383       |
| 11/2/2017 03:58:06 | Continuing Calibration Blank1        | Se (196.026 nm)    | 0.0010 u (ppm)  | > 100.00 | 0.0010 (ppm)    | 6.3700       |
| 11/2/2017 03:58:06 | Continuing Calibration Blank1        | Sn (189.925 nm)    | 0.0006 u (ppm)  | > 100.00 | 0.0006 (ppm)    | 0.5596       |
| 11/2/2017 03:58:06 | Continuing Calibration Blank1        | Sr (216.596 nm)    | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | -0.4879      |
| 11/2/2017 03:58:06 | Continuing Calibration Blank1        | Ti (336.122 nm)    | 0.0009 (ppm)    | 6.87     | 0.0009 (ppm)    | -213.6770    |
| 11/2/2017 03:58:06 | Continuing Calibration Blank1        | Ti (351.923 nm)    | -0.0005 u (ppm) | > 100.00 | -0.0005 (ppm)   | 13.2845      |
| 11/2/2017 03:58:06 | Continuing Calibration Blank1        | V (292.401 nm)     | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | 110.5015     |
| 11/2/2017 03:58:06 | Continuing Calibration Blank1        | Y (360.074 nm)     | 1.03 (Ratio)    | 0.70     | 1.03 (Ratio)    | 967465.55    |
| 11/2/2017 03:58:06 | Continuing Calibration Blank1        | Y_R (360.074 nm)   | 1.03 (Ratio)    | 0.71     | 1.03 (Ratio)    | 965132.86    |
| 11/2/2017 03:58:06 | Continuing Calibration Blank1        | Zn (213.857 nm)    | 0.0003 (ppm)    | 8.46     | 0.0003 (ppm)    | -21.1802     |
| 11/2/2017 04:01:25 | Contract Required Detection Limit    | Ag (328.068 nm)    | 0.0097 (ppm)    | 1.19     | 0.0097 (ppm)    | 584.3012     |
| 11/2/2017 04:01:25 | Contract Required Detection Limit    | Al (394.401 nm)    | 0.1714 (ppm)    | 0.91     | 0.1714 (ppm)    | 2371.9780    |

| Date Time          | Label                             | Element Label (nm) | Conc             | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|-----------------------------------|--------------------|------------------|----------|-----------------|--------------|
| 11/2/2017 04:01:25 | Contract Required Detection Limit | As (188.980 nm)    | 0.0202 (ppm)     | 9.67     | 0.0202 (ppm)    | 15.7556      |
| 11/2/2017 04:01:25 | Contract Required Detection Limit | B (249.772 nm)     | 0.1829 (ppm)     | 0.47     | 0.1829 (ppm)    | 5332.3581    |
| 11/2/2017 04:01:25 | Contract Required Detection Limit | Ba (230.424 nm)    | 0.2030 (ppm)     | 0.46     | 0.2030 (ppm)    | 7111.7745    |
| 11/2/2017 04:01:25 | Contract Required Detection Limit | Be (313.107 nm)    | 0.0047 (ppm)     | 0.31     | 0.0047 (ppm)    | 6659.4847    |
| 11/2/2017 04:01:25 | Contract Required Detection Limit | Ca (227.547 nm)    | 0.9134 (ppm)     | 3.34     | 0.9134 (ppm)    | 59.8106      |
| 11/2/2017 04:01:25 | Contract Required Detection Limit | Cd (214.439 nm)    | 0.0096 (ppm)     | 1.30     | 0.0096 (ppm)    | 231.7021     |
| 11/2/2017 04:01:25 | Contract Required Detection Limit | Co (230.786 nm)    | 0.0490 (ppm)     | 0.65     | 0.0490 (ppm)    | 503.4271     |
| 11/2/2017 04:01:25 | Contract Required Detection Limit | Cr (267.716 nm)    | 0.0096 (ppm)     | 1.61     | 0.0096 (ppm)    | 500.3982     |
| 11/2/2017 04:01:25 | Contract Required Detection Limit | Cu (327.395 nm)    | 0.0241 (ppm)     | 0.87     | 0.0241 (ppm)    | 1537.7997    |
| 11/2/2017 04:01:25 | Contract Required Detection Limit | Fe (234.350 nm)    | 0.0926 (ppm)     | 0.17     | 0.0926 (ppm)    | 1148.1097    |
| 11/2/2017 04:01:25 | Contract Required Detection Limit | K (766.491 nm)     | 0.9179 (ppm)     | 0.60     | 0.9179 (ppm)    | 2891.4422    |
| 11/2/2017 04:01:25 | Contract Required Detection Limit | Mg (279.078 nm)    | 0.9528 (ppm)     | 0.29     | 0.9528 (ppm)    | 1915.5776    |
| 11/2/2017 04:01:25 | Contract Required Detection Limit | Mn (257.610 nm)    | 0.0156 (ppm)     | 1.79     | 0.0156 (ppm)    | 5074.7589    |
| 11/2/2017 04:01:25 | Contract Required Detection Limit | Mo (202.032 nm)    | 0.0238 (ppm)     | 1.57     | 0.0238 (ppm)    | 271.1835     |
| 11/2/2017 04:01:25 | Contract Required Detection Limit | Na (588.995 nm)    | 1.0092 (ppm)     | 0.62     | 1.0092 (ppm)    | 40331.9659   |
| 11/2/2017 04:01:25 | Contract Required Detection Limit | Ni (230.299 nm)    | 0.0402 (ppm)     | 0.71     | 0.0402 (ppm)    | 253.0247     |
| 11/2/2017 04:01:25 | Contract Required Detection Limit | Pb (220.353 nm)    | 0.0085 (ppm)     | 4.50     | 0.0085 (ppm)    | 24.6490      |
| 11/2/2017 04:01:25 | Contract Required Detection Limit | Sb (217.582 nm)    | 0.0539 (ppm)     | 4.86     | 0.0539 (ppm)    | 81.0218      |
| 11/2/2017 04:01:25 | Contract Required Detection Limit | Se (196.026 nm)    | 0.0104 (ppm)     | 11.91    | 0.0104 (ppm)    | 14.6198      |
| 11/2/2017 04:01:25 | Contract Required Detection Limit | Sn (189.925 nm)    | 0.4824 (ppm)     | 1.14     | 0.4824 (ppm)    | 614.5044     |
| 11/2/2017 04:01:25 | Contract Required Detection Limit | Sr (216.596 nm)    | 0.0969 (ppm)     | 0.04     | 0.0969 (ppm)    | 1444.2731    |
| 11/2/2017 04:01:25 | Contract Required Detection Limit | Ti (336.122 nm)    | 0.0493 (ppm)     | 0.43     | 0.0493 (ppm)    | 10398.4088   |
| 11/2/2017 04:01:25 | Contract Required Detection Limit | Tl (351.923 nm)    | 0.0166 (ppm)     | 9.56     | 0.0166 (ppm)    | 61.7996      |
| 11/2/2017 04:01:25 | Contract Required Detection Limit | V (292.401 nm)     | 0.0475 (ppm)     | 0.42     | 0.0475 (ppm)    | 1821.1518    |
| 11/2/2017 04:01:25 | Contract Required Detection Limit | Y (360.074 nm)     | 1.03 (Ratio)     | 0.83     | 1.03 (Ratio)    | 968945.93    |
| 11/2/2017 04:01:25 | Contract Required Detection Limit | Y_R (360.074 nm)   | 1.03 (Ratio)     | 0.83     | 1.03 (Ratio)    | 966589.73    |
| 11/2/2017 04:01:25 | Contract Required Detection Limit | Zn (213.857 nm)    | 0.0185 (ppm)     | 0.42     | 0.0185 (ppm)    | 507.0305     |
| 11/2/2017 04:04:44 | Interference Check Solution A     | Ag (328.068 nm)    | 0.0004 (ppm)     | 14.45    | 0.0004 (ppm)    | -96.0015     |
| 11/2/2017 04:04:44 | Interference Check Solution A     | Al (394.401 nm)    | 261.1673 o (ppm) | 0.54     | 261.1673 (ppm)  | 3487569.3661 |
| 11/2/2017 04:04:44 | Interference Check Solution A     | As (188.980 nm)    | -0.0001 u (ppm)  | > 100.00 | -0.0001 (ppm)   | -2.9717      |
| 11/2/2017 04:04:44 | Interference Check Solution A     | B (249.772 nm)     | 0.0358 (ppm)     | 0.64     | 0.0358 (ppm)    | 1117.6418    |
| 11/2/2017 04:04:44 | Interference Check Solution A     | Ba (230.424 nm)    | 0.0003 (ppm)     | 52.53    | 0.0003 (ppm)    | 20.0335      |
| 11/2/2017 04:04:44 | Interference Check Solution A     | Be (313.107 nm)    | -0.0001 u (ppm)  | 13.22    | -0.0001 (ppm)   | -587.3816    |
| 11/2/2017 04:04:44 | Interference Check Solution A     | Ca (227.547 nm)    | 265.2897 o (ppm) | 0.49     | 265.2897 (ppm)  | 15586.0100   |
| 11/2/2017 04:04:44 | Interference Check Solution A     | Cd (214.439 nm)    | -0.0013 Ku (ppm) | 6.98     | -0.0013 (ppm)   | -17.0337 K   |
| 11/2/2017 04:04:44 | Interference Check Solution A     | Co (230.786 nm)    | -0.0023 u (ppm)  | 25.00    | -0.0023 (ppm)   | -25.2067     |
| 11/2/2017 04:04:44 | Interference Check Solution A     | Cr (267.716 nm)    | 0.0002 (ppm)     | 46.89    | 0.0002 (ppm)    | 10.4797      |
| 11/2/2017 04:04:44 | Interference Check Solution A     | Cu (327.395 nm)    | 0.0007 (ppm)     | 15.25    | 0.0007 (ppm)    | 65.6921      |
| 11/2/2017 04:04:44 | Interference Check Solution A     | Fe (234.350 nm)    | 85.4269 o (ppm)  | 0.19     | 85.4269 (ppm)   | 992485.2144  |
| 11/2/2017 04:04:44 | Interference Check Solution A     | K (766.491 nm)     | 0.0193 (ppm)     | 56.99    | 0.0193 (ppm)    | 117.0777     |
| 11/2/2017 04:04:44 | Interference Check Solution A     | Mg (279.078 nm)    | 254.6391 o (ppm) | 0.18     | 254.6391 (ppm)  | 513799.2383  |
| 11/2/2017 04:04:44 | Interference Check Solution A     | Mn (257.610 nm)    | 0.0024 (ppm)     | 13.73    | 0.0024 (ppm)    | 819.5056     |
| 11/2/2017 04:04:44 | Interference Check Solution A     | Mo (202.032 nm)    | 0.0003 (ppm)     | > 100.00 | 0.0003 (ppm)    | 20.2921      |
| 11/2/2017 04:04:44 | Interference Check Solution A     | Na (588.995 nm)    | 0.0096 (ppm)     | 19.60    | 0.0096 (ppm)    | -5539.6376   |
| 11/2/2017 04:04:44 | Interference Check Solution A     | Ni (230.299 nm)    | -0.0010 u (ppm)  | 41.02    | -0.0010 (ppm)   | -32.6533     |
| 11/2/2017 04:04:44 | Interference Check Solution A     | Pb (220.353 nm)    | -0.0007 u (ppm)  | > 100.00 | -0.0007 (ppm)   | 3.9839       |
| 11/2/2017 04:04:44 | Interference Check Solution A     | Sb (217.582 nm)    | -0.0052 u (ppm)  | 48.92    | -0.0052 (ppm)   | -3.2464      |
| 11/2/2017 04:04:44 | Interference Check Solution A     | Se (196.026 nm)    | -0.0028 u (ppm)  | 66.35    | -0.0028 (ppm)   | 3.0295       |
| 11/2/2017 04:04:44 | Interference Check Solution A     | Sn (189.925 nm)    | -0.0009 u (ppm)  | > 100.00 | -0.0009 (ppm)   | -1.2386      |
| 11/2/2017 04:04:44 | Interference Check Solution A     | Sr (216.596 nm)    | 0.0183 (ppm)     | 2.08     | 0.0183 (ppm)    | 271.8278     |
| 11/2/2017 04:04:44 | Interference Check Solution A     | Ti (336.122 nm)    | 0.0015 (ppm)     | 5.40     | 0.0015 (ppm)    | -99.5616     |

| Date Time          | Label                                 | Element Label (nm) | Conc             | %RSD     | Unadjusted Conc | Intensity    |
|--------------------|---------------------------------------|--------------------|------------------|----------|-----------------|--------------|
| 11/2/2017 04:04:44 | Interference Check Solution A         | Tl (351.923 nm)    | 0.0001 u (ppm)   | > 100.00 | 0.0001 (ppm)    | 14.7872      |
| 11/2/2017 04:04:44 | Interference Check Solution A         | V (292.401 nm)     | 0.0031 K (ppm)   | 3.58     | 0.0031 (ppm)    | 221.3758 K   |
| 11/2/2017 04:04:44 | Interference Check Solution A         | Y (360.074 nm)     | 0.90 (Ratio)     | 0.87     | 0.90 (Ratio)    | 840848.20    |
| 11/2/2017 04:04:44 | Interference Check Solution A         | Y_R (360.074 nm)   | 0.90 (Ratio)     | 0.86     | 0.90 (Ratio)    | 839056.62    |
| 11/2/2017 04:04:44 | Interference Check Solution A         | Zn (213.857 nm)    | 0.0112 K (ppm)   | 0.99     | 0.0112 (ppm)    | 293.2844 K   |
| 11/2/2017 04:08:03 | Interference Check Solution AB        | Ag (328.068 nm)    | 0.2112 (ppm)     | 0.26     | 0.2112 (ppm)    | 15390.5578   |
| 11/2/2017 04:08:03 | Interference Check Solution AB        | Al (394.401 nm)    | 261.4801 o (ppm) | 0.31     | 261.4801 (ppm)  | 3491746.6605 |
| 11/2/2017 04:08:03 | Interference Check Solution AB        | As (188.980 nm)    | 0.1027 (ppm)     | 2.30     | 0.1027 (ppm)    | 92.1385      |
| 11/2/2017 04:08:03 | Interference Check Solution AB        | B (249.772 nm)     | 0.0364 (ppm)     | 0.61     | 0.0364 (ppm)    | 1133.4448    |
| 11/2/2017 04:08:03 | Interference Check Solution AB        | Ba (230.424 nm)    | 0.5087 (ppm)     | 0.35     | 0.5087 (ppm)    | 17810.4144   |
| 11/2/2017 04:08:03 | Interference Check Solution AB        | Be (313.107 nm)    | 0.4957 (ppm)     | 0.06     | 0.4957 (ppm)    | 751353.8799  |
| 11/2/2017 04:08:03 | Interference Check Solution AB        | Ca (227.547 nm)    | 263.8865 o (ppm) | 0.35     | 263.8865 (ppm)  | 15503.6027   |
| 11/2/2017 04:08:03 | Interference Check Solution AB        | Cd (214.439 nm)    | 0.9266 (ppm)     | 0.13     | 0.9266 (ppm)    | 21083.9646   |
| 11/2/2017 04:08:03 | Interference Check Solution AB        | Co (230.786 nm)    | 0.4796 (ppm)     | 0.22     | 0.4796 (ppm)    | 4934.7291    |
| 11/2/2017 04:08:03 | Interference Check Solution AB        | Cr (267.716 nm)    | 0.4720 (ppm)     | 0.12     | 0.4720 (ppm)    | 24614.6928   |
| 11/2/2017 04:08:03 | Interference Check Solution AB        | Cu (327.395 nm)    | 0.5307 (ppm)     | 0.23     | 0.5307 (ppm)    | 33353.3134   |
| 11/2/2017 04:08:03 | Interference Check Solution AB        | Fe (234.350 nm)    | 85.6375 o (ppm)  | 0.20     | 85.6375 (ppm)   | 994931.6651  |
| 11/2/2017 04:08:03 | Interference Check Solution AB        | K (766.491 nm)     | -0.0088 u (ppm)  | 45.20    | -0.0088 (ppm)   | 30.2131      |
| 11/2/2017 04:08:03 | Interference Check Solution AB        | Mg (279.078 nm)    | 254.9172 o (ppm) | 0.07     | 254.9172 (ppm)  | 514360.3599  |
| 11/2/2017 04:08:03 | Interference Check Solution AB        | Mn (257.610 nm)    | 0.4826 (ppm)     | 0.19     | 0.4826 (ppm)    | 156181.0731  |
| 11/2/2017 04:08:03 | Interference Check Solution AB        | Mo (202.032 nm)    | 0.0002 u (ppm)   | > 100.00 | 0.0002 (ppm)    | 19.2033      |
| 11/2/2017 04:08:03 | Interference Check Solution AB        | Na (588.995 nm)    | 0.0164 (ppm)     | 8.14     | 0.0164 (ppm)    | -5227.7038   |
| 11/2/2017 04:08:03 | Interference Check Solution AB        | Ni (230.299 nm)    | 0.9264 (ppm)     | 0.05     | 0.9264 (ppm)    | 6402.1214    |
| 11/2/2017 04:08:03 | Interference Check Solution AB        | Pb (220.353 nm)    | 0.0461 (ppm)     | 4.37     | 0.0461 (ppm)    | 108.6254     |
| 11/2/2017 04:08:03 | Interference Check Solution AB        | Sb (217.582 nm)    | 0.5977 (ppm)     | 0.29     | 0.5977 (ppm)    | 856.8108     |
| 11/2/2017 04:08:03 | Interference Check Solution AB        | Se (196.026 nm)    | 0.0547 (ppm)     | 2.52     | 0.0547 (ppm)    | 53.3379      |
| 11/2/2017 04:08:03 | Interference Check Solution AB        | Sn (189.925 nm)    | 0.0024 (ppm)     | 80.66    | 0.0024 (ppm)    | 2.9335       |
| 11/2/2017 04:08:03 | Interference Check Solution AB        | Sr (215.596 nm)    | 0.0188 (ppm)     | 1.83     | 0.0188 (ppm)    | 278.5689     |
| 11/2/2017 04:08:03 | Interference Check Solution AB        | Tl (351.923 nm)    | 0.0013 (ppm)     | 5.59     | 0.0013 (ppm)    | -134.0650    |
| 11/2/2017 04:08:03 | Interference Check Solution AB        | Tl (351.923 nm)    | 0.1119 (ppm)     | 4.38     | 0.1119 (ppm)    | 332.2465     |
| 11/2/2017 04:08:03 | Interference Check Solution AB        | V (292.401 nm)     | 0.4934 (ppm)     | 0.28     | 0.4934 (ppm)    | 17872.5971   |
| 11/2/2017 04:08:03 | Interference Check Solution AB        | Y (360.074 nm)     | 0.90 (Ratio)     | 0.70     | 0.90 (Ratio)    | 839910.52    |
| 11/2/2017 04:08:03 | Interference Check Solution AB        | Y_R (360.074 nm)   | 0.90 (Ratio)     | 0.71     | 0.90 (Ratio)    | 837996.43    |
| 11/2/2017 04:08:03 | Interference Check Solution AB        | Zn (213.857 nm)    | 0.9929 (ppm)     | 0.10     | 0.9929 (ppm)    | 28818.2097   |
| 11/2/2017 04:11:23 | Continuing Calibration Verification 1 | Ag (328.068 nm)    | 0.4798 (ppm)     | 0.41     | 0.4798 (ppm)    | 35123.7766   |
| 11/2/2017 04:11:23 | Continuing Calibration Verification 1 | Al (394.401 nm)    | 9.4289 (ppm)     | 0.50     | 9.4289 (ppm)    | 125991.3537  |
| 11/2/2017 04:11:23 | Continuing Calibration Verification 1 | As (188.980 nm)    | 0.9369 (ppm)     | 0.66     | 0.9369 (ppm)    | 864.2161     |
| 11/2/2017 04:11:23 | Continuing Calibration Verification 1 | B (249.772 nm)     | 2.3640 (ppm)     | 0.27     | 2.3640 (ppm)    | 67835.9770   |
| 11/2/2017 04:11:23 | Continuing Calibration Verification 1 | Ba (230.424 nm)    | 9.9580 (ppm)     | 0.41     | 9.9580 (ppm)    | 348513.1083  |
| 11/2/2017 04:11:23 | Continuing Calibration Verification 1 | Be (313.107 nm)    | 0.2485 (ppm)     | 0.47     | 0.2485 (ppm)    | 376365.0516  |
| 11/2/2017 04:11:23 | Continuing Calibration Verification 1 | Ca (227.547 nm)    | 23.8736 (ppm)    | 0.43     | 23.8736 (ppm)   | 1408.2115    |
| 11/2/2017 04:11:23 | Continuing Calibration Verification 1 | Cd (214.439 nm)    | 0.4811 (ppm)     | 0.38     | 0.4811 (ppm)    | 10953.0508   |
| 11/2/2017 04:11:23 | Continuing Calibration Verification 1 | Co (230.786 nm)    | 2.5065 (ppm)     | 0.40     | 2.5065 (ppm)    | 25795.8345   |
| 11/2/2017 04:11:23 | Continuing Calibration Verification 1 | Cr (267.716 nm)    | 0.4820 (ppm)     | 0.29     | 0.4820 (ppm)    | 25135.1811   |
| 11/2/2017 04:11:23 | Continuing Calibration Verification 1 | Cu (327.395 nm)    | 1.2005 (ppm)     | 0.58     | 1.2005 (ppm)    | 75421.9985   |
| 11/2/2017 04:11:23 | Continuing Calibration Verification 1 | Fe (234.350 nm)    | 4.6867 (ppm)     | 0.31     | 4.6867 (ppm)    | 54518.7978   |
| 11/2/2017 04:11:23 | Continuing Calibration Verification 1 | K (766.491 nm)     | 24.5334 (ppm)    | 0.65     | 24.5334 (ppm)   | 75805.8357   |
| 11/2/2017 04:11:23 | Continuing Calibration Verification 1 | Mg (279.078 nm)    | 24.0496 (ppm)    | 0.34     | 24.0496 (ppm)   | 48519.9209   |
| 11/2/2017 04:11:23 | Continuing Calibration Verification 1 | Mn (257.610 nm)    | 0.7305 (ppm)     | 0.40     | 0.7305 (ppm)    | 236379.6809  |
| 11/2/2017 04:11:23 | Continuing Calibration Verification 1 | Mo (202.032 nm)    | 2.3395 (ppm)     | 0.33     | 2.3395 (ppm)    | 25048.7123   |
| 11/2/2017 04:11:23 | Continuing Calibration Verification 1 | Na (588.995 nm)    | 24.7239 (ppm)    | 0.59     | 24.7239 (ppm)   | 1128521.5618 |



| Date Time          | Label                                | Element Label (nm) | Conc            | %RSD     | Unadjusted Conc | Intensity   |
|--------------------|--------------------------------------|--------------------|-----------------|----------|-----------------|-------------|
| 11/2/2017 04:11:23 | Continuing Calibration Verification1 | Ni (230.299 nm)    | 1.9722 (ppm)    | 0.38     | 1.9722 (ppm)    | 13659.0629  |
| 11/2/2017 04:11:23 | Continuing Calibration Verification1 | Pb (220.353 nm)    | 0.4819 (ppm)    | 0.07     | 0.4819 (ppm)    | 1081.3163   |
| 11/2/2017 04:11:23 | Continuing Calibration Verification1 | Sb (217.582 nm)    | 4.7644 (ppm)    | 0.60     | 4.7644 (ppm)    | 6800.9305   |
| 11/2/2017 04:11:23 | Continuing Calibration Verification1 | Se (196.026 nm)    | 0.4691 (ppm)    | 0.47     | 0.4691 (ppm)    | 415.2979    |
| 11/2/2017 04:11:23 | Continuing Calibration Verification1 | Sn (189.925 nm)    | 4.8869 (ppm)    | 0.46     | 4.8869 (ppm)    | 6226.8977   |
| 11/2/2017 04:11:23 | Continuing Calibration Verification1 | Sr (216.596 nm)    | 2.4150 (ppm)    | 0.16     | 2.4150 (ppm)    | 36024.3415  |
| 11/2/2017 04:11:23 | Continuing Calibration Verification1 | Ti (336.122 nm)    | 2.4547 (ppm)    | 0.37     | 2.4547 (ppm)    | 537893.4283 |
| 11/2/2017 04:11:23 | Continuing Calibration Verification1 | Tl (351.923 nm)    | 0.9729 (ppm)    | 0.29     | 0.9729 (ppm)    | 2776.6643   |
| 11/2/2017 04:11:23 | Continuing Calibration Verification1 | V (292.401 nm)     | 2.4451 (ppm)    | 0.30     | 2.4451 (ppm)    | 88125.4137  |
| 11/2/2017 04:11:23 | Continuing Calibration Verification1 | Y (360.074 nm)     | 0.98 (Ratio)    | 0.74     | 0.98 (Ratio)    | 922329.89   |
| 11/2/2017 04:11:23 | Continuing Calibration Verification1 | Y_R (360.074 nm)   | 0.98 (Ratio)    | 0.74     | 0.98 (Ratio)    | 920022.62   |
| 11/2/2017 04:11:23 | Continuing Calibration Verification1 | Zn (213.857 nm)    | 0.9671 (ppm)    | 0.29     | 0.9671 (ppm)    | 28067.3545  |
| 11/2/2017 04:14:41 | Continuing Calibration Blank1        | Ag (328.068 nm)    | 0.0003 (ppm)    | 32.99    | 0.0003 (ppm)    | -104.0275   |
| 11/2/2017 04:14:41 | Continuing Calibration Blank1        | Al (394.401 nm)    | 0.0007 (ppm)    | 73.95    | 0.0007 (ppm)    | 93.2254     |
| 11/2/2017 04:14:41 | Continuing Calibration Blank1        | As (188.980 nm)    | 0.0026 (ppm)    | 41.18    | 0.0026 (ppm)    | -0.5007     |
| 11/2/2017 04:14:41 | Continuing Calibration Blank1        | B (249.772 nm)     | 0.0009 (ppm)    | 62.01    | 0.0009 (ppm)    | 116.4702    |
| 11/2/2017 04:14:41 | Continuing Calibration Blank1        | Ba (230.424 nm)    | 0.0005 (ppm)    | 4.01     | 0.0005 (ppm)    | 25.7399     |
| 11/2/2017 04:14:41 | Continuing Calibration Blank1        | Be (313.107 nm)    | 0.0000 (ppm)    | 55.34    | 0.0000 (ppm)    | -482.4815   |
| 11/2/2017 04:14:41 | Continuing Calibration Blank1        | Ca (227.547 nm)    | 0.0005 u (ppm)  | > 100.00 | 0.0005 (ppm)    | 6.1992      |
| 11/2/2017 04:14:41 | Continuing Calibration Blank1        | Cd (214.439 nm)    | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | 13.4186     |
| 11/2/2017 04:14:41 | Continuing Calibration Blank1        | Co (230.786 nm)    | 0.0002 (ppm)    | > 100.00 | 0.0002 (ppm)    | 0.3685      |
| 11/2/2017 04:14:41 | Continuing Calibration Blank1        | Cr (267.716 nm)    | 0.0000 (ppm)    | > 100.00 | 0.0000 (ppm)    | -0.4144     |
| 11/2/2017 04:14:41 | Continuing Calibration Blank1        | Cu (327.395 nm)    | 0.0001 (ppm)    | 79.28    | 0.0001 (ppm)    | 28.0818     |
| 11/2/2017 04:14:41 | Continuing Calibration Blank1        | Fe (234.350 nm)    | 0.0010 (ppm)    | 33.57    | 0.0010 (ppm)    | 84.6356     |
| 11/2/2017 04:14:41 | Continuing Calibration Blank1        | K (766.491 nm)     | -0.0001 u (ppm) | > 100.00 | -0.0001 (ppm)   | 57.2355     |
| 11/2/2017 04:14:41 | Continuing Calibration Blank1        | Mg (279.078 nm)    | 0.0037 (ppm)    | 10.48    | 0.0037 (ppm)    | 0.5029      |
| 11/2/2017 04:14:41 | Continuing Calibration Blank1        | Mn (257.610 nm)    | 0.0004 (ppm)    | 25.83    | 0.0004 (ppm)    | 170.5570    |
| 11/2/2017 04:14:41 | Continuing Calibration Blank1        | Mo (202.032 nm)    | 0.0021 (ppm)    | 8.72     | 0.0021 (ppm)    | 39.7337     |
| 11/2/2017 04:14:41 | Continuing Calibration Blank1        | Na (588.995 nm)    | 0.0086 (ppm)    | 11.73    | 0.0086 (ppm)    | -5584.1196  |
| 11/2/2017 04:14:41 | Continuing Calibration Blank1        | Ni (230.299 nm)    | 0.0009 (ppm)    | 41.80    | 0.0009 (ppm)    | -19.7284    |
| 11/2/2017 04:14:41 | Continuing Calibration Blank1        | Pb (220.353 nm)    | -0.0006 u (ppm) | 25.57    | -0.0006 (ppm)   | 4.2669      |
| 11/2/2017 04:14:41 | Continuing Calibration Blank1        | Sb (217.582 nm)    | -0.0012 u (ppm) | > 100.00 | -0.0012 (ppm)   | 2.4537      |
| 11/2/2017 04:14:41 | Continuing Calibration Blank1        | Se (196.026 nm)    | 0.0007 u (ppm)  | > 100.00 | 0.0007 (ppm)    | 6.1594      |
| 11/2/2017 04:14:41 | Continuing Calibration Blank1        | Sn (189.925 nm)    | 0.0014 (ppm)    | 97.90    | 0.0014 (ppm)    | 1.5770      |
| 11/2/2017 04:14:41 | Continuing Calibration Blank1        | Sr (216.596 nm)    | 0.0001 (ppm)    | 64.70    | 0.0001 (ppm)    | 0.8102      |
| 11/2/2017 04:14:41 | Continuing Calibration Blank1        | Ti (336.122 nm)    | 0.0010 (ppm)    | 2.29     | 0.0010 (ppm)    | -193.0876   |
| 11/2/2017 04:14:41 | Continuing Calibration Blank1        | Tl (351.923 nm)    | -0.0032 u (ppm) | 74.88    | -0.0032 (ppm)   | 5.5532      |
| 11/2/2017 04:14:41 | Continuing Calibration Blank1        | V (292.401 nm)     | 0.0000 u (ppm)  | > 100.00 | 0.0000 (ppm)    | 109.9830    |
| 11/2/2017 04:14:41 | Continuing Calibration Blank1        | Y (360.074 nm)     | 1.03 (Ratio)    | 0.74     | 1.03 (Ratio)    | 964679.59   |
| 11/2/2017 04:14:41 | Continuing Calibration Blank1        | Y_R (360.074 nm)   | 1.03 (Ratio)    | 0.73     | 1.03 (Ratio)    | 962007.44   |
| 11/2/2017 04:14:41 | Continuing Calibration Blank1        | Zn (213.857 nm)    | 0.0003 (ppm)    | 5.38     | 0.0003 (ppm)    | -22.0456    |



Ag (328.068 nm)  
Intensity = 73461.0152 \* Concentration - 125.6661  
Correlation coefficient: 0.99999

As (188.980 nm)  
Intensity = 925.5343 \* Concentration - 2.8977  
Correlation coefficient: 0.99999

B (249.772 nm)  
Intensity = 28656.9173 \* Concentration + 90.8182  
Correlation coefficient: 0.99999

Ba (230.424 nm)  
Intensity = 34997.5332 \* Concentration + 8.0097  
Correlation coefficient: 0.99996

Be (313.107 nm)  
Intensity = 1516744.2332 \* Concentration - 506.4220  
Correlation coefficient: 1.00000

Cd (214.439 nm)  
Intensity = 22741.7971 \* Concentration + 12.4480  
Correlation coefficient: 0.99999

Co (230.786 nm)  
Intensity = 10292.0366 \* Concentration - 1.3037  
Correlation coefficient: 0.99999

Cr (267.716 nm)  
Intensity = 52153.6146 \* Concentration - 0.4709  
Correlation coefficient: 1.00000

Cu (327.395 nm)  
Intensity = 62809.2726 \* Concentration + 21.4778  
Correlation coefficient: 0.99998

K (766.491 nm)  
Intensity = 3087.5652 \* Concentration + 57.4981  
Correlation coefficient: 0.99996

Mn (257.610 nm)  
Intensity = 323530.3302 \* Concentration + 32.5669  
Correlation coefficient: 0.99999

Mo (202.032 nm)  
Intensity = 10699.8546 \* Concentration + 16.7992  
Correlation coefficient: 1.00000

Na (588.995 nm)  
Intensity = 45886.7944 \* Concentration - 5978.7201  
Correlation coefficient: 1.00000

Ni (230.299 nm)  
Intensity = 6939.1513 \* Concentration - 26.0500  
Correlation coefficient: 0.99999

Pb (220.353 nm)  
Intensity = 2232.2373 \* Concentration + 5.6342  
Correlation coefficient: 1.00000

Sb (217.582 nm)  
Intensity = 1426.5931 \* Concentration + 4.1307  
Correlation coefficient: 1.00000

Se (196.026 nm)  
Intensity = 873.5400 \* Concentration + 5.5189  
Correlation coefficient: 0.99998

Sn (189.925 nm)  
Intensity = 1274.2311 \* Concentration - 0.1532  
Correlation coefficient: 0.99999

Ti (336.122 nm)  
Intensity = 219301.2134 \* Concentration - 419.8931  
Correlation coefficient: 1.00000

Ti (351.923 nm)  
Intensity = 2839.0513 \* Concentration + 14.6249  
Correlation coefficient: 0.99994

V (292.401 nm)  
Intensity = 35996.7761 \* Concentration + 110.0844  
Correlation coefficient: 1.00000

Zn (213.857 nm)  
Intensity = 29054.9692 \* Concentration - 30.7212  
Correlation coefficient: 1.00000

Al (394.401 nm)  
Intensity = 13353.4573 \* Concentration + 83.2660  
Correlation coefficient: 0.99988

Ca (227.547 nm)  
Intensity = 58.7276 \* Concentration + 6.1700  
Correlation coefficient: 0.99995

Fe (234.350 nm)  
Intensity = 11617.0943 \* Concentration + 72.7576  
Correlation coefficient: 0.99998

Mg (279.078 nm)  
Intensity = 2017.7822 \* Concentration - 7.0294  
Correlation coefficient: 1.00000

Sr (216.596 nm)  
Intensity = 14917.2981 \* Concentration - 1.1777  
Correlation coefficient: 1.00000

# Preparation Information Benchsheet

Prep Run#: 301955  
 Team: Metals/KMCLAEN

Prep Workflow: MetDigAqICP  
 Prep Method: EPA 3005A/3010A

Status: Prepped  
 Prep Date/Time: 10/30/17 03:33 PM

| #  | Lab Code     | Client ID        | B#  | Amt. Ext. | Method /Test   | pH | AE | BN | Final Vol | Sample Desc. (Initial/Final) | SpikeAmt./Inv. ID  | Comments  |
|----|--------------|------------------|-----|-----------|--|----|----|----|-----------|------------------------------|--|---|
| 1  | RQ1711235-01 | MB               |     | 50mL      | 6010C/Ag T, Ba T, Be T, Cd D, Cd T, Cr T, Cu T, Fe T, Mg T, Mn T, Ni T, Sb T, Zn T | <2 |    |    | 50.00mL   | Colorless-Clear              |  | HB: 7<br>Well: D1<br>Temp: 92.5C<br>Corr. Factor: 0.0C<br>Corr. Temp: 92.5C |
| 2  | RQ1711235-02 | LCS              |     | 50mL      | 6010C/Ag T, Ba T, Be T, Cd D, Cd T, Cr T, Cu T, Fe T, Mg T, Mn T, Ni T, Sb T, Zn T | <2 |    |    | 50.00mL   | Colorless-Clear              | 0.2500 mL/184175;<br>0.0500 mL/180701;<br>0.1000 mL/180703;<br>0.5000 mL/182726;<br>0.5000 mL/182727 |   |
| 3  | R1710073-001 | GZA-3C           | .11 | 50mL      | 6010C/Ag T, Ba T, Be T, Cd T, Cr T, Cu T, Fe T, Mg T, Mn T, Ni T, Sb T, Zn T       | <2 |    |    | 50.00mL   | Colorless-Clear              |  | Tier IV   |
| 4  | R1710073-002 | GZA-3C Diss      | .01 | 50mL      | 6010C/Cd D   | <2 |    |    | 50.00mL   | Colorless-Clear              |  |   |
| 5  | R1710073-003 | GZA-3B           | .11 | 50mL      | 6010C/Ag T, Ba T, Be T, Cd T, Cr T, Cu T, Fe T, Mg T, Mn T, Ni T, Sb T, Zn T       | <2 |    |    | 50.00mL   | Colorless-Clear              |  |   |
| 6  | R1710073-004 | GZA-3B Diss      | .01 | 50mL      | 6010C/Cd D   | <2 |    |    | 50.00mL   | Colorless-Clear              |  |   |
| 7  | R1710073-005 | GZA-3A           | .11 | 50mL      | 6010C/Ag T, Ba T, Be T, Cd T, Cr T, Cu T, Fe T, Mg T, Mn T, Ni T, Sb T, Zn T       | <2 |    |    | 50.00mL   | Colorless-Clear              |  |   |
| 8  | R1710073-006 | GZA-3A Diss      | .01 | 50mL      | 6010C/Cd D   | <2 |    |    | 50.00mL   | Colorless-Clear              |  |   |
| 9  | R1710073-007 | GZA-6B           | .11 | 50mL      | 6010C/Ag T, Ba T, Be T, Cd T, Cr T, Cu T, Fe T, Mg T, Mn T, Ni T, Sb T, Zn T       | <2 |    |    | 50.00mL   | Colorless-Clear              |  |   |
| 10 | R1710073-008 | GZA-6B Diss      | .01 | 50mL      | 6010C/Cd D   | <2 |    |    | 50.00mL   | Colorless-Clear              |  |   |
| 11 | R1710073-009 | GZA-6A           | .11 | 50mL      | 6010C/Ag T, Ba T, Be T, Cd T, Cr T, Cu T, Fe T, Mg T, Mn T, Ni T, Sb T, Zn T       | <2 |    |    | 50.00mL   | Colorless-Clear              |  |   |
| 12 | R1710073-010 | GZA-6A Diss      | .01 | 50mL      | 6010C/Cd D   | <2 |    |    | 50.00mL   | Colorless-Clear              |  |   |
| 13 | R1710073-013 | RFW-2D           | .19 | 50mL      | 6010C/Ag T, Ba T, Be T, Cd T, Cr T, Cu T, Fe T, Mg T, Mn T, Ni T, Sb T, Zn T       | <2 |    |    | 50.00mL   | Colorless-Clear              |  |   |
| 14 | RQ1711235-03 | R1710073-013 MS  | .19 | 50mL      | 6010C/Ag T, Ba T, Be T, Cd T, Cr T, Cu T, Fe T, Mg T, Mn T, Ni T, Sb T, Zn T       | <2 |    |    | 50.00mL   | Colorless-Clear              | 0.5000 mL/182726;<br>0.1000 mL/180703;<br>0.5000 mL/182727;<br>0.0500 mL/180701;<br>0.2500 mL/184175 |   |
| 15 | RQ1711235-04 | R1710073-013 DMS | .19 | 50mL      | 6010C/Ag T, Ba T, Be T, Cd T, Cr T, Cu T, Fe T, Mg T, Mn T, Ni T, Sb T, Zn T       | <2 |    |    | 50.00mL   | Colorless-Clear              | 0.5000 mL/182726;<br>0.2500 mL/184175;<br>0.0500 mL/180701;<br>0.1000 mL/180703;<br>0.5000 mL/182727 |   |
| 16 | R1710073-014 | RFW-2D Diss      | .01 | 50mL      | 6010C/Cd D   | <2 |    |    | 50.00mL   | Colorless-Clear              |  |   |
| 17 | RQ1711235-05 | R1710073-014 MS  | .01 | 50mL      | 6010C/Cd D   | <2 |    |    | 50.00mL   | Colorless-Clear              | 0.5000 mL/182727;<br>0.0500 mL/180701;<br>0.2500 mL/184175;<br>0.1000 mL/180703;<br>0.5000 mL/182726 |   |

# Preparation Information Benchsheet

Prep Run#: 301955

Prep Workflow: MetDigAqICP

Status: Prepped

Team: Metals/KMCLAEN

Prep Method: EPA 3005A/3010A

Prep Date/Time: 10/30/17 03:33 PM

|    |              |                  |     |      |  |    |  |         |                 |  |
|----|--------------|------------------|-----|------|--|----|--|---------|-----------------|--|
| 18 | RQ1711235-06 | R1710073-014 DMS | .01 | 50mL | 6010C/Cd D   | <2 |  | 50.00mL | Colorless-Clear | 0.1000 mL/180703;<br>0.5000 mL/182727;<br>0.0500 mL/180701;<br>0.5000 mL/182726;<br>0.2500 mL/184175 |
| 19 | R1710073-015 | RFW-2S           | .11 | 50mL | 6010C/Ag T, Ba T, Be T, Cd T,<br>Cr T, Cu T, Fe T, Mg T, Mn T,<br>Ni T, Sb T, Zn T | <2 |  | 50.00mL | Colorless-Clear |  |
| 20 | R1710073-016 | RFW-2S Diss      | .01 | 50mL | 6010C/Cd D   | <2 |  | 50.00mL | Colorless-Clear |  |
| 21 | R1710073-017 | RFW-2B           | .11 | 50mL | 6010C/Ag T, Ba T, Be T, Cd T,<br>Cr T, Cu T, Fe T, Mg T, Mn T,<br>Ni T, Sb T, Zn T | <2 |  | 50.00mL | Colorless-Clear |  |
| 22 | R1710073-018 | RFW-2B Diss      | .01 | 50mL | 6010C/Cd D   | <2 |  | 50.00mL | Colorless-Clear |  |
| 23 | R1710073-019 | RFW-4S           | .11 | 50mL | 6010C/Ag T, Ba T, Be T, Cd T,<br>Cr T, Cu T, Fe T, Mg T, Mn T,<br>Ni T, Sb T, Zn T | <2 |  | 50.00mL | Colorless-Clear |  |
| 24 | R1710073-020 | RFW-4S Diss      | .01 | 50mL | 6010C/Cd D   | <2 |  | 50.00mL | Colorless-Clear |  |
| 25 | R1710073-021 | RFW-4D           | .11 | 50mL | 6010C/Ag T, Ba T, Be T, Cd T,<br>Cr T, Cu T, Fe T, Mg T, Mn T,<br>Ni T, Sb T, Zn T | <2 |  | 50.00mL | Colorless-Clear |  |
| 26 | R1710073-022 | RFW-4D Diss      | .01 | 50mL | 6010C/Cd D   | <2 |  | 50.00mL | Colorless-Clear |  |

### Spiking Solutions

|                               |                     |                        |                        |                |
|-------------------------------|---------------------|------------------------|------------------------|----------------|
| Name: Selenium 1000 ug/mL Se  | Inventory ID 180701 | Logbook Ref: M7080014F | Expires On: 10/12/2018 | Lot #: 1635013 |
| Name: Strontium 1000 ug/mL Sr | Inventory ID 180703 | Logbook Ref: M7080014G | Expires On: 10/12/2018 | Lot #: 1610313 |
| Name: Custom LCS STD A Metals | Inventory ID 182726 | Logbook Ref: M7600001W | Expires On: 07/11/2018 | Lot #: 16K061  |
| Name: Custom LCS STD B Metals | Inventory ID 182727 | Logbook Ref: M7600001X | Expires On: 07/11/2018 | Lot #: 16K062  |
| Name: Tin 1000 ug/mL Sn       | Inventory ID 184175 | Logbook Ref: M7600002T | Expires On: 03/31/2019 | Lot #: 1713622 |

### Preparation Materials

1:1 HCl Metals Grade M7600003D (184968) Hot Block Cups 50 mL Lot 1703076 (182080) Nitric Acid Metals Grade HNO3 M7600002W (184969)  
 Thermometer 293 (12952)

### Preparation Steps

Step: Digestion  
 Started: 10/30/17 15:33  
 Finished: 10/31/17 14:35  
 By: KMCLAEN  
 Comments

Comments: \_\_\_\_\_

# Preparation Information Benchsheet

Prep Run#: 301955  
Team: Metals/KMCLAEN

Prep Workflow: MetDigAqICP  
Prep Method: EPA 3005A/3010A

Status: Prepped  
Prep Date/Time: 10/30/17 03:33 PM

Reviewed By: Nicole A Date: 10/31/17

Spike Witness: NMANSEN Date: \_\_\_\_\_

## Chain of Custody

Relinquished By: Kelly McJannet Date: 10/31/17  
Received By: PAOI Date: 10/31/17

Extracts Examined  
Yes No



# Preparation Information Benchsheet

Prep Run#: 301957

Team: Metals/KMCLAEN

Prep WorkFlow: MetDigAqICP

Prep Method: EPA 3005A/3010A

Status: Prepped

Prep Date/Time: 10/30/17 03:33 PM

| #  | Lab Code     | Client ID        | B#  | Amt. Ext. | Method /Test  | pH | AE | BN | Final Vol | Sample Desc. (Initial/Final) | SpikeAmt./Inv. ID  | Comments  |
|----|--------------|------------------|-----|-----------|---|----|----|----|-----------|------------------------------|--|---|
| 1  | RQ1711245-01 | MB               |     | 50mL      | 6010C/As T, Ba T, Ca D DOD, Ca T, Cd T, Cr T, Cu T, Fe T, K T, Mg D DOD, Mg T, Mn T, Na T, Ni T, Pb D DOD, Pb T, Pb T DOD, Se T, Zn T | <2 |    |    | 50.00mL   | Colorless-Clear              |  | HB: 1<br>Well: D1<br>Temp: 92.0C<br>Corr. Factor: 0.0C<br>Corr. Temp: 92.0C |
| 2  | RQ1711245-02 | LCS              |     | 50mL      | 6010C/As T, Ba T, Ca D DOD, Ca T, Cd T, Cr T, Cu T, Fe T, K T, Mg D DOD, Mg T, Mn T, Na T, Ni T, Pb D DOD, Pb T, Pb T DOD, Se T, Zn T | <2 |    |    | 50.00mL   | Colorless-Clear              | 0.1000 mL/180703;<br>0.5000 mL/182727;<br>0.2500 mL/184175;<br>0.5000 mL/182726;<br>0.0500 mL/180701 |   |
| 3  | R1710031-019 | EBI-1017         | .04 | 50mL      | 6010C/As T, Ba T, Ca T, Cd T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Se T, Zn T   | <2 |    |    | 50.00mL   | Colorless-Clear              |  |   |
| 4  | R1710033-001 | PCM-01-1017      | .06 | 50mL      | 6010C/As T  | <2 |    |    | 50.00mL   | Colorless-Clear              |  |   |
| 5  | R1710033-002 | PCM-02-1017      | .06 | 50mL      | 6010C/As T  | <2 |    |    | 50.00mL   | Colorless-Clear              |  |   |
| 6  | R1710033-003 | PCM-05-1017      | .06 | 50mL      | 6010C/As T  | <2 |    |    | 50.00mL   | Colorless-Clear              |  |   |
| 7  | R1710033-004 | PCM-07R-1017     | .06 | 50mL      | 6010C/As T  | <2 |    |    | 50.00mL   | Colorless-Clear              |  |   |
| 8  | R1710033-005 | PCM-10-1017      | .06 | 50mL      | 6010C/As T  | <2 |    |    | 50.00mL   | Colorless-Clear              |  |   |
| 9  | RQ1711245-07 | R1710033-005 MS  | .06 | 50mL      | 6010C/As T  | <2 |    |    | 50.00mL   | Colorless-Clear              | 0.5000 mL/182726;<br>0.1000 mL/180703;<br>0.0500 mL/180701;<br>0.5000 mL/182727;<br>0.2500 mL/184175 |   |
| 10 | RQ1711245-08 | R1710033-005 DMS | .06 | 50mL      | 6010C/As T  | <2 |    |    | 50.00mL   | Colorless-Clear              | 0.0500 mL/180701;<br>0.5000 mL/182727;<br>0.5000 mL/182726;<br>0.1000 mL/180703;<br>0.2500 mL/184175 |   |
| 11 | K1710862-001 | QUSW2017A01      | .02 | 50mL      | 6010C/Ca D DOD, Mg D DOD, Pb D DOD, Pb T DOD  | <2 |    |    | 50.00mL   | Colorless-Clear              |  | Tier IV   |
| 12 | K1710862-002 | QUSW2017A02      | .02 | 50mL      | 6010C/Ca D DOD, Mg D DOD, Pb D DOD, Pb T DOD  | <2 |    |    | 50.00mL   | Colorless-Clear              |  |   |
| 13 | K1710862-003 | QUSW2017B01      | .03 | 50mL      | 6010C/Ca D DOD, Mg D DOD, Pb D DOD  | <2 |    |    | 50.00mL   | Colorless-Clear              |  |   |
| 14 | K1710862-004 | QUSW2017C01      | .03 | 50mL      | 6010C/Ca D DOD, Mg D DOD, Pb D DOD  | <2 |    |    | 50.00mL   | Colorless-Clear              |  |   |
| 15 | K1710862-005 | QUSW2017D01      | .03 | 50mL      | 6010C/Ca D DOD, Mg D DOD, Pb D DOD  | <2 |    |    | 50.00mL   | Colorless-Clear              |  |   |
| 16 | K1710862-006 | QUSW2617A01      | .02 | 50mL      | 6010C/Ca D DOD, Mg D DOD, Pb D DOD, Pb T DOD  | <2 |    |    | 50.00mL   | Colorless-Clear              |  |   |
| 17 | RQ1711245-03 | K1710862-006 MS  | .02 | 50mL      | 6010C/Pb T DOD  | <2 |    |    | 50.00mL   | Colorless-Clear              | 0.1000 mL/180703;<br>0.5000 mL/182727;<br>0.2500 mL/184175;<br>0.0500 mL/180701;<br>0.5000 mL/182726 |   |
| 18 | RQ1711245-04 | K1710862-006 DMS | .02 | 50mL      | 6010C/Pb T DOD  | <2 |    |    | 50.00mL   | Colorless-Clear              | 0.2500 mL/184175;<br>0.0500 mL/180701;<br>0.5000 mL/182727;<br>0.1000 mL/180703;<br>0.5000 mL/182726 |   |

# Preparation Information Benchsheet

Prep Run#: 301957

Prep WorkFlow: MetDigAqICP

Status: Prepped

Team: Metals/KMCLAEN

Prep Method: EPA 3005A/3010A

Prep Date/Time: 10/30/17 03:33 PM

|    |              |                  |     |      |                                    |    |  |         |                 |  |
|----|--------------|------------------|-----|------|------------------------------------|----|--|---------|-----------------|--|
| 19 | RQ1711245-05 | K1710862-006 MS  | .04 | 50mL | 6010C/Ca D DOD, Mg D DOD, Pb D DOD | <2 |  | 50.00mL | Colorless-Clear | 0.0500 mL/180701;<br>0.1000 mL/180703;<br>0.5000 mL/182727;<br>0.2500 mL/184175;<br>0.5000 mL/182726 |
| 20 | RQ1711245-06 | K1710862-006 DMS | .04 | 50mL | 6010C/Ca D DOD, Mg D DOD, Pb D DOD | <2 |  | 50.00mL | Colorless-Clear | 0.5000 mL/182726;<br>0.5000 mL/182727;<br>0.1000 mL/180703;<br>0.0500 mL/180701;<br>0.2500 mL/184175 |
| 21 | K1710862-007 | QUSW2617A04      | .03 | 50mL | 6010C/Ca D DOD, Mg D DOD, Pb D DOD | <2 |  | 50.00mL | Colorless-Clear |  |
| 22 | K1710862-008 | QUSW2617B01      | .03 | 50mL | 6010C/Ca D DOD, Mg D DOD, Pb D DOD | <2 |  | 50.00mL | Colorless-Clear |  |
| 23 | K1710862-009 | QUSW2617C01      | .03 | 50mL | 6010C/Ca D DOD, Mg D DOD, Pb D DOD | <2 |  | 50.00mL | Colorless-Clear |  |
| 24 | K1710862-010 | QUSW2617D01      | .03 | 50mL | 6010C/Ca D DOD, Mg D DOD, Pb D DOD | <2 |  | 50.00mL | Colorless-Clear |  |
| 25 | K1710862-014 | QUSD2617A04      | .02 | 50mL | 6010C/Pb T DOD                     | <2 |  | 50.00mL | Colorless-Clear |  |

### Spiking Solutions

|                               |                     |                        |                        |                |
|-------------------------------|---------------------|------------------------|------------------------|----------------|
| Name: Selenium 1000 ug/mL Se  | Inventory ID 180701 | Logbook Ref: M7080014F | Expires On: 10/12/2018 | Lot #: 1635013 |
| Name: Strontium 1000 ug/mL Sr | Inventory ID 180703 | Logbook Ref: M7080014G | Expires On: 10/12/2018 | Lot #: 1610313 |
| Name: Custom LCS STD A Metals | Inventory ID 182726 | Logbook Ref: M7600001W | Expires On: 07/11/2018 | Lot #: 16K061  |
| Name: Custom LCS STD B Metals | Inventory ID 182727 | Logbook Ref: M7600001X | Expires On: 07/11/2018 | Lot #: 16K062  |
| Name: Tin 1000 ug/mL Sn       | Inventory ID 184175 | Logbook Ref: M7600002T | Expires On: 03/31/2019 | Lot #: 1713622 |

### Preparation Materials

1:1 HCl Metals Grade M7600003D (184968) Hot Block Cups 50 mL Lot 1703076 (182080) Nitric Acid Metals Grade HNO3 M7600002W (184969)  
 Thermometer 294 (12954)

### Preparation Steps

Step: Digestion  
 Started: 10/30/17 15:33  
 Finished: 10/31/17 14:47  
 By: KMCLAEN  
 Comments

Comments: DOD CHECK M7290046 10/31/17

Reviewed By: *Nicol* Date: 10/31/17 Spike Witness: NMANSEN Date: \_\_\_\_\_

# Preparation Information Benchsheet

Prep Run#: 301957  
Team: Metals/KMCLAEN

Prep Workflow: MetDigAqICP  
Prep Method: EPA 3005A/3010A

Status: Prepped  
Prep Date/Time: 10/30/17 03:33 PM

## Chain of Custody

|                                       |                       |   |
|---------------------------------------|-----------------------|---|
| Relinquished By: <u>King McJannet</u> | Date: <u>10/31/17</u> | <u>Extracts Examined</u><br>Yes      No |
| Received By: <u>RAOI</u>              | Date: <u>10/31/17</u> |   |

# Preparation Information Benchsheet

Prep Run#: 301960  
 Team: Metals/KMCLAEN

Prep Workflow: MetDigAqICP  
 Prep Method: EPA 3005A/3010A

Status: Prepped  
 Prep Date/Time: 10/30/17 03:55 PM

| # | Lab Code     | Client ID        | B#  | Amt. Ext. | Method /Test  | pH | AE | BN | Final Vol | Sample Desc. (Initial/Final) | SpikeAmt./Inv. ID  | Comments   |
|---|--------------|------------------|-----|-----------|---|----|----|----|-----------|------------------------------|--|--|
| 1 | RQ1711248-01 | MB               |     | 50mL      | 6010C/Ag D, Ag T, Al D, Al T, As D, As T, B T, Ba D, Ba T, Be D, Be T, Ca D, Ca T, Cd D, Cd T, Co D, Co T, Cr D, Cr T, Cu D, Cu T, Fe D, Fe T, K D, K T, Mg D, Mg T, Mn D, Mn T, Na D, Na T, Ni D, Ni T, Pb D, Pb T, Sb D, Sb T, Se D, Se T, Ti D, Ti T, V D, V T, Zn D, Zn T | <2 |    |    | 50.00mL   | Colorless-Clear              |  | HB: J<br>Well: D1<br>Temp: 92.0C<br>Corr. Factor: 0.0C<br>Corr. Temp: 92.0C<br><br>Plunge Filtered |
| 2 | RQ1711248-02 | LCS              |     | 50mL      | 6010C/Ag D, Ag T, Al D, Al T, As D, As T, B T, Ba D, Ba T, Be D, Be T, Ca D, Ca T, Cd D, Cd T, Co D, Co T, Cr D, Cr T, Cu D, Cu T, Fe D, Fe T, K D, K T, Mg D, Mg T, Mn D, Mn T, Na D, Na T, Ni D, Ni T, Pb D, Pb T, Sb D, Sb T, Se D, Se T, Ti D, Ti T, V D, V T, Zn D, Zn T | <2 |    |    | 50.00mL   | Colorless-Clear              | 0.0500 mL/180701;<br>0.5000 mL/182726;<br>0.1000 mL/180703;<br>0.5000 mL/182727;<br>0.2500 mL/184175 | Plunge Filtered  |
| 3 | R1710054-001 | SW-1             | .08 | 50mL      | 6010C/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Ti T, V T, Zn T   | <2 |    |    | 50.00mL   | Colorless-Clear              |  | 11/10/17   |
| 4 | RQ1711248-03 | R1710054-001 MS  | .08 | 50mL      | 6010C/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Ti T, V T, Zn T   | <2 |    |    | 50.00mL   | Colorless-Clear              | 0.5000 mL/182727;<br>0.1000 mL/180703;<br>0.0500 mL/180701;<br>0.5000 mL/182726;<br>0.2500 mL/184175 |  |
| 5 | RQ1711248-04 | R1710054-001 DMS | .08 | 50mL      | 6010C/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Ti T, V T, Zn T   | <2 |    |    | 50.00mL   | Colorless-Clear              | 0.0500 mL/180701;<br>0.5000 mL/182726;<br>0.1000 mL/180703;<br>0.2500 mL/184175;<br>0.5000 mL/182727 |  |
| 6 | R1710054-002 | SW-2             | .01 | 50mL      | 6010C/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Ti T, V T, Zn T   | <2 |    |    | 50.00mL   | Colorless-Clear              |  |  |
| 7 | R1710054-004 | MW-2             | .09 | 50mL      | 6010C/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Ti T, V T, Zn T   | <2 |    |    | 50.00mL   | Colorless-Clear              |  |  |
| 8 | R1710054-006 | MW-3             | .09 | 50mL      | 6010C/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Ti T, V T, Zn T   | <2 |    |    | 50.00mL   | Colorless-Clear              |  |  |

# Preparation Information Benchsheet

Prep Run#: 301960

Prep Workflow: MetDigAqICP

Status: Prepped

Team: Metals/KMCLAEN

Prep Method: EPA 3005A/3010A

Prep Date/Time: 10/30/17 03:55 PM

|    |              |           |     |      |   |    |  |         |                             |                 |
|----|--------------|-----------|-----|------|---|----|--|---------|-----------------------------|-----------------|
| 9  | R1710054-008 | MW-4      | .09 | 50mL | 6010C/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Tl T, V T, Zn T | <2 |  | 50.00mL | Colorless-Clear             |                 |
| 10 | R1710054-010 | MW-5      | .09 | 50mL | 6010C/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Tl T, V T, Zn T | <2 |  | 50.00mL | Colorless-Clear             |                 |
| 11 | R1710054-012 | MW-6      | .09 | 50mL | 6010C/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Tl T, V T, Zn T | <2 |  | 50.00mL | Colorless-Clear             |                 |
| 12 | R1710054-013 | DUPE-X    | .08 | 50mL | 6010C/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Tl T, V T, Zn T | <2 |  | 50.00mL | Colorless-Clear             |                 |
| 13 | R1710113-001 | MW-7      | .02 | 50mL | 6010C/Ag T, Al T, As T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Tl T, V T, Zn T      | <2 |  | 50.00mL | Colorless-Clear             | Tier IV         |
| 14 | R1710113-002 | MW-3      | .02 | 50mL | 6010C/Ag T, Al T, As T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Tl T, V T, Zn T      | <2 |  | 50.00mL | Yellow-Cloudy/Yellow-Clear  |                 |
| 15 | R1710113-003 | MW-3 Diss | .01 | 50mL | 6010C/Ag D, Al D, As D, Ba D, Be D, Ca D, Cd D, Co D, Cr D, Cu D, Fe D, K D, Mg D, Mn D, Na D, Ni D, Pb D, Sb D, Se D, Tl D, V D, Zn D      | <2 |  | 50.00mL | Yellow-Cloudy/Yellow-Clear  | Plunge Filtered |
| 16 | R1710113-004 | MW-D      | .02 | 50mL | 6010C/Ag T, Al T, As T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Tl T, V T, Zn T      | <2 |  | 50.00mL | Yellow-Cloudy/Yellow-Cloudy |                 |
| 17 | R1710113-005 | MW-D Diss | .01 | 50mL | 6010C/Ag D, Al D, As D, Ba D, Be D, Ca D, Cd D, Co D, Cr D, Cu D, Fe D, K D, Mg D, Mn D, Na D, Ni D, Pb D, Sb D, Se D, Tl D, V D, Zn D      | <2 |  | 50.00mL | Yellow-Clear/Yellow-Clear   |                 |
| 18 | R1710113-006 | MW-8      | .02 | 50mL | 6010C/Ag T, Al T, As T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Tl T, V T, Zn T      | <2 |  | 50.00mL | Brown-Cloudy/Brown-Cloudy   | Plunge Filtered |

# Preparation Information Benchsheet

Prep Run#: 301960

Prep WorkFlow: MetDigAqICP

Status: Prepped

Team: Metals/KMCLAEN

Prep Method: EPA 3005A/3010A

Prep Date/Time: 10/30/17 03:55 PM

|    |              |                            |     |      |   |    |  |         |                           |                 |
|----|--------------|----------------------------|-----|------|---|----|--|---------|---------------------------|-----------------|
| 19 | R1710113-007 | MW-8 Diss                  | .01 | 50mL | 6010C/Ag D, Al D, As D, Ba D, Be D, Ca D, Cd D, Co D, Cr D, Cu D, Fe D, K D, Mg D, Mn D, Na D, Ni D, Pb D, Sb D, Se D, Tl D, V D, Zn D      | <2 |  | 50.00mL | Brown-Cloudy/Brown-Cloudy | Plunge Filtered |
| 20 | R1710200-001 | Primary Leachate Composite | .11 | 50mL | 6010C/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Tl T, V T, Zn T | <2 |  | 50.00mL | Colorless-Clear           |                 |
| 21 | R1710200-003 | Secondary Leachate         | .11 | 50mL | 6010C/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Tl T, V T, Zn T | <2 |  | 50.00mL | Colorless-Clear           |                 |

### Spiking Solutions

|                               |                     |                        |                        |                |
|-------------------------------|---------------------|------------------------|------------------------|----------------|
| Name: Selenium 1000 ug/mL Se  | Inventory ID 180701 | Logbook Ref: M7080014F | Expires On: 10/12/2018 | Lot #: 1635013 |
| Name: Strontium 1000 ug/mL Sr | Inventory ID 180703 | Logbook Ref: M7080014G | Expires On: 10/12/2018 | Lot #: 1610313 |
| Name: Custom LCS STD A Metals | Inventory ID 182726 | Logbook Ref: M7600001W | Expires On: 07/11/2018 | Lot #: 16K061  |
| Name: Custom LCS STD B Metals | Inventory ID 182727 | Logbook Ref: M7600001X | Expires On: 07/11/2018 | Lot #: 16K062  |
| Name: Tin 1000 ug/mL Sn       | Inventory ID 184175 | Logbook Ref: M7600002T | Expires On: 03/31/2019 | Lot #: 1713622 |

### Preparation Materials

1:1 HCl Metals Grade M7600003D (184968) Hot Block Cups 50 mL Lot 1703076 (182080) Nitric Acid Metals Grade HNO3 M7600002W (184969)  
 Plunger Filter 184141 (184141) Thermometer 294 (12954)

### Preparation Steps

Step: Digestion  
 Started: 10/30/17 15:55  
 Finished: 10/31/17 15:28  
 By: KMCLAEN

Comments:

Comments: \_\_\_\_\_

Reviewed By: *[Signature]* Date: 10/31/17 Spike Witness: NMANSEN Date: \_\_\_\_\_

Chain of Custody:

|  |                       |                             |
|--|-----------------------|-----------------------------|
| Relinquished By: <u><i>[Signature]</i></u> | Date: <u>10/31/17</u> | Extracts Examined<br>Yes No |
| Received By: <u>RAOI</u>                   | Date: <u>10/31/17</u> |                             |

# Preparation Information Benchsheet

Prep Run#: 301737  
 Team: Metals/KMCLAEN

Prep Workflow: MetDigAqICP  
 Prep Method: EPA 3005A/3010A

Status: Prepped  
 Prep Date/Time: 10/26/17 05:45 PM

| # | Lab Code     | Client ID    | B#  | Amt. Ext. | Method /Test  | pH | AE | BN | Final Vol | Sample Desc. (Initial/Final) | SpikeAmt./Inv. ID  | Comments  |
|---|--------------|--------------|-----|-----------|---|----|----|----|-----------|------------------------------|--|---|
| 1 | RQ1711141-01 | MB           |     | 50mL      | 6010C/Ag T, Ag T DOD, Al T, Al T DOD, As T DOD, B T, Ba T, Ba T DOD, Be T, Be T DOD, Ca T, Ca T DOD, Cd T, Cd T DOD, Co T, Co T DOD, Cr T, Cr T DOD, Cu T, Cu T DOD, Fe T, Fe T DOD, K T, K T DOD, Mg T, Mg T DOD, Mn T, Mn T DOD, Mo T, Na T, Na T DOD, Ni T, Ni T DOD, Pb T, Pb T DOD, Sb T DOD, Se T, Se T DOD, Sn T, Sr T, Ti T DOD, V T, V T DOD, Zn T, Zn T DOD | <2 |    |    | 50.00mL   | Colorless-Clear              |  | HB: 7<br>Well: 14<br>Temp: 94.0C<br>Corr. Factor: 0.0C<br>Corr. Temp: 94.0C |
| 2 | RQ1711141-02 | LCS          |     | 50mL      | 6010C/Ag T, Ag T DOD, Al T, Al T DOD, As T DOD, B T, Ba T, Ba T DOD, Be T, Be T DOD, Ca T, Ca T DOD, Cd T, Cd T DOD, Co T, Co T DOD, Cr T, Cr T DOD, Cu T, Cu T DOD, Fe T, Fe T DOD, K T, K T DOD, Mg T, Mg T DOD, Mn T, Mn T DOD, Mo T, Na T, Na T DOD, Ni T, Ni T DOD, Pb T, Pb T DOD, Sb T DOD, Se T, Se T DOD, Sn T, Sr T, Ti T DOD, V T, V T DOD, Zn T, Zn T DOD | <2 |    |    | 50.00mL   | Colorless-Clear              | 0.1000 mL/180703;<br>0.0500 mL/180701;<br>0.5000 mL/182726;<br>0.5000 mL/182727;<br>0.2500 mL/184175 |   |
| 3 | R1710018-001 | PCERI-MW25S  | .01 | 50mL      | 6010C/Ag T DOD, Al T DOD, As T DOD, Ba T DOD, Be T DOD, Ca T DOD, Cd T DOD, Co T DOD, Cr T DOD, Cu T DOD, Fe T DOD, K T DOD, Mg T DOD, Mn T DOD, Na T DOD, Ni T DOD, Pb T DOD, Sb T DOD, Se T DOD, Ti T DOD, V T DOD, Zn T DOD  | <2 |    |    | 50.00mL   | Colorless-Clear              |  | Tier IV   |
| 4 | R1710018-002 | DUP-101717-1 | .01 | 50mL      | 6010C/Ag T DOD, Al T DOD, As T DOD, Ba T DOD, Be T DOD, Ca T DOD, Cd T DOD, Co T DOD, Cr T DOD, Cu T DOD, Fe T DOD, K T DOD, Mg T DOD, Mn T DOD, Na T DOD, Ni T DOD, Pb T DOD, Sb T DOD, Se T DOD, Ti T DOD, V T DOD, Zn T DOD  | <2 |    |    | 50.00mL   | Colorless-Clear              |  |   |

# Preparation Information Benchsheet

Prep Run#: 301737

Prep Workflow: MetDigAqICP

Status: Prepped

Team: Metals/KMCLAEN

Prep Method: EPA 3005A/3010A

Prep Date/Time: 10/26/17 05:45 PM

|    |              |                  |     |      |  |    |  |         |                             |  |  |
|----|--------------|------------------|-----|------|--|----|--|---------|-----------------------------|--|--|
| 5  | R1710018-003 | PCERI-MW251      | .04 | 50mL | 6010C/Ag T DOD, Al T DOD, As T DOD, Ba T DOD, Be T DOD, Ca T DOD, Cd T DOD, Co T DOD, Cr T DOD, Cu T DOD, Fe T DOD, K T DOD, Mg T DOD, Mn T DOD, Na T DOD, Ni T DOD, Pb T DOD, Sb T DOD, Se T DOD, Ti T DOD, V T DOD, Zn T DOD | <2 |  | 50.00mL | Purple-Cloudy/Purple-Cloudy |  |  |
| 6  | R1710018-004 | PCERI-IMW-05     | .04 | 50mL | 6010C/Ag T DOD, Al T DOD, As T DOD, Ba T DOD, Be T DOD, Ca T DOD, Cd T DOD, Co T DOD, Cr T DOD, Cu T DOD, Fe T DOD, K T DOD, Mg T DOD, Mn T DOD, Na T DOD, Ni T DOD, Pb T DOD, Sb T DOD, Se T DOD, Ti T DOD, V T DOD, Zn T DOD | <2 |  | 50.00mL | Colorless-Clear             |  |  |
| 7  | R1710018-005 | PCERI-IMW-06     | .01 | 50mL | 6010C/Ag T DOD, Al T DOD, As T DOD, Ba T DOD, Be T DOD, Ca T DOD, Cd T DOD, Co T DOD, Cr T DOD, Cu T DOD, Fe T DOD, K T DOD, Mg T DOD, Mn T DOD, Na T DOD, Ni T DOD, Pb T DOD, Sb T DOD, Se T DOD, Ti T DOD, V T DOD, Zn T DOD | <2 |  | 50.00mL | Colorless-Clear             |  |  |
| 8  | RQ1711141-03 | R1710018-005 MS  | .01 | 50mL | 6010C/Ag T DOD, Al T DOD, As T DOD, Ba T DOD, Be T DOD, Ca T DOD, Cd T DOD, Co T DOD, Cr T DOD, Cu T DOD, Fe T DOD, K T DOD, Mg T DOD, Mn T DOD, Na T DOD, Ni T DOD, Pb T DOD, Sb T DOD, Se T DOD, Ti T DOD, V T DOD, Zn T DOD | <2 |  | 50.00mL | Colorless-Clear             | 0.0500 mL/180701;<br>0.1000 mL/180703;<br>0.5000 mL/182726;<br>0.5000 mL/182727;<br>0.2500 mL/184175 |  |
| 9  | RQ1711141-04 | R1710018-005 DMS | .01 | 50mL | 6010C/Ag T DOD, Al T DOD, As T DOD, Ba T DOD, Be T DOD, Ca T DOD, Cd T DOD, Co T DOD, Cr T DOD, Cu T DOD, Fe T DOD, K T DOD, Mg T DOD, Mn T DOD, Na T DOD, Ni T DOD, Pb T DOD, Sb T DOD, Se T DOD, Ti T DOD, V T DOD, Zn T DOD | <2 |  | 50.00mL | Colorless-Clear             | 0.0500 mL/180701;<br>0.5000 mL/182727;<br>0.1000 mL/180703;<br>0.2500 mL/184175;<br>0.5000 mL/182726 |  |
| 10 | R1710018-006 | PCERI-IMW-03     | .04 | 50mL | 6010C/Ag T DOD, Al T DOD, As T DOD, Ba T DOD, Be T DOD, Ca T DOD, Cd T DOD, Co T DOD, Cr T DOD, Cu T DOD, Fe T DOD, K T DOD, Mg T DOD, Mn T DOD, Na T DOD, Ni T DOD, Pb T DOD, Sb T DOD, Se T DOD, Ti T DOD, V T DOD, Zn T DOD | <2 |  | 50.00mL | Pink-Clear/Colorless-Clear  |  |  |



# Preparation Information Benchsheet

Prep Run#: 301737

Team: Metals/KMCLAEN

Prep Workflow: MetDigAqICP

Prep Method: EPA 3005A/3010A

Status: Prepped

Prep Date/Time: 10/26/17 05:45 PM

|    |              |                      |     |      |  |    |  |         |                               |  |  |
|----|--------------|----------------------|-----|------|--|----|--|---------|-------------------------------|--|--|
| 11 | R1710018-007 | PCERI-IMW-04         | .04 | 50mL | 6010C/Ag T DOD, Al T DOD, As T DOD, Ba T DOD, Be T DOD, Ca T DOD, Cd T DOD, Co T DOD, Cr T DOD, Cu T DOD, Fe T DOD, K T DOD, Mg T DOD, Mn T DOD, Na T DOD, Ni T DOD, Pb T DOD, Sb T DOD, Se T DOD, Ti T DOD, V T DOD, Zn T DOD | <2 |  | 50.00mL | Purple-Cloudy/Colorless-Clear |  |  |
| 12 | R1710018-008 | PCERI-MW19S          | .04 | 50mL | 6010C/Ag T DOD, Al T DOD, As T DOD, Ba T DOD, Be T DOD, Ca T DOD, Cd T DOD, Co T DOD, Cr T DOD, Cu T DOD, Fe T DOD, K T DOD, Mg T DOD, Mn T DOD, Na T DOD, Ni T DOD, Pb T DOD, Sb T DOD, Se T DOD, Ti T DOD, V T DOD, Zn T DOD | <2 |  | 50.00mL | Pink-Clear/Colorless-Clear    |  |  |
| 13 | R1710018-009 | PCERI-MW19I          | .04 | 50mL | 6010C/Ag T DOD, Al T DOD, As T DOD, Ba T DOD, Be T DOD, Ca T DOD, Cd T DOD, Co T DOD, Cr T DOD, Cu T DOD, Fe T DOD, K T DOD, Mg T DOD, Mn T DOD, Na T DOD, Ni T DOD, Pb T DOD, Sb T DOD, Se T DOD, Ti T DOD, V T DOD, Zn T DOD | <2 |  | 50.00mL | Purple-Cloudy/Purple-Cloudy   |  |  |
| 14 | R1710018-010 | PCERI-IMW-01         | .04 | 50mL | 6010C/Ag T DOD, Al T DOD, As T DOD, Ba T DOD, Be T DOD, Ca T DOD, Cd T DOD, Co T DOD, Cr T DOD, Cu T DOD, Fe T DOD, K T DOD, Mg T DOD, Mn T DOD, Na T DOD, Ni T DOD, Pb T DOD, Sb T DOD, Se T DOD, Ti T DOD, V T DOD, Zn T DOD | <2 |  | 50.00mL | Pink-Clear/Colorless-Clear    |  |  |
| 15 | R1710018-011 | PCERI-IMW-02         | .01 | 50mL | 6010C/Ag T DOD, Al T DOD, As T DOD, Ba T DOD, Be T DOD, Ca T DOD, Cd T DOD, Co T DOD, Cr T DOD, Cu T DOD, Fe T DOD, K T DOD, Mg T DOD, Mn T DOD, Na T DOD, Ni T DOD, Pb T DOD, Sb T DOD, Se T DOD, Ti T DOD, V T DOD, Zn T DOD | <2 |  | 50.00mL | Colorless-Clear               |  |  |
| 16 | R1710069-003 | 1710191315B ST-7-453 | .01 | 50mL | 6010C/Ag T, Al T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Mo T, Na T, Ni T, Pb T, Se T, Sn T, Sr T, V T, Zn T  | <2 |  | 50.00mL | Colorless-Clear               |  |  |

# Preparation Information Benchsheet

Prep Run#: 301737

Prep Workflow: MetDigAqICP

Status: Prepped

Team: Metals/KMCLAEN

Prep Method: EPA 3005A/3010A

Prep Date/Time: 10/26/17 05:45 PM

|    |              |                      |     |      |   |    |  |         |                                   |  |  |
|----|--------------|----------------------|-----|------|---|----|--|---------|-----------------------------------|--|--|
| 17 | R1710069-010 | 1710191400B ST-7-544 | .01 | 50mL | 6010C/Ag T, Al T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Mo T, Na T, Ni T, Pb T, Se T, Sn T, Sr T, V T, Zn T | <2 |  | 50.00mL | Colorless-Clear                   |  |  |
| 18 | R1710091-001 | Outfall 01-1017      | .01 | 50mL | 6010C/Al T, Fe T, Zn T  | <2 |  | 50.00mL | Colorless-Cloudy/Colorless-Cloudy |  |  |
| 19 | R1710091-002 | Outfall 03-1017      | .04 | 50mL | 6010C/Al T, Fe T, Zn T  | <2 |  | 50.00mL | Colorless-Clear                   |  |  |
| 20 | R1710091-003 | Outfall 04-1017      | .06 | 50mL | 6010C/Al T, Fe T, Zn T  | <2 |  | 50.00mL | Colorless-Clear                   |  |  |
| 21 | R1710191-001 | SE-0115-UT           | .04 | 50mL | 6010C/Ca T, Cd T, Fe T, K T, Mg T, Mn T, Na T, Pb T   | <2 |  | 50.00mL | Colorless-Clear                   |  |  |
| 22 | R1710191-002 | SE-0115-SB           | .04 | 50mL | 6010C/Ca T, Cd T, Fe T, K T, Mg T, Mn T, Na T, Pb T   | <2 |  | 50.00mL | Colorless-Clear                   |  |  |

### Spiking Solutions

|       |                         |              |        |              |           |             |            |        |         |
|-------|-------------------------|--------------|--------|--------------|-----------|-------------|------------|--------|---------|
| Name: | Selenium 1000 ug/mL Se  | Inventory ID | 180701 | Logbook Ref: | M7080014F | Expires On: | 10/12/2018 | Lot #: | 1635013 |
| Name: | Strontium 1000 ug/mL Sr | Inventory ID | 180703 | Logbook Ref: | M7080014G | Expires On: | 10/12/2018 | Lot #: | 1610313 |
| Name: | Custom LCS STD A Metals | Inventory ID | 182726 | Logbook Ref: | M7600001W | Expires On: | 07/11/2018 | Lot #: | 16K061  |
| Name: | Custom LCS STD B Metals | Inventory ID | 182727 | Logbook Ref: | M7600001X | Expires On: | 07/11/2018 | Lot #: | 16K062  |
| Name: | Tin 1000 ug/mL Sn       | Inventory ID | 184175 | Logbook Ref: | M7600002T | Expires On: | 03/31/2019 | Lot #: | 1713622 |

### Preparation Materials

1:1 HCl Metals Grade M7600003D (184968) Hot Block Cups 50 mL Lot 1703076 (182080) Nitric Acid Metals Grade HNO3 M7600002W (184969)  
 Thermometer 293 (12952)

### Preparation Steps

Step: Digestion  
 Started: 10/26/17 17:45  
 Finished: 10/27/17 08:42  
 By: KMCLAEN  
 Comments

Comments: DDV check M7290046 10126117

Reviewed By: Nicol [Signature] Date: 10/30/17

### Chain of Custody

|                  |                   |       |                 |                             |
|------------------|-------------------|-------|-----------------|-----------------------------|
| Relinquished By: | <u>Kung Mejam</u> | Date: | <u>10127117</u> | Extracts Examined<br>Yes No |
| Received By:     | <u>RA01</u>       | Date: | <u>10127117</u> |                             |

# Preparation Information Benchsheet

Prep Run#: 302021

Team: Metals/KMCLAEN

Prep Workflow: MetDigAqICP

Prep Method: EPA 3005A/3010A

Status: Prepped

Prep Date/Time: 10/31/17 03:42 PM

| #  | Lab Code     | Client ID         | B#  | Amt. Ext. | Method /Test   | pH | AE | BN | Final Vol | Sample Desc. (Initial/Final) | SpikeAmt./Inv. ID  | Comments  |
|----|--------------|-------------------|-----|-----------|--|----|----|----|-----------|------------------------------|--|---|
| 1  | RQ1711311-01 | MB                |     | 50mL      | 6010C/Ag T, Al D, As T, Ba T, Be T, Cd D, Cd T, Cr T, Cu T, Fe T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Zn T | <2 |    |    | 50.00mL   | Colorless-Clear              |  | HB: 4<br>Well: E2<br>Temp: 94.0C<br>Corr. Factor: 0.0C<br>Corr. Temp: 94.0C |
| 2  | RQ1711311-05 | MB                |     | 50mL      | 6010C/Al D   | <2 |    |    | 50.00mL   | Colorless-Clear              |  | Filtered 10/30/17   |
| 3  | RQ1711311-02 | LCS               |     | 50mL      | 6010C/Ag T, Al D, As T, Ba T, Be T, Cd D, Cd T, Cr T, Cu T, Fe T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Zn T | <2 |    |    | 50.00mL   | Colorless-Clear              | 0.5000 mL/182727;<br>0.5000 mL/182726;<br>0.0500 mL/180701;<br>0.1000 mL/180703;<br>0.2500 mL/184175 |   |
| 4  | R1710088-001 | PCBM-01-1017      | .08 | 50mL      | 6010C/As T   | <2 |    |    | 50.00mL   | Colorless-Clear              |  |   |
| 5  | R1710088-002 | PCBM-02-1017      | .08 | 50mL      | 6010C/As T   | <2 |    |    | 50.00mL   | Colorless-Clear              |  |   |
| 6  | RQ1711311-03 | R1710088-002 MS   | .08 | 50mL      | 6010C/As T   | <2 |    |    | 50.00mL   | Colorless-Clear              | 0.1000 mL/180703;<br>0.2500 mL/184175;<br>0.0500 mL/180701;<br>0.5000 mL/182726;<br>0.5000 mL/182727 |   |
| 7  | RQ1711311-04 | R1710088-002 DMS  | .08 | 50mL      | 6010C/As T   | <2 |    |    | 50.00mL   | Colorless-Clear              | 0.5000 mL/182726;<br>0.2500 mL/184175;<br>0.0500 mL/180701;<br>0.1000 mL/180703;<br>0.5000 mL/182727 |   |
| 8  | R1710088-003 | PCM-03-1017       | .08 | 50mL      | 6010C/As T   | <2 |    |    | 50.00mL   | Colorless-Clear              |  |   |
| 9  | R1710088-004 | PCM-04-1017       | .08 | 50mL      | 6010C/As T   | <2 |    |    | 50.00mL   | Colorless-Clear              |  |   |
| 10 | R1710211-001 | Pump Station      | .02 | 50mL      | 6010C/Fe T, Na T, Pb T   | <2 |    |    | 50.00mL   | Colorless-Clear              |  |   |
| 11 | R1710211-002 | Pump Station Diss | .01 | 50mL      | 6010C/Al D   | <2 |    |    | 50.00mL   | Colorless-Clear              |  |   |
| 12 | R1710211-003 | TSD               | .02 | 50mL      | 6010C/Fe T, Na T, Pb T   | <2 |    |    | 50.00mL   | Colorless-Clear              |  |   |
| 13 | R1710211-004 | TSD Diss          | .01 | 50mL      | 6010C/Al D   | <2 |    |    | 50.00mL   | Colorless-Clear              |  |   |
| 14 | R1710236-001 | MW-4B             | .07 | 50mL      | 6010C/Ag T, Ba T, Be T, Cd T, Cr T, Cu T, Fe T, Mg T, Mn T, Ni T, Sb T, Zn T                               | <2 |    |    | 50.00mL   | Colorless-Clear              |  | Tier IV   |
| 15 | R1710236-002 | MW-4B Diss        | .01 | 50mL      | 6010C/Cd D   | <2 |    |    | 50.00mL   | Colorless-Clear              |  |   |
| 16 | R1710236-003 | ENSR-11A          | .07 | 50mL      | 6010C/Ag T, Ba T, Be T, Cd T, Cr T, Cu T, Fe T, Mg T, Mn T, Ni T, Sb T, Zn T                               | <2 |    |    | 50.00mL   | Colorless-Clear              |  |   |
| 17 | R1710236-004 | ENSR-11A Diss     | .01 | 50mL      | 6010C/Cd D   | <2 |    |    | 50.00mL   | Colorless-Clear              |  |   |
| 18 | R1710236-005 | MW-2C             | .07 | 50mL      | 6010C/Ag T, Ba T, Be T, Cd T, Cr T, Cu T, Fe T, Mg T, Mn T, Ni T, Sb T, Zn T                               | <2 |    |    | 50.00mL   | Colorless-Clear              |  |   |
| 19 | R1710236-006 | MW-2C Diss        | .01 | 50mL      | 6010C/Cd D   | <2 |    |    | 50.00mL   | Colorless-Clear              |  |   |
| 20 | R1710236-007 | MW-2A             | .07 | 50mL      | 6010C/Ag T, Ba T, Be T, Cd T, Cr T, Cu T, Fe T, Mg T, Mn T, Ni T, Sb T, Zn T                               | <2 |    |    | 50.00mL   | Colorless-Clear              |  |   |
| 21 | R1710236-008 | MW-2A Diss        | .01 | 50mL      | 6010C/Cd D   | <2 |    |    | 50.00mL   | Colorless-Clear              |  |   |

# Preparation Information Benchsheet

Prep Run#: 302021

Team: Metals/KMCLAEN

Prep WorkFlow: MetDigAqICP

Prep Method: EPA 3005A/3010A

Status: Prepped

Prep Date/Time: 10/31/17 03:42 PM

|    |              |           |     |      |  |    |  |  |         |                 |  |  |
|----|--------------|-----------|-----|------|--|----|--|--|---------|-----------------|--|--|
| 22 | R1710236-009 | MW-2      | .07 | 50mL | 6010C/Ag T, Ba T, Be T, Cd T, Cr T, Cu T, Fe T, Mg T, Mn T, Ni T, Sb T, Zn T | <2 |  |  | 50.00mL | Colorless-Clear |  |  |
| 23 | R1710236-010 | MW-2 Diss | .01 | 50mL | 6010C/Cd D   | <2 |  |  | 50.00mL | Colorless-Clear |  |  |

**Spiking Solutions**

|                               |                      |                        |                        |                |
|-------------------------------|----------------------|------------------------|------------------------|----------------|
| Name: Selenium 1000 ug/mL Se  | Inventory ID: 180701 | Logbook Ref: M7080014F | Expires On: 10/12/2018 | Lot #: 1635013 |
| Name: Strontium 1000 ug/mL Sr | Inventory ID: 180703 | Logbook Ref: M7080014G | Expires On: 10/12/2018 | Lot #: 1610313 |
| Name: Custom LCS STD A Metals | Inventory ID: 182726 | Logbook Ref: M7600001W | Expires On: 07/11/2018 | Lot #: 16K061  |
| Name: Custom LCS STD B Metals | Inventory ID: 182727 | Logbook Ref: M7600001X | Expires On: 07/11/2018 | Lot #: 16K062  |
| Name: Tin 1000 ug/mL Sn       | Inventory ID: 184175 | Logbook Ref: M7600002T | Expires On: 03/31/2019 | Lot #: 1713622 |

**Preparation Materials**

1:1 HCl Metals Grade      M7600003D (184968)      Hot Block Cups      50 mL Lot 1703076 (182080)      Nitric Acid Metals Grade HNO<sub>3</sub>      M7600002W (184969)  
 Thermometer      293 (12952)

**Preparation Steps**

Step: Digestion  
 Started: 10/31/17 15:42  
 Finished: 11/1/17 12:04  
 By: KMCLAEN

Comments

Comments: \_\_\_\_\_

Reviewed By: *Nesal*      Date: 11/1/17      Spike Witness: NMANSEN      Date: \_\_\_\_\_

Chain of Custody

|   |                      |                          |
|---|----------------------|--------------------------|
| Relinquished By: <u><i>Kathy McJannet</i></u> | Date: <u>11/1/17</u> | <u>Extracts Examined</u> |
| Received By: <u>RAOI</u>                      | Date: <u>11/1/17</u> | Yes      No              |

# Preparation Information Benchsheet

Prep Run#: 302022

Team: Metals/KMCLAEN

Prep Workflow: MetDigAqICP

Prep Method: EPA 3005A/3010A

Status: Prepped

Prep Date/Time: 10/31/17 03:43 PM

| #  | Lab Code     | Client ID        | B#  | Amt. Ext. | Method /Test   | pH | AE | BN | Final Vol | Sample Desc. (Initial/Final) | SpikeAmt./Inv. ID  | Comments  |
|----|--------------|------------------|-----|-----------|--|----|----|----|-----------|------------------------------|--|---|
| 1  | RQ1711312-01 | MB               |     | 50mL      | 6010C/Cd T, Cu T, Fe T, Mn T, Pb T, Sb T, Se T, Zn T | <2 |    |    | 50.00mL   | Colorless-Clear              |  | HB: 4<br>Well: E2<br>Temp: 94.0C<br>Corr. Factor: 0.0C<br>Corr. Temp: 94.0C |
| 2  | RQ1711312-02 | LCS              |     | 50mL      | 6010C/Cd T, Cu T, Fe T, Mn T, Pb T, Sb T, Se T, Zn T | <2 |    |    | 50.00mL   | Colorless-Clear              | 0.5000 mL/182726;<br>0.0500 mL/180701;<br>0.5000 mL/182727;<br>0.2500 mL/184175;<br>0.1000 mL/180703 |   |
| 3  | R1710078-002 | T-34-DB          | .01 | 50mL      | 6010C/Cd T, Fe T, Mn T, Pb T, Sb T                   | <2 |    |    | 50.00mL   | Colorless-Clear              |  | Tier IV   |
| 4  | RQ1711312-03 | R1710078-002 MS  | .01 | 50mL      | 6010C/Cd T, Fe T, Mn T, Pb T, Sb T                   | <2 |    |    | 50.00mL   | Colorless-Clear              | 0.2500 mL/184175;<br>0.5000 mL/182727;<br>0.0500 mL/180701;<br>0.5000 mL/182726;<br>0.1000 mL/180703 |   |
| 5  | RQ1711312-04 | R1710078-002 DMS | .01 | 50mL      | 6010C/Cd T, Fe T, Mn T, Pb T, Sb T                   | <2 |    |    | 50.00mL   | Colorless-Clear              | 0.1000 mL/180703;<br>0.2500 mL/184175;<br>0.0500 mL/180701;<br>0.5000 mL/182726;<br>0.5000 mL/182727 |   |
| 6  | R1710078-003 | T-34-SB          | .01 | 50mL      | 6010C/Cd T, Fe T, Mn T, Pb T, Sb T                   | <2 |    |    | 50.00mL   | Colorless-Clear              |  |   |
| 7  | R1710078-004 | T-34-SB DUP      | .01 | 50mL      | 6010C/Cd T, Fe T, Mn T, Pb T, Sb T                   | <2 |    |    | 50.00mL   | Colorless-Clear              |  |   |
| 8  | R1710078-005 | T-36-DB          | .01 | 50mL      | 6010C/Cd T, Fe T, Mn T, Pb T, Sb T                   | <2 |    |    | 50.00mL   | Colorless-Clear              |  |   |
| 9  | R1710078-006 | T-23-SB          | .01 | 50mL      | 6010C/Cd T, Fe T, Mn T, Pb T, Sb T                   | <2 |    |    | 50.00mL   | Colorless-Clear              |  |   |
| 10 | R1710078-007 | T-23-DB          | .01 | 50mL      | 6010C/Cd T, Fe T, Mn T, Pb T, Sb T                   | <2 |    |    | 50.00mL   | Colorless-Clear              |  |   |
| 11 | R1710078-009 | WEX-0210-DB      | .01 | 50mL      | 6010C/Cd T, Fe T, Mn T, Pb T, Sb T                   | <2 |    |    | 50.00mL   | Colorless-Clear              |  |   |
| 12 | R1710078-010 | WEX-0210-SB      | .01 | 50mL      | 6010C/Cd T, Fe T, Mn T, Pb T, Sb T                   | <2 |    |    | 50.00mL   | Colorless-Clear              |  |   |
| 13 | R1710078-011 | WEX-0211-SB      | .01 | 50mL      | 6010C/Cd T, Fe T, Mn T, Pb T, Sb T                   | <2 |    |    | 50.00mL   | Colorless-Clear              |  |   |
| 14 | R1710078-012 | IN-7S            | .01 | 50mL      | 6010C/Cd T, Fe T, Mn T, Pb T, Sb T                   | <2 |    |    | 50.00mL   | Colorless-Clear              |  |   |
| 15 | R1710078-013 | IN-6S            | .01 | 50mL      | 6010C/Cd T, Fe T, Mn T, Pb T, Sb T                   | <2 |    |    | 50.00mL   | Colorless-Clear              |  |   |
| 16 | R1710078-014 | T-25-SB          | .01 | 50mL      | 6010C/Cd T, Fe T, Mn T, Pb T, Sb T                   | <2 |    |    | 50.00mL   | Colorless-Clear              |  |   |
| 17 | R1710078-015 | T-25-DB          | .01 | 50mL      | 6010C/Cd T, Fe T, Mn T, Pb T, Sb T                   | <2 |    |    | 50.00mL   | Colorless-Clear              |  |   |
| 18 | R1710078-016 | T-39-DB          | .01 | 50mL      | 6010C/Cd T, Fe T, Mn T, Pb T, Sb T                   | <2 |    |    | 50.00mL   | Colorless-Clear              |  |   |
| 19 | R1710205-001 | Lot: 1933578     | .01 | 5mL       | 6010C/Cu T, Se T, Zn T                               | <2 |    |    | 50.00mL   | Colorless-Clear              |  | Cu 1X<br>Se 5X<br>Zn 20X  |

# Preparation Information Benchsheet

Prep Run#: 302022

Prep Workflow: MetDigAqICP

Status: Prepped

Team: Metals/KMCLAEN

Prep Method: EPA 3005A/3010A

Prep Date/Time: 10/31/17 03:43 PM

|    |              |                  |     |     |                        |    |  |         |                 |  |                          |
|----|--------------|------------------|-----|-----|------------------------|----|--|---------|-----------------|--|--------------------------|
| 20 | RQ1711312-05 | R1710205-001 DUP | .01 | 5mL | 6010C/Se T             | <2 |  | 50.00mL | Colorless-Clear |  | 5X                       |
| 21 | R1710205-002 | Lot: 1933580     | .01 | 5mL | 6010C/Cu T, Se T, Zn T | <2 |  | 50.00mL | Colorless-Clear |  | Cu 1X<br>Se 5X<br>Zn 20X |
| 22 | RQ1711312-06 | R1710205-002 DUP | .01 | 5mL | 6010C/Se T             | <2 |  | 50.00mL | Colorless-Clear |  | 5X                       |

### Spiking Solutions

|                               |              |        |              |           |             |            |        |         |
|-------------------------------|--------------|--------|--------------|-----------|-------------|------------|--------|---------|
| Name: Selenium 1000 ug/mL Se  | Inventory ID | 180701 | Logbook Ref: | M7080014F | Expires On: | 10/12/2018 | Lot #: | 1635013 |
| Name: Strontium 1000 ug/mL Sr | Inventory ID | 180703 | Logbook Ref: | M7080014G | Expires On: | 10/12/2018 | Lot #: | 1610313 |
| Name: Custom LCS STD A Metals | Inventory ID | 182726 | Logbook Ref: | M7600001W | Expires On: | 07/11/2018 | Lot #: | 16K061  |
| Name: Custom LCS STD B Metals | Inventory ID | 182727 | Logbook Ref: | M7600001X | Expires On: | 07/11/2018 | Lot #: | 16K062  |
| Name: Tin 1000 ug/mL Sn       | Inventory ID | 184175 | Logbook Ref: | M7600002T | Expires On: | 03/31/2019 | Lot #: | 1713622 |

### Preparation Materials

1:1 HCl Metals Grade      M7600003D (184968)      Hot Block Cups      50 mL Lot 1703076 (182080)      Nitric Acid Metals Grade HNO3      M7600002W (184969)  
 Thermometer      293 (12952)

### Preparation Steps

Step: Digestion  
 Started: 10/31/17 15:43  
 Finished: 11/1/17 12:08  
 By: KMCLAEN  
 Comments

Comments: \_\_\_\_\_

Reviewed By: Nicol A      Date: 11/1/17      Spike Witness: NMANSEN      Date: \_\_\_\_\_

### Chain of Custody

|                  |                       |       |                 |                                  |
|------------------|-----------------------|-------|-----------------|----------------------------------|
| Relinquished By: | <u>Kerry McJannet</u> | Date: | <u>11/01/17</u> | Extracts Examined<br>Yes      No |
| Received By:     | <u>RAOI</u>           | Date: | <u>11/01/17</u> |                                  |

# Preparation Information Benchsheet

Prep Run#: 301956

Prep WorkFlow: MetDigAqICP

Status: Prepped

Team: Metals/KMCLAEN

Prep Method: EPA 3005A/3010A

Prep Date/Time: 10/30/17 03:33 PM

| #  | Lab Code     | Client ID            | B#  | Amt. Ext. | Method /Test  | pH | AE | BN | Final Vol | Sample Desc. (Initial/Final) | SpikeAmt./Inv. ID  | Comments  |
|----|--------------|----------------------|-----|-----------|---|----|----|----|-----------|------------------------------|--|---|
| 1  | RQ1711238-01 | MB                   |     | 50mL      | 6010C/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd D, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Mo T, Na T, Ni T, Pb T, Sb T, Se T, Sn T, Sr T, Tl T, V T, Zn T | <2 |    |    | 50.00mL   | Colorless-Clear              |  | HB: 7<br>Well: D1<br>Temp: 92.5C<br>Corr. Factor: 0.0C<br>Corr. Temp: 92.5C |
| 2  | RQ1711238-02 | LCS                  |     | 50mL      | 6010C/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd D, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Mo T, Na T, Ni T, Pb T, Sb T, Se T, Sn T, Sr T, Tl T, V T, Zn T | <2 |    |    | 50.00mL   | Colorless-Clear              | 0.5000 mL/182727;<br>0.2500 mL/184175;<br>0.1000 mL/180703;<br>0.5000 mL/182726;<br>0.0500 mL/180701 |   |
| 3  | R1710073-023 | Dup-1                | .11 | 50mL      | 6010C/Ag T, Ba T, Be T, Cd T, Cr T, Cu T, Fe T, Mg T, Mn T, Ni T, Sb T, Zn T  | <2 |    |    | 50.00mL   | Colorless-Clear              |  | Tier IV   |
| 4  | R1710073-024 | Dup-1 Diss           | .01 | 50mL      | 6010C/Cd D  | <2 |    |    | 50.00mL   | Colorless-Clear              |  |   |
| 5  | R1710073-028 | ENSR-11B             | .11 | 50mL      | 6010C/Ag T, Ba T, Be T, Cd T, Cr T, Cu T, Fe T, Mg T, Mn T, Ni T, Sb T, Zn T  | <2 |    |    | 50.00mL   | Colorless-Clear              |  |   |
| 6  | R1710073-029 | ENSR-11B Diss        | .01 | 50mL      | 6010C/Cd D  | <2 |    |    | 50.00mL   | Colorless-Clear              |  |   |
| 7  | R1710073-030 | MW-4A                | .11 | 50mL      | 6010C/Ag T, Ba T, Be T, Cd T, Cr T, Cu T, Fe T, Mg T, Mn T, Ni T, Sb T, Zn T  | <2 |    |    | 50.00mL   | Colorless-Clear              |  |   |
| 8  | R1710073-031 | MW-4A Diss           | .01 | 50mL      | 6010C/Cd D  | <2 |    |    | 50.00mL   | Colorless-Clear              |  |   |
| 9  | R1710073-032 | MW-4                 | .11 | 50mL      | 6010C/Ag T, Ba T, Be T, Cd T, Cr T, Cu T, Fe T, Mg T, Mn T, Ni T, Sb T, Zn T  | <2 |    |    | 50.00mL   | Colorless-Clear              |  |   |
| 10 | R1710073-033 | MW-4 Diss            | .01 | 50mL      | 6010C/Cd D  | <2 |    |    | 50.00mL   | Colorless-Clear              |  |   |
| 11 | R1710163-003 | 1710241255B ST-7-779 | .01 | 50mL      | 6010C/Ag T, Al T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Mo T, Na T, Ni T, Pb T, Se T, Sn T, Sr T, V T, Zn T                         | <2 |    |    | 50.00mL   | Colorless-Clear              |  |   |
| 12 | R1710163-010 | 1710241308B ST-7-970 | .01 | 50mL      | 6010C/Ag T, Al T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Mo T, Na T, Ni T, Pb T, Se T, Sn T, Sr T, V T, Zn T                         | <2 |    |    | 50.00mL   | Colorless-Clear              |  |   |
| 13 | R1710194-001 | MW-1A                | .10 | 50mL      | 6010C/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Tl T, V T, Zn T                         | <2 |    |    | 50.00mL   | Colorless-Clear              |  | Tier IV   |
| 14 | R1710194-002 | MW-2A                | .10 | 50mL      | 6010C/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Tl T, V T, Zn T                         | <2 |    |    | 50.00mL   | Colorless-Clear              |  |   |

# Preparation Information Benchsheet

Prep Run#: 301956

Prep Workflow: MetDigAqICP

Status: Prepped

Team: Metals/KMCLAEN

Prep Method: EPA 3005A/3010A

Prep Date/Time: 10/30/17 03:33 PM

|    |              |                           |     |      |   |    |  |         |                 |  |
|----|--------------|---------------------------|-----|------|---|----|--|---------|-----------------|--|
| 15 | RQ1711238-03 | R1710194-002 MS           | .10 | 50mL | 6010C/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Tl T, V T, Zn T | <2 |  | 50.00mL | Colorless-Clear | 0.2500 mL/184175;<br>0.0500 mL/180701;<br>0.5000 mL/182727;<br>0.1000 mL/180703;<br>0.5000 mL/182726 |
| 16 | RQ1711238-04 | R1710194-002 DMS          | .10 | 50mL | 6010C/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Tl T, V T, Zn T | <2 |  | 50.00mL | Colorless-Clear | 0.0500 mL/180701;<br>0.1000 mL/180703;<br>0.5000 mL/182726;<br>0.5000 mL/182727;<br>0.2500 mL/184175 |
| 17 | R1710194-003 | MW-3A                     | .10 | 50mL | 6010C/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Tl T, V T, Zn T | <2 |  | 50.00mL | Colorless-Clear |  |
| 18 | R1710194-004 | DO-2                      | .10 | 50mL | 6010C/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Tl T, V T, Zn T | <2 |  | 50.00mL | Colorless-Clear |  |
| 19 | R1710194-005 | Dupe                      | .10 | 50mL | 6010C/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Tl T, V T, Zn T | <2 |  | 50.00mL | Colorless-Clear |  |
| 20 | R1710194-007 | Field Blank               | .10 | 50mL | 6010C/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Tl T, V T, Zn T | <2 |  | 50.00mL | Colorless-Clear |  |
| 21 | R1710208-003 | 1710250920A 400-IV-123    | .01 | 50mL | 6010C/Ag T, Al T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Mo T, Na T, Ni T, Pb T, Se T, Sn T, Sr T, V T, Zn T | <2 |  | 50.00mL | Colorless-Clear |  |
| 22 | R1710208-008 | 1710251502A<br>400-HV-147 | .01 | 50mL | 6010C/Ag T, Al T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Mo T, Na T, Ni T, Pb T, Se T, Sn T, Sr T, V T, Zn T | <2 |  | 50.00mL | Colorless-Clear |  |

### Spiking Solutions

|                               |                     |                        |                        |                |
|-------------------------------|---------------------|------------------------|------------------------|----------------|
| Name: Selenium 1000 ug/mL Se  | Inventory ID 180701 | Logbook Ref: M7080014F | Expires On: 10/12/2018 | Lot #: 1635013 |
| Name: Strontium 1000 ug/mL Sr | Inventory ID 180703 | Logbook Ref: M7080014G | Expires On: 10/12/2018 | Lot #: 1610313 |
| Name: Custom LCS STD A Metals | Inventory ID 182726 | Logbook Ref: M7600001W | Expires On: 07/11/2018 | Lot #: 16K061  |
| Name: Custom LCS STD B Metals | Inventory ID 182727 | Logbook Ref: M7600001X | Expires On: 07/11/2018 | Lot #: 16K062  |
| Name: Tin 1000 ug/mL Sn       | Inventory ID 184175 | Logbook Ref: M7600002T | Expires On: 03/31/2019 | Lot #: 1713622 |



# Preparation Information Benchsheet

Prep Run#: 301956  
Team: Metals/KMCLAEN

Prep Workflow: MetDigAqICP  
Prep Method: EPA 3005A/3010A

Status: Prepped  
Prep Date/Time: 10/30/17 03:33 PM

## Preparation Materials

1:1 HCl Metals Grade M7600003D (184968) Hot Block Cups 50 mL Lot 1703076 (182080) Nitric Acid Metals Grade HNO3 M7600002W (184969)  
Thermometer 293 (12952)

## Preparation Steps

Step: Digestion  
Started: 10/30/17 15:33  
Finished: 10/31/17 14:39  
By: KMCLAEN  
Comments

Comments: \_\_\_\_\_

Reviewed By: *Neal* Date: 10/31/17 Spike Witness: NMANSEN Date: \_\_\_\_\_

## Chain of Custody

|   |                       |                                    |
|---|-----------------------|------------------------------------|
| Relinquished By: <u><i>King Mc Fern</i></u> | Date: <u>10/31/17</u> | <u>Extracts Examined</u><br>Yes No |
| Received By: <u>RAOI</u>                    | Date: <u>10/31/17</u> |                                    |

**Frequency:**

**Pipettes:** 3 trials for both bias and precision  
 DOD Projects - Daily before use at each volume of use, or if more than 3 volumes of use, a high, medium, and low.  
 Non-DOD: Monthly at high, medium, and low.

**Repeaters, Dispensers, and Repipettors:** 3 trials for both bias and precision  
 If used for dilutions - Daily before use and each time the volume is changed.  
 If not used for dilutions - monthly

**Calculations:**

$\% \text{Recovery} = \text{Mean} / \text{Nominal Volume} * 100$   
 $\% \text{RSD} = \text{Stdev} / \text{Volume} * 100$

**Limits:**

$\% \text{Recovery:}$  98-102  
 $\% \text{RSD:}$   $\leq 1$  (Pipets);  $\leq 3$  (Repeaters, Dispensers, and Repipettors)

| Date     | Init. | Pipettor ID | Volume<br>(mL) | Trial #1<br>(g) | Trial #2<br>(g) | Trial #3<br>(g) | Mean   | Bias      | Pass/<br>Fail | Precision | Pass/<br>Fail | Recal? | Balance | Comments/<br>Corrective Action |
|----------|-------|-------------|----------------|-----------------|-----------------|-----------------|--------|-----------|---------------|-----------|---------------|--------|---------|--------------------------------|
|          |       |             |                |                 |                 |                 | (g)    | %Recovery |               | %RSD      |               | Y/N    | ID      |                                |
| 10/31/17 | NM    | M35         | 0.5000         | 0.4968          | 0.4974          | 0.4966          | 0.4969 | 99.39%    | P             | 0.053     | P             | N      | R-10    | DOD Check                      |
|          |       | ↓           | 1.0000         | 0.9993          | 0.9986          | 1.0001          | 0.9993 | 99.93%    | P             | 0.075     | P             | N      |         | ↓                              |
|          |       | M25         | 0.0100         | 0.0099          | 0.0099          | 0.0099          | 0.0099 | 99%       | P             | 0         | P             | N      |         | ↓                              |
|          |       | ↓           | 0.1000         | 0.0994          | 0.0998          | 0.0996          | 0.0996 | 99.6%     | P             | 0.2       | P             | N      |         | ↓                              |
| 11/1/17  | NM    | M35         | 1.0000         | 0.9991          | 1.0006          | 0.9979          | 0.9992 | 99.92%    | P             | 0.135     | P             | N      | R-19    | DOD Check                      |
|          |       | ↓           | 0.5000         | 0.4971          | 0.4976          | 0.4959          | 0.4967 | 99.37%    | P             | 0.175     | P             | N      |         | ↓                              |
|          |       | M25         | 0.0100         | 0.0100          | 0.0099          | 0.0099          | 0.0099 | 99.33%    | P             | 0.577     | P             | N      |         | ↓                              |
|          |       | ↓           | 0.1000         | 0.0996          | 0.0996          | 0.0998          | 0.0997 | 99.67%    | P             | 0.115     | P             | N      |         | ↓                              |

Pipettor Calibration

Frequency:

**Pipettes:** 3 trials for both bias and precision  
 DOD Projects - Daily before use at each volume of use, or if more than 3 volumes of use, a high, medium, and low.  
 Non-DOD: Monthly at high, medium, and low.  
**Repeaters, Dispensers, and Repipettors:** 3 trials for both bias and precision  
 If used for dilutions - Daily before use and each time the volume is changed.  
 If not used for dilutions - monthly

Calculations:

$\% \text{Recovery} = \text{Mean} / \text{Nominal Volume} * 100$   
 $\% \text{RSD} = \text{Stdev} / \text{Volume} * 100$

Limits:

% Recovery: 98-102  
 %RSD:  $\leq 1$  (Pipets);  $\leq 3$  (Repeaters, Dispensers, and Repipettors)

| Date     | Init. | Pipettor ID | Volume<br>(mL) | Trial #1<br>(g) | Trial #2<br>(g) | Trial #3<br>(g) | Mean   | Bias      | Pass/ | Precision | Pass/ | Recal? | Balance<br>ID | Comments/<br>Corrective Action |
|----------|-------|-------------|----------------|-----------------|-----------------|-----------------|--------|-----------|-------|-----------|-------|--------|---------------|--------------------------------|
|          |       |             |                |                 |                 |                 | (g)    | %Recovery | Fail  | %RSD      | Fail  |        |               |                                |
| 10/25/17 | KSM   | M26         | 0.2500         | 0.2501          | 0.2489          | 0.2495          | 0.2495 | 99.8      | P     | 0.24      | P     | N      | R-10          | DOD check                      |
|          |       |             | 0.5000         | 0.4999          | 0.4989          | 0.4996          | 0.4994 | 99.89     | P     | 0.102     | P     | N      |               |                                |
|          |       |             | 0.7500         | 0.7489          | 0.7491          | 0.7493          | 0.7491 | 99.88     | P     | 0.076     | P     | N      |               |                                |
|          |       |             | 1.0000         | 0.9991          | 0.9989          | 0.9999          | 0.9993 | 99.93     | P     | 0.0529    | P     | N      |               |                                |
|          |       | M31         | 0.0500         | 0.0500          | 0.0499          | 0.0498          | 0.0499 | 99.8      | P     | 0.2       | P     | N      |               |                                |
|          |       |             | 0.0750         | 0.0751          | 0.0752          | 0.0750          | 0.0751 | 100.13    | P     | 0.13      | P     | N      |               |                                |
| 10/26/17 | KSM   | M31         | 0.0500         | 0.0501          | 0.0500          | 0.0498          | 0.0499 | 99.93     | P     | 0.305     | D     | N      | R-10          | DOD check                      |
|          |       |             | 0.1000         | 0.1001          | 0.1002          | 0.0999          | 0.1000 | 100       | P     | 0.53      | P     | N      |               |                                |
|          |       | M27         | 0.2500         | 0.2489          | 0.2491          | 0.2493          | 0.2491 | 99.64     | P     | 0.08      | P     | N      |               |                                |
|          |       | M23         | 0.5000         | 0.4989          | 0.4999          | 0.5001          | 0.4996 | 99.92     | P     | 0.12      | D     | N      | R-19          | DOD check                      |
| 10/20/17 | NM    | M35         | 0.5000         | 0.4947          | 0.4945          | 0.4948          | 0.4946 | 98.93     | P     | 0.0305    | P     | N      |               | DOD check                      |
|          |       |             | 1.0000         | 0.9905          | 0.9964          | -               |        |           |       |           | P     | N      | R-19          | DOD check                      |
|          |       |             | 1.0000         | 0.9992          | 0.9974          | 1.0011          | 0.9992 | 99.92     | P     | 0.185     | P     | N      |               |                                |
|          |       |             | 0.5000         | 0.4966          | 0.4957          | 0.4961          | 0.4959 | 99.186    | P     | 0.0416    | D     | N      |               |                                |
|          |       | M25         | 0.0100         | 0.0101          | 0.0100          | 0.0101          | 0.0100 | 100.6     | P     | 0.577     | P     | N      |               |                                |
|          |       |             | 0.1000         | 0.0990          | 0.0995          | 0.0994          | 0.0993 | 99.3      | P     | 0.264     | P     | N      |               |                                |
| 10/30/17 | KSM   | M23         | 0.5000         | 0.4974          | 0.4973          | 0.4980          | 0.4975 | 99.513    | P     | 0.0757    | P     | N      | R-19          | DOD check                      |
|          |       |             |                |                 |                 |                 |        |           |       |           |       |        |               | NM 10/31/17                    |

Balance not level. Relevelled/Recalibrated

✓ CK 10/30/17

OPTIMA 3/4/5/6 ICV/CCV (Standard is prepared daily)  
 (ICV FOR ILM5.3 IS A 1/2 DILUTION OF THIS STANDARD)

|               | Metal | ALS Lot #  | Conc. (ppm) | Vol. (mls) | Final Vol. (mls) | Final Conc. (ppm) |
|---------------|-------|------------|-------------|------------|------------------|-------------------|
| Cal Std 1     | CA    | M76000001S | 5000        | 1.00       | 200              | 25.0              |
|               | MG    |            | 5000        |            |                  | 25.0              |
|               | K     |            | 5000        |            |                  | 25.0              |
|               | NA    |            | 5000        |            |                  | 25.0              |
| Cal Std 2     | AG    | M76000001T | 100         | 1.00       |                  | 0.500             |
|               | CR    |            | 100         |            |                  | 0.500             |
|               | MN    |            | 150         |            |                  | 0.750             |
|               | NI    |            | 400         |            |                  | 2.00              |
|               | ZN    |            | 200         |            |                  | 1.00              |
| Cal Std 3     | AL    | M76000001U | 2000        | 1.00       |                  | 10.0              |
|               | BA    |            | 2000        |            |                  | 10.0              |
|               | BE    |            | 50          |            |                  | 0.250             |
|               | CO    |            | 500         |            |                  | 2.50              |
|               | CU    |            | 250         |            |                  | 1.25              |
|               | FE    |            | 1000        |            |                  | 5.00              |
|               | V     |            | 500         |            |                  | 2.50              |
| Cal Std 4     | AS    | M76000001F | 100         | 2.00       |                  | 1.00              |
|               | CD    |            | 50          |            |                  | 0.500             |
|               | PB    |            | 50          |            |                  | 0.500             |
|               | SE    |            | 50          |            |                  | 0.500             |
|               | TL    |            | 100         |            |                  | 1.00              |
| Single Metals | SB    | M76000001K | 1000        | 1.00       |                  | 5.00              |
|               | SN    | M76000001E | 1000        | 1.00       |                  | 5.00              |
|               | B     | M7080001FF | 1000        | 0.500      |                  | 2.50              |
|               | MO    | M7080001DD | 1000        | 0.500      |                  | 2.50              |
|               | TI    | M7080001EE | 1000        | 0.500      |                  | 2.50              |
|               | SR    | M70800014X | 1000        | 0.500      |                  | 2.50              |
|               | P     | -          | 1000        | 1.00       |                  | 5.00              |

| Analyst/ Date | Letter ID | Nitric Acid Lot # / Concentration % | Hydrochloric Acid Lot # / Concentration | Pipet ID |
|---------------|-----------|-------------------------------------|---|----------|
| NM 10/5/17    | A         | M76000002W 7.5%                     | M76000002I 5%                           | M34      |
| NM 10/6/17    | B         | M76000002W 10%                      | M76000002I 5%                           | M34      |
| NM 10/9/17    | C         | M76000002W 2%                       | M76000002I 5%                           | M34      |
| NM 10/9/17    | D         | M76000002W 10%                      | M76000002I 5%                           | M34      |
| NM 10/10/17   | E         | M76000002W 2%                       | M76000002I 5%                           | M34      |
| NM 10/11/17   | F         | M76000002W 2%                       | M76000002I 5%                           | M34      |
| NM 10/11/17   | G         | M76000002W 10%                      | M76000002I 5%                           | M34      |
| NM 10/12/17   | H         | M76000002W 2%                       | M76000002I 5%                           | M34      |
| NM 10/12/17   | I         | M76000002W 10%                      | M76000002I 5%                           | M35      |
| NM 10/13/17   | J         | M76000002W 2%                       | M76000002I 5%                           | M34      |
| NM 10/13/17   | K         | M76000002W 10%                      | M76000002I 5%                           | M35      |
| NM 10/16/17   | L         | M76000002W 10%                      | M76000002I 5%                           | M34      |
| NM 10/16/17   | M         | M76000002W 2%                       | M76000002I 5%                           | M34      |
| NM 10/17/17   | N         | M76000002W 10%                      | M76000002I 5%                           | M34      |
| NM 10/18/17   | O         | M76000002W 10%                      | M76000002I 5%                           | M35      |
| NM 10/19/17   | P         | M76000002W 2%                       | M76000002I 5%                           | M35      |
| NM 10/19/17   | Q         | M76000002W 10%                      | M76000002I 5%                           | M35      |
| NM 10/20/17   | R         | M76000002W 2%                       | M76000002I 5%                           | M35      |
| NM 10/20/17   | S         | M76000002W 10%                      | M76000003D 5%                           | M35      |
| CK 10/24/17   | T         | M76000002W 2%                       | M76000003D 5%                           | M35      |
| CK 10/25/17   | U         | M76000002W 2%                       | M76000003D 5%                           | M35      |
| CK 10/25/17   | V         | M76000002W 10%                      | M76000003D 5%                           | M35      |
| CK 10/26/17   | W         | M76000002W 2%                       | M76000003D 5%                           | M35      |
| CK 10/27/17   | X         | M76000002W 2%                       | M76000003D 5%                           | M35      |
| NM 10/30/17   | Y         | M76000002W 10%                      | M76000003D 5%                           | M35      |
| NM 10/31/17   | Z         | M76000002W 10%                      | M76000003D 5%                           | M35      |
| NM 11/1/17    | AA        | M76000002W 2%                       | M76000003D 5%                           | M35      |
| NM 11/1/17    | BB        | M76000002W 10%                      | M76000003D 5%                           | M35      |

✓ M11/10/2017

OPTIMA 3/4/6 INTERNAL STANDARD (ADDED ON-LINE)

| Metal | ALS Lot # | Conc. (ppm) | Vol. (mls) | Final Vol. (mls) | Final Conc. (ppm) | Matrix             | Analyst/Date | Letter ID | Nitric Acid Lot # | Hydro-chloric Acid Lot # | Expiration Date | Pipet ID |
|-------|-----------|-------------|------------|------------------|-------------------|--------------------|--------------|-----------|-------------------|--------------------------|-----------------|----------|
| Y     | M7080009L | 10000       | 2.0        | 2000             | 10.0              | 5 % HCl<br>2% HNO3 | NM 8/7/17    | A         | M7600001L         | M708000400               | 11/26/17        | M34      |
| CS    | M7080009K | 10000       | 2.0        |                  | 10.0              |                    | NM 8/11/17   | B         | M7600001L         | M7600001P                | 11/26/17        | M34      |
|       |           |             |            |                  |                   |                    | NM 8/15/17   | C         | M7600001L         | M7600001P                | 11/26/17        | M34      |
|       |           |             |            |                  |                   |                    | NM 8/23/17   | D         | M7600001L         | M7600001P                | 11/26/17        | M34      |
|       |           |             |            |                  |                   |                    | NM 8/29/17   | E         | M7600001L         | M7600001P                | 11/26/17        | M34      |
|       |           |             |            |                  |                   |                    | NM 9/6/17    | F         | M7600001L         | M7600001P                | 11/26/17        | M34      |
|       |           |             |            |                  |                   |                    | NM 9/11/17   | G         | M7600001L         | M7600002I                | 11/26/17        | M34      |
|       |           |             |            |                  |                   |                    | NM 9/15/17   | H         | M7600001L         | M7600002I                | 11/26/17        | M34      |
|       |           |             |            |                  |                   |                    | NM 9/25/17   | I         | M7600001L         | M7600002I                | 11/26/17        | M34      |
|       |           |             |            |                  |                   |                    | NM 9/29/17   | J         | M7600002W         | M7600002I                | 11/26/17        | M34      |
|       |           |             |            |                  |                   |                    | NM 10/10/17  | K         | M7600002W         | M7600002I                | 11/26/17        | M34      |
|       |           |             |            |                  |                   |                    | NM 10/16/17  | L         | M7600002W         | M7600002I                | 11/26/17        | M34      |
|       |           |             |            |                  |                   |                    | NM 10/20/17  | M         | M7600002W         | M7600003D                | 11/26/17        | M35      |
|       |           |             |            |                  |                   |                    | NM 11/1/17   | N         | M7600002W         | M7600003D                | 11/26/17        | M35      |
|       |           |             |            |                  |                   |                    |              | O         |                   |                          |                 |          |
|       |           |             |            |                  |                   |                    |              | P         |                   |                          |                 |          |
|       |           |             |            |                  |                   |                    |              | Q         |                   |                          |                 |          |
|       |           |             |            |                  |                   |                    |              | R         |                   |                          |                 |          |
|       |           |             |            |                  |                   |                    |              | S         |                   |                          |                 |          |
|       |           |             |            |                  |                   |                    |              | T         |                   |                          |                 |          |
|       |           |             |            |                  |                   |                    |              | V         |                   |                          |                 |          |

*Handwritten signature/initials*

OPTIMA 3/5/6 ICSAB STANDARD (Standard is prepared every 6 months or as necessary)

| Element      | ALS Lot # | Conc. (ppm) | Vol. (mls) | Final Vol. (mls) | Final Conc. (ppm) |
|--------------|-----------|-------------|------------|------------------|-------------------|
| Int. A Sol'n | M7080014M | Multi       | 25         | 500              | Multi             |
| AL           |           | 5000        |            |                  | 250               |
| CA           |           | 5000        |            |                  | 250               |
| FE           |           | 2000        |            |                  | 100               |
| MG           |           | 5000        |            |                  | 250               |
| Int. B Sol'n | M7080013Q | Multi       | 5          |                  | Multi             |
| AG           |           | 20          |            |                  | 0.200             |
| BA           |           | 50          |            |                  | 0.500             |
| BE           |           | 50          |            |                  | 0.500             |
| CD           |           | 100         |            |                  | 1.00              |
| CO           |           | 50          |            |                  | 0.500             |
| CR           |           | 50          |            |                  | 0.500             |
| CU           |           | 50          |            |                  | 0.500             |
| MN           |           | 50          |            |                  | 0.500             |
| NI           |           | 100         |            |                  | 1.00              |
| PB           |           | 5           |            |                  | 0.0500            |
| V            |           | 50          |            |                  | 0.500             |
| ZN           |           | 100         |            |                  | 1.00              |
| AS           |           | 10          |            |                  | 0.100             |
| SB           |           | 60          |            |                  | 0.600             |
| SE           |           | 5           |            |                  | 0.0500            |
| TL           |           | 10          |            |                  | 0.100             |

| Analyst/Date | ID Letter | Nitric Acid Lot # / Concentration | Hydrochloric Acid Lot # / Concentration | Expiration Date | Pipet ID   |
|--------------|-----------|-----------------------------------|---|-----------------|------------|
| NM 8/8/17    | A         | M7600001L 2%                      | M708001400 5%                           | 2/8/18          | Volumetric |
| NM 8/8/17    | B         | M7600001L 10%                     | M708001400 5%                           | 2/8/18          | Volumetric |
| NM 8/31/17   | C         | M7600001L 2%                      | M7600001P 5%                            | 2/28/18         | Volumetric |
| NM 8/31/17   | D         | M7600001L 10%                     | M7600001P 5%                            | 2/28/18         | Volumetric |
| NM 9/15/17   | E         | M7600001L 2%                      | M7600002I 5%                            | 3/15/18         | Volumetric |
| NM 9/15/17   | F         | M7600001L 10%                     | M7600002I 5%                            | 3/15/18         | Volumetric |
| NM 10/13/17  | G         | M7600002W 2%                      | M7600002I 5%                            | 4/13/18         | Volumetric |
| NM 10/13/17  | H         | M7600002W 10%                     | M7600002I 5%                            | 4/13/18         | Volumetric |
|              | I         |                                   |   |                 |            |
|              | J         |                                   |   |                 |            |
|              | K         |                                   |   |                 |            |
|              | L         |                                   |   |                 |            |
|              | M         |                                   |   |                 |            |
|              | N         |                                   |   |                 |            |
|              | O         |                                   |   |                 |            |
|              | P         |                                   |   |                 |            |
|              | Q         |                                   |   |                 |            |
|              | R         |                                   |   |                 |            |
|              | S         |                                   |   |                 |            |
|              | T         |                                   |   |                 |            |
|              | U         |                                   |   |                 |            |
|              | V         |                                   |   |                 |            |

✓ OK 10/20/17

OPTIMA 3/5/6 ICSA STANDARD (Standard is prepared every 6 months or as necessary)

| Element      | ALS Lot # | Conc. (ppm) | Vol. (mls) | Final Vol. (mls) | Final Conc. (ppm) |
|--------------|-----------|-------------|------------|------------------|-------------------|
| Int. A Sol'n | M70800/4M | Multi       | 50         | 1000             | Multi             |
| AL           |           | 5000        |            |                  | 250               |
| CA           |           | 5000        |            |                  | 250               |
| FE           |           | 2000        |            |                  | 100               |
| MG           |           | 5000        |            |                  | 250               |

| Analyst/Date | ID Letter | Nitric Acid Lot # / Concentration | Hydrochloric Acid Lot # / Concentration | Expiration Date | Pipet ID   |
|--------------|-----------|-----------------------------------|---|-----------------|------------|
| NM 3/8/17    | A         | M7600001L 21.                     | M70800/400 51.                          | 2/8/17          | Volumetric |
| NM 8/22/17   | B         | M7600001L 10%.                    | M7600001P 51.<br>M70800/400 51.         | 2/22/17         | Volumetric |
| NM 9/15/17   | C         | M7600001L 21.                     | M7600002I 51.                           | 3/15/17         | Volumetric |
|              | D         |                                   |   |                 |            |
|              | E         |                                   |   |                 |            |
|              | F         |                                   |   |                 |            |
|              | G         |                                   |   |                 |            |
|              | H         |                                   |   |                 |            |
|              | I         |                                   |   |                 |            |
|              | J         |                                   |   |                 |            |
|              | K         |                                   |   |                 |            |
|              | L         |                                   |   |                 |            |
|              | M         |                                   |   |                 |            |
|              | N         |                                   |   |                 |            |
|              | O         |                                   |   |                 |            |
|              | P         |                                   |   |                 |            |
|              | Q         |                                   |   |                 |            |
|              | R         |                                   |   |                 |            |
|              | S         |                                   |   |                 |            |
|              | T         |                                   |   |                 |            |
|              | U         |                                   |   |                 |            |
|              | V         |                                   |   |                 |            |

N/A 10/1/13/17

OPTIMA 3/4/5/6 MRL (Standard is prepared every 6 months or as needed)

|               | Metal | ALS Lot #               | Conc. (ppm) | Vol. (mls) | Final Vol. (mls) | Final Conc. (ppm) |
|---------------|-------|-------------------------|-------------|------------|------------------|-------------------|
| Cal Std 1     | CA    | NM 8/22/17<br>M7080013D | 5000        | 0.200      | 1000             | 1.00              |
|               | MG    | M7080012EE              | 5000        |            |                  | 1.00              |
|               | K     |                         | 5000        |            |                  | 1.00              |
|               | NA    |                         | 5000        |            |                  | 1.00              |
| Cal Std 2     | AG    | M7080013Y               | 100         | 0.100      |                  | 0.0100            |
|               | CR    |                         | 100         |            |                  | 0.0100            |
|               | MN    |                         | 150         |            |                  | 0.0150            |
|               | NI    |                         | 400         |            |                  | 0.0400            |
|               | ZN    |                         | 200         |            |                  | 0.0200            |
| Cal Std 3     | AL    | M7080014L               | 2000        | 0.100      |                  | 0.200             |
|               | BA    |                         | 2000        |            |                  | 0.200             |
|               | BE    |                         | 50          |            |                  | 0.0050            |
|               | CO    |                         | 500         |            |                  | 0.0500            |
|               | CU    |                         | 250         |            |                  | 0.0250            |
|               | FE    |                         | 1000        |            |                  | 0.100             |
|               | V     |                         | 500         |            |                  | 0.0500            |
| Cal Std 4     | AS    | M7600001E               | 100         | 0.200      |                  | 0.0200            |
|               | CD    |                         | 50          |            |                  | 0.0100            |
|               | PB    |                         | 50          |            |                  | 0.0100            |
|               | SE    |                         | 50          |            |                  | 0.0100            |
|               | TL    |                         | 100         |            |                  | 0.0200            |
| Single Metals | B     | M7080012Z               | 1000        | 0.200      |                  | 0.200             |
|               | MO    | M7080010V               | 1000        | 0.025      |                  | 0.0250            |
|               | SN    | M7600001H               | 1000        | 0.500      |                  | 0.500             |
|               | TI    | M7080013R               | 1000        | 0.050      |                  | 0.0500            |
|               | SB    | M7080011BB              | 1000        | 0.060      |                  | 0.0600            |
|               | SR    | M7080014G               | 1000        | 0.100      |                  | 0.100             |
|               | P     |                         | 1000        | 0.100      |                  | 0.100             |

| Analyst/Date | Letter ID | Nitric Acid Lot# / Concentration | Hydrochloric Acid Lot# / Concentration | Expiration Date | Pipet ID |
|--------------|-----------|----------------------------------|--|-----------------|----------|
| NM 8/22/17   | A         | M7600000IL 10%                   | M7600000IP 5%                          | 2/17/18         | M25/M31  |
| NM 9/18/17   | B         | M7600000IL 10%                   | M7600000IP 5%                          | 2/17/18         | M25/M31  |
| NM 9/18/17   | C         | M7600000IL 2%                    | M7600000IP 5%                          | 2/17/18         | M25/M31  |
|              | D         |                                  |  |                 |          |
|              | E         |                                  |  |                 |          |
|              | F         |                                  |  |                 |          |
|              | G         |                                  |  |                 |          |
|              | H         |                                  |  |                 |          |
|              | I         |                                  |  |                 |          |
|              | J         |                                  |  |                 |          |
|              | K         |                                  |  |                 |          |
|              | L         |                                  |  |                 |          |
|              | M         |                                  |  |                 |          |
|              | N         |                                  |  |                 |          |
|              | O         |                                  |  |                 |          |
|              | P         |                                  |  |                 |          |
|              | Q         |                                  |  |                 |          |
|              | R         |                                  |  |                 |          |
|              | S         |                                  |  |                 |          |
|              | T         |                                  |  |                 |          |
|              | U         |                                  |  |                 |          |
|              | V         |                                  |  |                 |          |
|              | W         |                                  |  |                 |          |
|              | X         |                                  |  |                 |          |
|              | Y         |                                  |  |                 |          |
|              | Z         |                                  |  |                 |          |
|              | AA        |                                  |  |                 |          |
|              | BB        |                                  |  |                 |          |

1/11/18



OPTIMA 3/4/5/6 HLCCV3

(Standard is prepared biweekly or as necessary)

|                 | Metal | ALS Lot #  | Conc. (ppm) | Vol. (mls) | Final Vol. (mls) | Final Conc. (ppm) |
|-----------------|-------|------------|-------------|------------|------------------|-------------------|
| Single Elements | CA    | M7080013D  | 10000       | 2.00       | 100              | 200               |
|                 | CU    | M7600001A  | 1000        | 0.40       |                  | 4.00              |
|                 | FE    | M7600001C  | 10000       | 0.40       |                  | 40.0              |
|                 | K     | M7080014AA | 10000       | 1.00       |                  | 100               |
|                 | TL    | M7600001N  | 1000        | 0.30       |                  | 3.00              |
|                 |       |            |             |            |                  |                   |

| Analyst / Date | Letter ID | Nitric Acid Lot #/<br>Concentration | Hydrochloric Acid Lot #/<br>Concentration | Expiration Date | Pipet ID |
|----------------|-----------|-------------------------------------|---|-----------------|----------|
| NM 8/9/17      | A         | M7600001L 2%                        | M7600001P 5%                              | 8/23/17         | M34      |
| NM 8/9/17      | B         | M7600001L 10%                       | M7600001P 5%                              | 8/23/17         | M34      |
| NM 8/24/17     | C         | M7600001L 2%                        | M7600001P 5%                              | 9/7/17          | M34      |
| NM 8/24/17     | D         | M7600001L 10%                       | M7600001P 5%                              | 9/7/17          | M34      |
| NM 9/8/17      | E         | M7600001L 2%                        | M7600001P 5%                              | 9/22/17         | M34      |
| NM 9/8/17      | F         | M7600001L 10%                       | M7600001P 5%                              | 9/22/17         | M34      |
| NM 9/25/17     | G         | M7600001L 2%                        | M7600002I 5%                              | 10/9/17         | M34      |
| NM 9/25/17     | H         | M7600001L 10%                       | M7600002I 5%                              | 10/9/17         | M34      |
| NM 10/10/17    | I         | M7600002W 2%                        | M7600002I 5%                              | 10/24/17        | M34      |
| NM 10/10/17    | J         | M7600002W 10%                       | M7600002I 5%                              | 10/24/17        | M34      |
| CK 10/25/17    | K         | M7600002W 2%                        | M7600003D 5%                              | 11/3/17         | M35      |
| CK 10/25/17    | L         | M7600002W 10%                       | M7600003D 5%                              | 11/3/17         | M35      |
|                | M         |                                     |   |                 |          |
|                | N         |                                     |   |                 |          |
|                | O         |                                     |   |                 |          |
|                | P         |                                     |   |                 |          |
|                | Q         |                                     |   |                 |          |
|                | R         |                                     |   |                 |          |
|                | S         |                                     |   |                 |          |

*Handwritten signature/initials*

OPTIMA 3/4/6 HLCCV2 (Standard is prepared every 2 weeks or as necessary)

|               | Metal  | ALS Lot #  | Conc. (ppm) | Vol. (mls) | Final Vol. (mls) | Final Conc. (ppm) |
|---------------|--------|------------|-------------|------------|------------------|-------------------|
| Cal Std 2     | AG     | M7080012M  | 100         | 2.00       | 100              | 2.00              |
|               | CR     |            | 100         |            |                  | Below             |
|               | MN     |            | 150         |            |                  | Below             |
|               | NI     |            | 400         |            |                  | 8.00              |
|               | ZN     |            | 200         |            |                  | 4.00              |
| Cal Std 3     | AL     | M7600001R  | 2000        | 2.00       |                  | Below             |
|               | BA     |            | 2000        |            |                  | 40.0              |
|               | BE     |            | 50          |            |                  | 1.00              |
|               | CO, V  |            | 500         |            |                  | 10.0              |
|               | CU     |            | 250         |            |                  | 5.00              |
|               | FE     |            | 1000        |            |                  | Below             |
| Cal Std 4     | AS, TL | M7600001I  | 100         | 4.00       |                  | 4.00              |
|               | CD, SE |            | 50          |            |                  | 2.00              |
|               | PB     |            | 50          |            |                  | Below             |
| Single Metals | B      | M7080012Z  | 1000        | 1.00       |                  | 10.0              |
|               | MO     | M7080010V  | 1000        | 1.00       |                  | 10.0              |
|               | TI     | M7080013R  | 1000        | 1.00       |                  | 10.0              |
|               | SR     | M7080014G  | 1000        | 1.00       |                  | 10.0              |
|               | CA     | M7080013D  | 10000       | 2.50       |                  | 250               |
|               | MG     | M7080013F  | 10000       | 5.00       |                  | 500               |
|               | NA     | M7080014Z  | 10000       | 1.50       |                  | 150               |
|               | CR     | M7080012P  | 1000        | 0.800      |                  | 10.0              |
|               | FE     | M7600001C  | 10000       | 0.300      |                  | 50                |
|               | AL     | M7600001GG | 10000       | 4.60       |                  | 500               |
|               | MN     | M7080011R  | 1000        | 0.700      |                  | 10.00             |
|               | PB     | M7080011S  | 1000        | 0.800      |                  | 10.0              |
|               | K      | M7080014AA | 10000       | 1.50       |                  | 150               |

| Analyst/Date | Letter ID | Nitric Acid Lot # / Concentration | Hydrochloric Acid Lot # / Concentration | Expiration Date | Pipet ID |
|--------------|-----------|-----------------------------------|---|-----------------|----------|
| OK102917     | A         | M7600002W 21.                     | M7600003D 51.                           | 11/8/17         | M35      |
| OK102917     | B         | M7600002W 101.                    | M7600003D 51.                           | 11/8/17         | M35      |
|              | C         |                                   |   |                 |          |
|              | D         |                                   |   |                 |          |
|              | E         |                                   |   |                 |          |
|              | F         |                                   |   |                 |          |
|              | G         |                                   |   |                 |          |
|              | H         |                                   |   |                 |          |
|              | I         |                                   |   |                 |          |
|              | J         |                                   |   |                 |          |
|              | K         |                                   |   |                 |          |
|              | L         |                                   |   |                 |          |
|              | M         |                                   |   |                 |          |
|              | N         |                                   |   |                 |          |
|              | O         |                                   |   |                 |          |
|              | P         |                                   |   |                 |          |
|              | Q         |                                   |   |                 |          |
|              | R         |                                   |   |                 |          |
|              | S         |                                   |   |                 |          |
|              | T         |                                   |   |                 |          |
|              | U         |                                   |   |                 |          |
|              | V         |                                   |   |                 |          |
|              | W         |                                   |   |                 |          |
|              | X         |                                   |   |                 |          |
|              | Y         |                                   |   |                 |          |
|              | Z         |                                   |   |                 |          |
|              | AA        |                                   |   |                 |          |

**OPTIMA 3/4/5/6 CALIBRATION STANDARD #5 / HLCCV1** (Standard is prepared weekly or as necessary)  
 (CALIBRATION STANDARD #3 IS A 1/100 DILUTION OF THIS STANDARD)  
 (CALIBRATION STANDARD #4 IS A 1/5 DILUTION OF THIS STANDARD)

|               | Metal | ALS Lot #  | Conc. (ppm) | Vol. (mls) | Final Vol. (mls) | Final Conc. (ppm) |
|---------------|-------|------------|-------------|------------|------------------|-------------------|
| Cal Std 2     | AG    | M7080012M  | 100         | 2.00       | 200              | 1.00              |
|               | CR    |            | 100         |            |                  | 1.00              |
|               | MN    |            | 150         |            |                  | 1.50              |
|               | NI    |            | 400         |            |                  | 4.00              |
|               | ZN    |            | 200         |            |                  | 2.00              |
|               |       |            |             |            |                  |                   |
| Cal Std 3     | AL    | M71600001B | 2000        | 2.00       |                  | 20.0              |
|               | BA    |            | 2000        |            |                  | 20.0              |
|               | BE    |            | 50          |            |                  | 0.500             |
|               | CO    |            | 500         |            |                  | 5.00              |
|               | CU    |            | 250         |            |                  | 2.50              |
|               | FE    |            | 1000        |            |                  | 10.0              |
|               | V     |            | 500         |            |                  | 5.00              |
|               |       |            |             |            |                  |                   |
| Cal Std 4     | AS    | M71600001I | 100         | 4.00       |                  | 1.00              |
|               | CD    |            | 50          |            |                  | 1.00              |
|               | PB    |            | 50          |            |                  | 1.00              |
|               | SE    |            | 50          |            |                  | 1.00              |
|               | TL    |            | 100         |            |                  | 2.00              |
| Single Metals | CA    | M7080014Y  | 10000       | 1.00       |                  | 50.0              |
|               | MG    | M71600002H | 10000       | 1.00       |                  | 50.0              |
|               | K     | M7080014AA | 10000       | 1.00       |                  | 50.0              |
|               | NA    | M7080014Z  | 10000       | 1.00       |                  | 50.0              |
|               | SB    | M71600001G | 1000        | 2.00       |                  | 10.0              |
|               | SN    | M71600002T | 1000        | 2.00       |                  | 10.0              |
|               | B     | M7080012Z  | 1000        | 1.00       |                  | 5.00              |
|               | MO    | M7080010V  | 1000        | 1.00       |                  | 5.00              |
|               | TI    | M7080013R  | 1000        | 1.00       |                  | 5.00              |
|               | SR    | M7080014G  | 1000        | 1.00       |                  | 5.00              |

| Analyst/Date | Letter ID | Nitric Acid Lot#/Concentration | Hydrochloric Acid Lot #/Concentration | Expiration Date | Pipet ID |
|--------------|-----------|--------------------------------|---------------------------------------|-----------------|----------|
| CK10/26/17   | A         | M71600002W 2%                  | M71600003D 5%                         | 11/2/17         | M35      |
| CK10/26/17   | B         | M71600002W 10%                 | M71600003D 5%                         | 11/2/17         | M35      |
| CK10/30/17   | C         | M71600002W 2%                  | M71600003D 5%                         | 11/6/17         | M35      |
| CK10/30/17   | D         | M71600002W 10%                 | M71600003D 5%                         | 11/6/17         | M35      |
|              | E         |                                |                                       |                 |          |
|              | F         |                                |                                       |                 |          |
|              | G         |                                |                                       |                 |          |
|              | H         |                                |                                       |                 |          |
|              | I         |                                |                                       |                 |          |
|              | J         |                                |                                       |                 |          |
|              | K         |                                |                                       |                 |          |
|              | L         |                                |                                       |                 |          |
|              | M         |                                |                                       |                 |          |
|              | N         |                                |                                       |                 |          |
|              | O         |                                |                                       |                 |          |
|              | P         |                                |                                       |                 |          |
|              | Q         |                                |                                       |                 |          |
|              | R         |                                |                                       |                 |          |
|              | S         |                                |                                       |                 |          |
|              | T         |                                |                                       |                 |          |
|              | U         |                                |                                       |                 |          |
|              | V         |                                |                                       |                 |          |
|              | W         |                                |                                       |                 |          |
|              | X         |                                |                                       |                 |          |
|              | Y         |                                |                                       |                 |          |
|              | Z         |                                |                                       |                 |          |
|              | AA        |                                |                                       |                 |          |
|              | BB        |                                |                                       |                 |          |

**OPTIMA 3,4,5,6 CALIBRATION STANDARD #2**  
 (Standard is prepared weekly or as necessary)

|                | Metal | ALS Lot #        | Conc. (ppm) | Vol. (mls) | Final Vol. (mls) | Final Conc. (ppm) |
|----------------|-------|------------------|-------------|------------|------------------|-------------------|
| Single Element | AL    | M7600001J        | 1000        | 0.100      | 1000             | 0.100             |
|                | AS    | M7080011X        | 1000        | 0.010      |                  | 0.010             |
|                | B     | M7080012Z        | 1000        | 0.200      |                  | 0.200             |
|                | BE    | M7080012V (1/10) | 100         | 0.030      |                  | 0.003             |
|                | CA    | M7080013D        | 10000       | 0.100      |                  | 1.00              |
|                | CD    | M708001DN (1/10) | 100         | 0.050      |                  | 0.005             |
|                | CU    | M7600001A        | 1000        | 0.020      |                  | 0.020             |
|                | K     | M7080014AA       | 10000       | 0.200      |                  | 2.00              |
|                | MG    | M7080013E        | 10000       | 0.100      |                  | 1.00              |
|                | NA    | M7080014Z        | 10000       | 0.100      |                  | 1.00              |
|                | PB    | M7080011S        | 1000        | 0.050      |                  | 0.050             |
|                | SB    | M7600001G        | 1000        | 0.060      |                  | 0.060             |
|                | SE    | M7080014F        | 1000        | 0.010      |                  | 0.010             |
|                | SN    | M7600002T        | 1000        | 0.500      |                  | 0.500             |

| Analyst/Date | Letter ID | Nitric Acid Lot# | Hydrochloric Acid Lot # | Expiration Date | Pipet ID |
|--------------|-----------|------------------|-------------------------|-----------------|----------|
| CK 10/25/17  | A         | M7600002W 2%     | M7600003D 5%            | 11/1/17         | M35/m25  |
| CK 10/25/17  | B         | M7600002W 10%    | M7600003D 5%            | 11/1/17         | M35/m25  |
|              | C         |                  |                         |                 |          |
|              | D         |                  |                         |                 |          |
|              | E         |                  |                         |                 |          |
|              | F         |                  |                         |                 |          |
|              | G         |                  |                         |                 |          |
|              | H         |                  |                         |                 |          |
|              | I         |                  |                         |                 |          |
|              | J         |                  |                         |                 |          |
|              | K         |                  |                         |                 |          |
|              | L         |                  |                         |                 |          |
|              | M         |                  |                         |                 |          |
|              | N         |                  |                         |                 |          |
|              | O         |                  |                         |                 |          |
|              | P         |                  |                         |                 |          |
|              | Q         |                  |                         |                 |          |
|              | R         |                  |                         |                 |          |
|              | S         |                  |                         |                 |          |
|              | T         |                  |                         |                 |          |
|              | U         |                  |                         |                 |          |
|              | V         |                  |                         |                 |          |
|              | W         |                  |                         |                 |          |
|              | X         |                  |                         |                 |          |
|              | Y         |                  |                         |                 |          |
|              | Z         |                  |                         |                 |          |

1/1/17

OPTIMA 3,4,5,6 CALIBRATION STANDARD #1 (Standard is prepared weekly or as necessary)

|                    | Metal      | ALS Lot #  | Conc. (ppm) | Vol. (mls) | Final Vol. (mls) | Final Conc. (ppm) |
|--------------------|------------|------------|-------------|------------|------------------|-------------------|
| Cal Std. 1<br>Int. | AL         | M76Z0001C  | 20.0        | 1.00       | 1000             | 0.020             |
|                    | AS         |            | 5.00        |            |                  | 0.0050            |
|                    | CD         |            | 1.00        |            |                  | 0.0010            |
|                    | CO         |            | 3.00        |            |                  | 0.0030            |
|                    | CR         |            | 5.00        |            |                  | 0.0050            |
|                    | PB         |            | 5.00        |            |                  | 0.0050            |
|                    | V          |            | 3.00        |            |                  | 0.0030            |
|                    | Cal Std. 1 | CA         | M708001ZEE  | 5000       | 0.100            |                   |
|                    | K          |            | 5000        |            |                  | BELOW             |
|                    | MG         |            | 5000        |            |                  | 0.500             |
|                    | NA         |            | 5000        |            |                  | 0.500             |
| Single<br>Element  | BA         | M7080014BB | 1000        | 0.020      |                  | 0.020             |
|                    | CU         | M7600001A  | 1000        | 0.010      |                  | 0.010             |
|                    | K          | M7080014AA | 10000       | 0.150      |                  | 2.00              |
|                    | MN         | M7080011K  | 1000        | 0.010      |                  | 0.010             |
|                    | MO         | M7080010V  | 1000        | 0.025      |                  | 0.025             |
|                    | SB         | M7600001G  | 1000        | 0.010      |                  | 0.010             |
|                    | TL         | M7600001N  | 1000        | 0.010      |                  | 0.010             |
|                    | ZN         | M7080009Y  | 1000        | 0.010      |                  | 0.010             |
|                    | P          | -          | 1000        | 0.100      |                  | 0.100             |

| Analyst/<br>Date | Letter<br>ID | Nitric Acid<br>Lot#/<br>Concentration | Hydrochloric<br>Acid Lot #/<br>Concentration | Expiration<br>Date | Pipet<br>ID |
|------------------|--------------|---------------------------------------|--|--------------------|-------------|
| CK/10/24/17      | A            | M7600002W 2%                          | M7600003D 5%                                 | 10/31/17           | M35/M25     |
| CK/10/24/17      | B            | M7600002W 10%                         | M7600003D 5%                                 | 10/31/17           | M35/M25     |
| NM/11/17         | C            | M7600002W 2%                          | M7600003D 5%                                 | 11/8/17            | M35/M25     |
| NM/11/17         | D            | M7600002W 10%                         | M7600003D 5%                                 | 11/8/17            | M35/M25     |
|                  | E            |                                       |  |                    |             |
|                  | F            |                                       |  |                    |             |
|                  | G            |                                       |  |                    |             |
|                  | H            |                                       |  |                    |             |
|                  | I            |                                       |  |                    |             |
|                  | J            |                                       |  |                    |             |
|                  | K            |                                       |  |                    |             |
|                  | L            |                                       |  |                    |             |
|                  | M            |                                       |  |                    |             |
|                  | N            |                                       |  |                    |             |
|                  | O            |                                       |  |                    |             |
|                  | P            |                                       |  |                    |             |
|                  | Q            |                                       |  |                    |             |
|                  | R            |                                       |  |                    |             |
|                  | S            |                                       |  |                    |             |
|                  | T            |                                       |  |                    |             |
|                  | U            |                                       |  |                    |             |
|                  | V            |                                       |  |                    |             |
|                  | W            |                                       |  |                    |             |
|                  | X            |                                       |  |                    |             |
|                  | Y            |                                       |  |                    |             |
|                  | Z            |                                       |  |                    |             |

✓ 11/10/2017

# Sample Dilutions

Analyst: NM

Date: 11/17

Instrument: ICPG

Analysis: 6010C

## Common Dilutions

| Dilution | Matrix of Diluent | 1st Dilution   |                 |                 | 2nd Dilution   |                 |                 | 3rd Dilution   |                 |                 | 4th Dilution   |                 |                 | 5th Dilution   |                 |                 |
|----------|-------------------|----------------|-----------------|-----------------|----------------|-----------------|-----------------|----------------|-----------------|-----------------|----------------|-----------------|-----------------|----------------|-----------------|-----------------|
|          |                   | mL's of Sample | mL's of Diluent | Dilution Factor | mL's of Sample | mL's of Diluent | Dilution Factor | mL's of Sample | mL's of Diluent | Dilution Factor | mL's of Sample | mL's of Diluent | Dilution Factor | mL's of Sample | mL's of Diluent | Dilution Factor |
| 1/2      | HNO3/HCL          | 3              | 3               | 1/2             |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |
| 1/3      | HNO3/HCL          | 3              | 6               | 1/3             |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |
| 1/4      | HNO3/HCL          | 2              | 6               | 1/4             |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |
| 1/5      | HNO3/HCL          | 2              | 8               | 1/5             |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |
| 1/10     | HNO3/HCL          | 1              | 9               | 1/10            |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |
| 1/20     | HNO3/HCL          | 3              | 3               | 1/2             | 1              | 9               | 1/20            |                |                 |                 |                |                 |                 |                |                 |                 |
| 1/30     | HNO3/HCL          | 3              | 6               | 1/3             | 1              | 9               | 1/30            |                |                 |                 |                |                 |                 |                |                 |                 |
| 1/40     | HNO3/HCL          | 1              | 3               | 1/4             | 1              | 9               | 1/40            |                |                 |                 |                |                 |                 |                |                 |                 |
| 1/50     | HNO3/HCL          | 1              | 4               | 1/5             | 1              | 9               | 1/50            |                |                 |                 |                |                 |                 |                |                 |                 |
| 1/100    | HNO3/HCL          | 1              | 9               | 1/100           | 1              | 9               | 1/100           |                |                 |                 |                |                 |                 |                |                 |                 |
| 1/200    | HNO3/HCL          | 3              | 3               | 1/2             | 1              | 9               | 1/200           | 1              | 9               | 1/200           |                |                 |                 |                |                 |                 |
| 1/300    | HNO3/HCL          | 3              | 6               | 1/3             | 1              | 9               | 1/300           | 1              | 9               | 1/300           |                |                 |                 |                |                 |                 |
| 1/400    | HNO3/HCL          | 1              | 3               | 1/4             | 1              | 9               | 1/400           | 1              | 9               | 1/400           |                |                 |                 |                |                 |                 |
| 1/500    | HNO3/HCL          | 1              | 4               | 1/5             | 1              | 9               | 1/500           | 1              | 9               | 1/500           |                |                 |                 |                |                 |                 |
| 1/1000   | HNO3/HCL          | 1              | 9               | 1/1000          | 1              | 9               | 1/1000          | 1              | 9               | 1/1000          |                |                 |                 |                |                 |                 |
| 1/2000   | HNO3/HCL          | 3              | 3               | 1/2             | 1              | 9               | 1/2000          | 1              | 9               | 1/2000          | 1              | 9               | 1/2000          |                |                 |                 |
| 1/3000   | HNO3/HCL          | 3              | 6               | 1/3             | 1              | 9               | 1/3000          | 1              | 9               | 1/3000          | 1              | 9               | 1/3000          |                |                 |                 |
| 1/4000   | HNO3/HCL          | 1              | 3               | 1/4             | 1              | 9               | 1/4000          | 1              | 9               | 1/4000          | 1              | 9               | 1/4000          |                |                 |                 |
| 1/10000  | HNO3/HCL          | 1              | 9               | 1/10000         | 1              | 9               | 1/10000         | 1              | 9               | 1/10000         | 1              | 9               | 1/10000         |                |                 |                 |
| 1/20000  | HNO3/HCL          | 1              | 1               | 1/2             | 1              | 9               | 1/20000         | 1              | 9               | 1/20000         | 1              | 9               | 1/20000         | 1              | 9               | 1/20000         |
| 1/40000  | HNO3/HCL          | 1              | 3               | 1/4             | 1              | 9               | 1/40000         | 1              | 9               | 1/40000         | 1              | 9               | 1/40000         | 1              | 9               | 1/40000         |
| 1/100000 | HNO3/HCL          | 1              | 9               | 1/100000        | 1              | 9               | 1/100000        | 1              | 9               | 1/100000        | 1              | 9               | 1/100000        | 1              | 9               | 1/100000        |

## Special Dilutions

| Dilution | Matrix of Diluent | 1st Dilution   |                 |                 | 2nd Dilution   |                 |                 | 3rd Dilution   |                 |                 | 4th Dilution   |                 |                 | 5th Dilution   |                 |                 |
|----------|-------------------|----------------|-----------------|-----------------|----------------|-----------------|-----------------|----------------|-----------------|-----------------|----------------|-----------------|-----------------|----------------|-----------------|-----------------|
|          |                   | mL's of Sample | mL's of Diluent | Dilution Factor | mL's of Sample | mL's of Diluent | Dilution Factor | mL's of Sample | mL's of Diluent | Dilution Factor | mL's of Sample | mL's of Diluent | Dilution Factor | mL's of Sample | mL's of Diluent | Dilution Factor |
|          |                   |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |
|          |                   |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |
|          |                   |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |
|          |                   |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |
|          |                   |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |
|          |                   |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |
|          |                   |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |
|          |                   |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |
|          |                   |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |
|          |                   |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |
|          |                   |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |
|          |                   |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |
|          |                   |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |
|          |                   |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |
|          |                   |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |
|          |                   |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |
|          |                   |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |

# Analytical Results Summary

Instrument Name: R-ICP-AES-06

Analyst: NMANSEN

Analysis Lot: 568460 Method/Testcode: 6010C/Fe T

| <u>Lab Code</u> | <u>Target Analytes</u> | <u>QC</u> | <u>Parent Sample</u> | <u>Matrix</u> | <u>Raw Result</u> | <u>Sample Amt.</u> | <u>Final Result</u> | <u>Dil</u> | <u>MDL</u> | <u>PQL</u> | <u>% Rec</u> | <u>% RSD</u> | <u>Date Analyzed</u> | <u>QC?</u> | <u>Tier</u> |
|-----------------|------------------------|-----------|----------------------|---------------|-------------------|--------------------|---------------------|------------|------------|------------|--------------|--------------|----------------------|------------|-------------|
| R1710073-009    | Iron, Total            | N/A       |                      | Water         | 5.62 ppm          | 50 mL              | 56200 µg/L          | 10         | 800        | 1000       |              |              | 11/1/17 18:10:40     | N          | IV          |
| RQ1711245-01    | Manganese, Total       | MB        |                      | Water         | 0.00 ppm          | 50 mL              | 10 µg/L U           | 1          | 5          | 10         |              |              | 11/1/17 18:17:19     | N          | IV          |
| RQ1711245-02    | Manganese, Total       | LCS       |                      | Water         | 0.49 ppm          | 50 mL              | 494 µg/L            | 1          | 5          | 10         | 99           |              | 11/1/17 18:20:38     | N          | IV          |
| R1710031-019    | Manganese, Total       | N/A       |                      | Water         | 0.00 ppm          | 50 mL              | 10 µg/L U           | 1          | 5          | 10         |              |              | 11/1/17 18:23:57     | N          | II          |

# indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

# Analytical Results Summary

Instrument Name: R-ICP-AES-06

Analyst: NMANSEN

Analysis Lot: 568461

Method/Testcode: 6010C/Mn D

| Lab Code     | Target Analytes      | QC  | Parent Sample | Matrix | Raw Result | Sample Amt. | Final Result | Dil | MDL  | PQL   | % Rec | % RSD | Date Analyzed    | QC? | Tier |
|--------------|----------------------|-----|---------------|--------|------------|-------------|--------------|-----|------|-------|-------|-------|------------------|-----|------|
| RQ1711248-01 | Manganese, Dissolved | MB  |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 5    | 10    |       |       | 11/1/17 18:30:35 | N   | II   |
| RQ1711248-01 | Manganese, Total     | MB  |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 5    | 10    |       |       | 11/1/17 18:30:35 | N   | II   |
| RQ1711248-02 | Manganese, Dissolved | LCS |               | Water  | 0.49 ppm   | 50 mL       | 495 µg/L     | 1   | 5    | 10    | 99    |       | 11/1/17 18:33:53 | N   | II   |
| RQ1711248-02 | Manganese, Total     | LCS |               | Water  | 0.49 ppm   | 50 mL       | 495 µg/L     | 1   | 5    | 10    | 99    |       | 11/1/17 18:33:53 | N   | II   |
| R1710054-001 | Manganese, Total     | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 5    | 10    |       |       | 11/1/17 18:43:49 | N   | II   |
| RQ1711248-03 | Manganese, Total     | MS  | R1710054-001  | Water  | 0.50 ppm   | 50 mL       | 500 µg/L     | 1   | 5    | 10    | 100   |       | 11/1/17 18:47:09 | N   | II   |
| RQ1711248-04 | Manganese, Total     | DMS | R1710054-001  | Water  | 0.50 ppm   | 50 mL       | 500 µg/L     | 1   | 5    | 10    | 100   | <1    | 11/1/17 18:50:28 | N   | II   |
| R1710054-002 | Manganese, Total     | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 5    | 10    |       |       | 11/1/17 19:00:27 | N   | II   |
| R1710054-004 | Manganese, Total     | N/A |               | Water  | 0.75 ppm   | 50 mL       | 755 µg/L     | 1   | 5    | 10    |       |       | 11/1/17 19:03:47 | N   | II   |
| R1710054-006 | Manganese, Total     | N/A |               | Water  | 0.30 ppm   | 50 mL       | 305 µg/L     | 1   | 5    | 10    |       |       | 11/1/17 19:07:06 | N   | II   |
| R1710054-008 | Calcium, Total       | N/A |               | Water  | 26.67 ppm  | 50 mL       | 267000 µg/L  | 10  | 4000 | 10000 |       |       | 11/1/17 19:10:25 | N   | II   |
| R1710054-008 | Manganese, Total     | N/A |               | Water  | 0.05 ppm   | 50 mL       | 49 µg/L      | 1   | 5    | 10    |       |       | 11/1/17 19:13:44 | N   | II   |
| R1710054-010 | Manganese, Total     | N/A |               | Water  | 0.10 ppm   | 50 mL       | 102 µg/L     | 1   | 5    | 10    |       |       | 11/1/17 19:23:41 | N   | II   |
| R1710054-012 | Calcium, Total       | N/A |               | Water  | 35.75 ppm  | 50 mL       | 357000 µg/L  | 10  | 4000 | 10000 |       |       | 11/1/17 19:27:00 | N   | II   |
| R1710054-012 | Manganese, Total     | N/A |               | Water  | 0.04 ppm   | 50 mL       | 39 µg/L      | 1   | 5    | 10    |       |       | 11/1/17 19:30:19 | N   | II   |
| R1710113-001 | Calcium, Total       | N/A |               | Water  | 39.19 ppm  | 50 mL       | 392000 µg/L  | 10  | 4000 | 10000 |       |       | 11/1/17 19:33:38 | N   | IV   |
| R1710113-001 | Manganese, Total     | N/A |               | Water  | 0.29 ppm   | 50 mL       | 2950 µg/L    | 10  | 50   | 100   |       |       | 11/1/17 19:33:38 | N   | IV   |
| R1710113-001 | Thallium, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 100 µg/L U   | 10  | 60   | 100   |       |       | 11/1/17 19:33:38 | N   | IV   |
| R1710113-003 | Iron, Dissolved      | N/A |               | Water  | 14.76 ppm  | 50 mL       | 1480000 µg/L | 100 | 8000 | 10000 |       |       | 11/1/17 19:40:16 | N   | IV   |
| R1710113-003 | Calcium, Dissolved   | N/A |               | Water  | 43.71 ppm  | 50 mL       | 437000 µg/L  | 10  | 4000 | 10000 |       |       | 11/1/17 19:43:35 | N   | IV   |
| R1710113-003 | Magnesium, Dissolved | N/A |               | Water  | 63.08 ppm  | 50 mL       | 631000 µg/L  | 10  | 3000 | 10000 |       |       | 11/1/17 19:43:35 | N   | IV   |
| R1710113-003 | Manganese, Dissolved | N/A |               | Water  | 2.11 ppm   | 50 mL       | 21100 µg/L   | 10  | 50   | 100   |       |       | 11/1/17 19:43:35 | N   | IV   |
| R1710113-003 | Potassium, Dissolved | N/A |               | Water  | 14.26 ppm  | 50 mL       | 143000 µg/L  | 10  | 3000 | 20000 |       |       | 11/1/17 19:43:35 | N   | IV   |
| R1710113-003 | Thallium, Dissolved  | N/A |               | Water  | -0.01 ppm  | 50 mL       | 100 µg/L U   | 10  | 60   | 100   |       |       | 11/1/17 19:43:35 | N   | IV   |
| R1710113-003 | Lead, Dissolved      | N/A |               | Water  | 0.01 ppm   | 50 mL       | 50 µg/L U    | 1   | 4    | 50    |       |       | 11/1/17 19:50:14 | N   | IV   |
| R1710113-002 | Iron, Total          | N/A |               | Water  | 12.80 ppm  | 50 mL       | 1280000 µg/L | 100 | 8000 | 10000 |       |       | 11/1/17 19:53:33 | N   | IV   |
| R1710113-002 | Calcium, Total       | N/A |               | Water  | 41.43 ppm  | 50 mL       | 414000 µg/L  | 10  | 4000 | 10000 |       |       | 11/1/17 20:03:29 | N   | IV   |
| R1710113-002 | Manganese, Total     | N/A |               | Water  | 1.84 ppm   | 50 mL       | 18400 µg/L   | 10  | 50   | 100   |       |       | 11/1/17 20:03:29 | N   | IV   |
| R1710113-002 | Potassium, Total     | N/A |               | Water  | 13.11 ppm  | 50 mL       | 131000 µg/L  | 10  | 3000 | 20000 |       |       | 11/1/17 20:03:29 | N   | IV   |
| R1710113-002 | Thallium, Total      | N/A |               | Water  | -0.01 ppm  | 50 mL       | 100 µg/L U   | 10  | 60   | 100   |       |       | 11/1/17 20:03:29 | N   | IV   |
| R1710113-002 | Selenium, Total      | N/A |               | Water  | 0.01 ppm   | 50 mL       | 20 µg/L U    | 2   | 7    | 20    |       |       | 11/1/17 20:06:48 | N   | IV   |
| R1710113-004 | Iron, Total          | N/A |               | Water  | 12.65 ppm  | 50 mL       | 1260000 µg/L | 100 | 8000 | 10000 |       |       | 11/1/17 20:13:26 | N   | IV   |
| R1710113-004 | Calcium, Total       | N/A |               | Water  | 41.50 ppm  | 50 mL       | 415000 µg/L  | 10  | 4000 | 10000 |       |       | 11/1/17 20:16:45 | N   | IV   |
| R1710113-004 | Manganese, Total     | N/A |               | Water  | 1.83 ppm   | 50 mL       | 18300 µg/L   | 10  | 50   | 100   |       |       | 11/1/17 20:16:45 | N   | IV   |
| R1710113-004 | Potassium, Total     | N/A |               | Water  | 13.26 ppm  | 50 mL       | 133000 µg/L  | 10  | 3000 | 20000 |       |       | 11/1/17 20:16:45 | N   | IV   |
| R1710113-004 | Thallium, Total      | N/A |               | Water  | -0.01 ppm  | 50 mL       | 100 µg/L U   | 10  | 60   | 100   |       |       | 11/1/17 20:16:45 | N   | IV   |

† indicates Final Result is not yet adjusted for Solids because it has not yet been determined.



# Analytical Results Summary

Instrument Name: R-ICP-AES-06

Analyst: NMANSEN

Analysis Lot: 568461 Method/Testcode: 6010C/Fe D

| Lab Code    | Target Analytes      | QC  | Parent Sample | Matrix | Raw Result | Sample Amt. | Final Result | Dil | MDL  | PQL   | % Rec | % RSD | Date Analyzed    | QC? | Tier |
|-------------|----------------------|-----|---------------|--------|------------|-------------|--------------|-----|------|-------|-------|-------|------------------|-----|------|
| 1710113-005 | Iron, Dissolved      | N/A |               | Water  | 11.95 ppm  | 50 mL       | 1190000 µg/L | 100 | 8000 | 10000 |       |       | 11/1/17 20:23:24 | N   | IV   |
| 1710113-005 | Calcium, Dissolved   | N/A |               | Water  | 43.88 ppm  | 50 mL       | 439000 µg/L  | 10  | 4000 | 10000 |       |       | 11/1/17 20:26:43 | N   | IV   |
| 1710113-005 | Manganese, Dissolved | N/A |               | Water  | 1.73 ppm   | 50 mL       | 17300 µg/L   | 10  | 50   | 100   |       |       | 11/1/17 20:26:43 | N   | IV   |
| 1710113-005 | Potassium, Dissolved | N/A |               | Water  | 13.09 ppm  | 50 mL       | 131000 µg/L  | 10  | 3000 | 20000 |       |       | 11/1/17 20:26:43 | N   | IV   |
| 1710113-005 | Thallium, Dissolved  | N/A |               | Water  | -0.02 ppm  | 50 mL       | 20 µg/L U    | 2   | 11   | 20    |       |       | 11/1/17 20:36:40 | N   | IV   |
| 1710113-005 | Selenium, Dissolved  | N/A |               | Water  | 0.02 ppm   | 50 mL       | 19 µg/L      | 1   | 4    | 10    |       |       | 11/1/17 20:40:00 | N   | IV   |
| 1710113-006 | Calcium, Total       | N/A |               | Water  | 114.48 ppm | 50 mL       | 1140000 µg/L | 10  | 4000 | 10000 |       |       | 11/1/17 20:43:19 | N   | IV   |
| 1710113-006 | Iron, Total          | N/A |               | Water  | 22.89 ppm  | 50 mL       | 229000 µg/L  | 10  | 800  | 1000  |       |       | 11/1/17 20:43:19 | N   | IV   |
| 1710113-006 | Lead, Total          | N/A |               | Water  | 2.74 ppm   | 50 mL       | 27400 µg/L   | 10  | 40   | 500   |       |       | 11/1/17 20:43:19 | N   | IV   |
| 1710113-006 | Manganese, Total     | N/A |               | Water  | 0.35 ppm   | 50 mL       | 3490 µg/L    | 10  | 50   | 100   |       |       | 11/1/17 20:43:19 | N   | IV   |
| 1710113-006 | Potassium, Total     | N/A |               | Water  | 11.77 ppm  | 50 mL       | 118000 µg/L  | 10  | 3000 | 20000 |       |       | 11/1/17 20:43:19 | N   | IV   |
| 1710113-007 | Calcium, Dissolved   | N/A |               | Water  | 91.56 ppm  | 50 mL       | 916000 µg/L  | 10  | 4000 | 10000 |       |       | 11/1/17 20:46:38 | N   | IV   |
| 1710113-007 | Iron, Dissolved      | N/A |               | Water  | 10.60 ppm  | 50 mL       | 106000 µg/L  | 10  | 800  | 1000  |       |       | 11/1/17 20:46:38 | N   | IV   |
| 1710113-007 | Lead, Dissolved      | N/A |               | Water  | 1.29 ppm   | 50 mL       | 12900 µg/L   | 10  | 40   | 500   |       |       | 11/1/17 20:46:38 | N   | IV   |
| 1710113-007 | Manganese, Dissolved | N/A |               | Water  | 0.20 ppm   | 50 mL       | 2020 µg/L    | 10  | 50   | 100   |       |       | 11/1/17 20:46:38 | N   | IV   |
| 1710113-007 | Selenium, Dissolved  | N/A |               | Water  | 0.01 ppm   | 50 mL       | 10 µg/L U    | 1   | 4    | 10    |       |       | 11/1/17 20:49:57 | N   | IV   |
| 1710200-001 | Potassium, Total     | N/A |               | Water  | 14.04 ppm  | 50 mL       | 140000 µg/L  | 10  | 3000 | 20000 |       |       | 11/1/17 20:53:16 | N   | II   |
| 1710200-001 | Sodium, Total        | N/A |               | Water  | 51.73 ppm  | 50 mL       | 517000 µg/L  | 10  | 4000 | 10000 |       |       | 11/1/17 20:53:16 | N   | II   |
| 1710200-001 | Manganese, Total     | N/A |               | Water  | 0.78 ppm   | 50 mL       | 777 µg/L     | 1   | 5    | 10    |       |       | 11/1/17 20:56:35 | N   | II   |
| 1710200-003 | Manganese, Total     | N/A |               | Water  | 0.01 ppm   | 50 mL       | 10 µg/L U    | 1   | 5    | 10    |       |       | 11/1/17 20:59:54 | N   | II   |
| 1710054-013 | Manganese, Total     | N/A |               | Water  | 0.81 ppm   | 50 mL       | 814 µg/L     | 1   | 5    | 10    |       |       | 11/1/17 21:03:13 | N   | II   |

† indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

# Analytical Results Summary

Instrument Name: R-ICP-AES-06

Analyst: NMANSEN

Analysis Lot: 568462 Method/Testcode: 6010C/A1 D

| Lab Code     | Target Analytes     | QC  | Parent Sample | Matrix | Raw Result | Sample Amt. | Final Result | Dil | MDL | PQL  | % Rec | % RSD | Date Analyzed    | QC? | Tier |
|--------------|---------------------|-----|---------------|--------|------------|-------------|--------------|-----|-----|------|-------|-------|------------------|-----|------|
| RQ1711311-05 | Aluminum, Dissolved | MB  |               | Water  | 0.01 ppm   | 50 mL       | 100 µg/L U   | 1   | 100 | 100  |       |       | 11/1/17 21:56:22 | N   | II   |
| RQ1711311-01 | Aluminum, Dissolved | MB  |               | Water  | 0.00 ppm   | 50 mL       | 100 µg/L U   | 1   | 100 | 100  |       |       | 11/1/17 21:59:41 | N   | II   |
| RQ1711311-01 | Antimony, Total     | MB  |               | Water  | 0.00 ppm   | 50 mL       | 60 µg/L U    | 1   | 8   | 60   |       |       | 11/1/17 21:59:41 | N   | II   |
| RQ1711311-01 | Arsenic, Total      | MB  |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 4   | 10   |       |       | 11/1/17 21:59:41 | N   | II   |
| RQ1711311-01 | Barium, Total       | MB  |               | Water  | 0.00 ppm   | 50 mL       | 20 µg/L U    | 1   | 13  | 20   |       |       | 11/1/17 21:59:41 | N   | II   |
| RQ1711311-01 | Beryllium, Total    | MB  |               | Water  | 0.00 ppm   | 50 mL       | 3.0 µg/L U   | 1   | 0.7 | 3.0  |       |       | 11/1/17 21:59:41 | N   | II   |
| RQ1711311-01 | Cadmium, Dissolved  | MB  |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 0.9 | 5.0  |       |       | 11/1/17 21:59:41 | N   | II   |
| RQ1711311-01 | Cadmium, Total      | MB  |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 0.9 | 5.0  |       |       | 11/1/17 21:59:41 | N   | II   |
| RQ1711311-01 | Chromium, Total     | MB  |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 3   | 10   |       |       | 11/1/17 21:59:41 | N   | II   |
| RQ1711311-01 | Copper, Total       | MB  |               | Water  | 0.00 ppm   | 50 mL       | 20 µg/L U    | 1   | 10  | 20   |       |       | 11/1/17 21:59:41 | N   | II   |
| RQ1711311-01 | Iron, Total         | MB  |               | Water  | -0.01 ppm  | 50 mL       | 100 µg/L U   | 1   | 80  | 100  |       |       | 11/1/17 21:59:41 | N   | II   |
| RQ1711311-01 | Lead, Total         | MB  |               | Water  | 0.00 ppm   | 50 mL       | 50 µg/L U    | 1   | 4   | 50   |       |       | 11/1/17 21:59:41 | N   | II   |
| RQ1711311-01 | Magnesium, Total    | MB  |               | Water  | 0.00 ppm   | 50 mL       | 1000 µg/L U  | 1   | 300 | 1000 |       |       | 11/1/17 21:59:41 | N   | II   |
| RQ1711311-01 | Nickel, Total       | MB  |               | Water  | 0.00 ppm   | 50 mL       | 40 µg/L U    | 1   | 9   | 40   |       |       | 11/1/17 21:59:41 | N   | II   |
| RQ1711311-01 | Silver, Total       | MB  |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 2   | 10   |       |       | 11/1/17 21:59:41 | N   | II   |
| RQ1711311-01 | Sodium, Total       | MB  |               | Water  | 0.01 ppm   | 50 mL       | 1000 µg/L U  | 1   | 400 | 1000 |       |       | 11/1/17 21:59:41 | N   | II   |
| RQ1711311-01 | Zinc, Total         | MB  |               | Water  | 0.00 ppm   | 50 mL       | 20 µg/L U    | 1   | 7   | 20   |       |       | 11/1/17 21:59:41 | N   | II   |
| RQ1711311-02 | Aluminum, Dissolved | LCS |               | Water  | 1.90 ppm   | 50 mL       | 1900 µg/L    | 1   | 100 | 100  | 95    |       | 11/1/17 22:03:00 | N   | II   |
| RQ1711311-02 | Antimony, Total     | LCS |               | Water  | 0.50 ppm   | 50 mL       | 503 µg/L     | 1   | 8   | 60   | 101   |       | 11/1/17 22:03:00 | N   | II   |
| RQ1711311-02 | Arsenic, Total      | LCS |               | Water  | 0.04 ppm   | 50 mL       | 40.9 µg/L    | 1   | 4   | 10   | 102   |       | 11/1/17 22:03:00 | N   | II   |
| RQ1711311-02 | Barium, Total       | LCS |               | Water  | 2.12 ppm   | 50 mL       | 2120 µg/L    | 1   | 13  | 20   | 106   |       | 11/1/17 22:03:00 | N   | II   |
| RQ1711311-02 | Beryllium, Total    | LCS |               | Water  | 0.05 ppm   | 50 mL       | 51.4 µg/L    | 1   | 0.7 | 3.0  | 103   |       | 11/1/17 22:03:00 | N   | II   |
| RQ1711311-02 | Cadmium, Dissolved  | LCS |               | Water  | 0.05 ppm   | 50 mL       | 52.4 µg/L    | 1   | 0.9 | 5.0  | 105   |       | 11/1/17 22:03:00 | N   | II   |
| RQ1711311-02 | Cadmium, Total      | LCS |               | Water  | 0.05 ppm   | 50 mL       | 52.4 µg/L    | 1   | 0.9 | 5.0  | 105   |       | 11/1/17 22:03:00 | N   | II   |
| RQ1711311-02 | Chromium, Total     | LCS |               | Water  | 0.20 ppm   | 50 mL       | 203 µg/L     | 1   | 3   | 10   | 101   |       | 11/1/17 22:03:00 | N   | II   |
| RQ1711311-02 | Copper, Total       | LCS |               | Water  | 0.25 ppm   | 50 mL       | 251 µg/L     | 1   | 10  | 20   | 100   |       | 11/1/17 22:03:00 | N   | II   |
| RQ1711311-02 | Iron, Total         | LCS |               | Water  | 0.99 ppm   | 50 mL       | 994 µg/L     | 1   | 80  | 100  | 99    |       | 11/1/17 22:03:00 | N   | II   |
| RQ1711311-02 | Lead, Total         | LCS |               | Water  | 0.52 ppm   | 50 mL       | 522 µg/L     | 1   | 4   | 50   | 104   |       | 11/1/17 22:03:00 | N   | II   |
| RQ1711311-02 | Magnesium, Total    | LCS |               | Water  | 2.03 ppm   | 50 mL       | 2030 µg/L    | 1   | 300 | 1000 | 102   |       | 11/1/17 22:03:00 | N   | II   |
| RQ1711311-02 | Nickel, Total       | LCS |               | Water  | 0.52 ppm   | 50 mL       | 522 µg/L     | 1   | 9   | 40   | 104   |       | 11/1/17 22:03:00 | N   | II   |
| RQ1711311-02 | Silver, Total       | LCS |               | Water  | 0.05 ppm   | 50 mL       | 50.5 µg/L    | 1   | 2   | 10   | 101   |       | 11/1/17 22:03:00 | N   | II   |
| RQ1711311-02 | Sodium, Total       | LCS |               | Water  | 20.11 ppm  | 50 mL       | 20100 µg/L   | 1   | 400 | 1000 | 101   |       | 11/1/17 22:03:00 | N   | II   |
| RQ1711311-02 | Zinc, Total         | LCS |               | Water  | 0.52 ppm   | 50 mL       | 516 µg/L     | 1   | 7   | 20   | 103   |       | 11/1/17 22:03:00 | N   | II   |
| R1710088-001 | Arsenic, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 4   | 10   |       |       | 11/1/17 22:06:18 | N   | II   |
| R1710088-002 | Arsenic, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 4   | 10   |       |       | 11/1/17 22:09:38 | Y   | II   |
| RQ1711311-03 | Arsenic, Total      | MS  | R1710088-002  | Water  | 0.05 ppm   | 50 mL       | 46 µg/L      | 1   | 4   | 10   | 115   |       | 11/1/17 22:19:33 | N   | II   |

U indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

# Analytical Results Summary

Instrument Name: R-ICP-AES-06

Analyst: NMANSEN

Analysis Lot: 568462 Method/Testcode: 6010C/As T

| Lab Code     | Target Analytes     | QC  | Parent Sample | Matrix | Raw Result | Sample Amt. | Final Result | Dil | MDL | PQL  | % Rec | % RSD | Date Analyzed    | QC? | Tier |
|--------------|---------------------|-----|---------------|--------|------------|-------------|--------------|-----|-----|------|-------|-------|------------------|-----|------|
| R1710088-003 | Arsenic, Total      | N/A | R1710088-002  | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 4   | 10   |       | 9     | 11/1/17 22:32:49 | N   | II   |
| R1710088-004 | Arsenic, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 4 µg/L J     | 1   | 4   | 10   |       |       | 11/1/17 22:36:08 | N   | II   |
| R1710211-001 | Iron, Total         | N/A |               | Water  | 0.79 ppm   | 50 mL       | 790 µg/L     | 1   | 80  | 100  |       |       | 11/1/17 22:39:27 | N   | II   |
| R1710211-001 | Lead, Total         | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 3.6 | 5.0  |       |       | 11/1/17 22:39:27 | N   | II   |
| R1710211-001 | Sodium, Total       | N/A |               | Water  | 17.32 ppm  | 50 mL       | 17300 µg/L   | 1   | 400 | 1000 |       |       | 11/1/17 22:39:27 | N   | II   |
| R1710211-002 | Aluminum, Dissolved | N/A |               | Water  | 0.03 ppm   | 50 mL       | 100 µg/L U   | 1   | 100 | 100  |       |       | 11/1/17 22:42:47 | N   | II   |
| R1710211-003 | Iron, Total         | N/A |               | Water  | 0.01 ppm   | 50 mL       | 100 µg/L U   | 1   | 80  | 100  |       |       | 11/1/17 22:46:05 | N   | II   |
| R1710211-003 | Lead, Total         | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 3.6 | 5.0  |       |       | 11/1/17 22:46:05 | N   | II   |
| R1710211-003 | Sodium, Total       | N/A |               | Water  | 16.88 ppm  | 50 mL       | 16900 µg/L   | 1   | 400 | 1000 |       |       | 11/1/17 22:46:05 | N   | II   |
| R1710211-004 | Aluminum, Dissolved | N/A |               | Water  | 0.03 ppm   | 50 mL       | 100 µg/L U   | 1   | 100 | 100  |       |       | 11/1/17 22:49:24 | N   | II   |
| R1710236-001 | Antimony, Total     | N/A |               | Water  | 0.00 ppm   | 50 mL       | 60 µg/L U    | 1   | 8   | 60   |       |       | 11/1/17 22:59:19 | N   | IV   |
| R1710236-001 | Barium, Total       | N/A |               | Water  | 0.02 ppm   | 50 mL       | 24 µg/L      | 1   | 13  | 20   |       |       | 11/1/17 22:59:19 | N   | IV   |
| R1710236-001 | Beryllium, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 3.0 µg/L U   | 1   | 0.7 | 3.0  |       |       | 11/1/17 22:59:19 | N   | IV   |
| R1710236-001 | Cadmium, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 0.9 | 5.0  |       |       | 11/1/17 22:59:19 | N   | IV   |
| R1710236-001 | Chromium, Total     | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 3   | 10   |       |       | 11/1/17 22:59:19 | N   | IV   |
| R1710236-001 | Copper, Total       | N/A |               | Water  | 0.00 ppm   | 50 mL       | 20 µg/L U    | 1   | 10  | 20   |       |       | 11/1/17 22:59:19 | N   | IV   |
| R1710236-001 | Iron, Total         | N/A |               | Water  | 0.29 ppm   | 50 mL       | 290 µg/L     | 1   | 80  | 100  |       |       | 11/1/17 22:59:19 | N   | IV   |
| R1710236-001 | Magnesium, Total    | N/A |               | Water  | 1.47 ppm   | 50 mL       | 1500 µg/L    | 1   | 300 | 1000 |       |       | 11/1/17 22:59:19 | N   | IV   |
| R1710236-001 | Nickel, Total       | N/A |               | Water  | -0.01 ppm  | 50 mL       | 40 µg/L U    | 1   | 9   | 40   |       |       | 11/1/17 22:59:19 | N   | IV   |
| R1710236-001 | Silver, Total       | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 2   | 10   |       |       | 11/1/17 22:59:19 | N   | IV   |
| R1710236-001 | Zinc, Total         | N/A |               | Water  | 0.00 ppm   | 50 mL       | 20 µg/L U    | 1   | 7   | 20   |       |       | 11/1/17 22:59:19 | N   | IV   |
| R1710236-002 | Cadmium, Dissolved  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 0.9 | 5.0  |       |       | 11/1/17 23:02:38 | N   | IV   |
| R1710236-003 | Antimony, Total     | N/A |               | Water  | 0.00 ppm   | 50 mL       | 60 µg/L U    | 1   | 8   | 60   |       |       | 11/1/17 23:05:56 | N   | IV   |
| R1710236-003 | Barium, Total       | N/A |               | Water  | 0.31 ppm   | 50 mL       | 314 µg/L     | 1   | 13  | 20   |       |       | 11/1/17 23:05:56 | N   | IV   |
| R1710236-003 | Beryllium, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 3.0 µg/L U   | 1   | 0.7 | 3.0  |       |       | 11/1/17 23:05:56 | N   | IV   |
| R1710236-003 | Cadmium, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 0.9 | 5.0  |       |       | 11/1/17 23:05:56 | N   | IV   |
| R1710236-003 | Chromium, Total     | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 3   | 10   |       |       | 11/1/17 23:05:56 | N   | IV   |
| R1710236-003 | Copper, Total       | N/A |               | Water  | 0.00 ppm   | 50 mL       | 20 µg/L U    | 1   | 10  | 20   |       |       | 11/1/17 23:05:56 | N   | IV   |
| R1710236-003 | Iron, Total         | N/A |               | Water  | 20.29 ppm  | 50 mL       | 20300 µg/L   | 1   | 80  | 100  |       |       | 11/1/17 23:05:56 | N   | IV   |
| R1710236-003 | Magnesium, Total    | N/A |               | Water  | 20.74 ppm  | 50 mL       | 20700 µg/L   | 1   | 300 | 1000 |       |       | 11/1/17 23:05:56 | N   | IV   |
| R1710236-003 | Nickel, Total       | N/A |               | Water  | 0.04 ppm   | 50 mL       | 42 µg/L      | 1   | 9   | 40   |       |       | 11/1/17 23:05:56 | N   | IV   |
| R1710236-003 | Silver, Total       | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 2   | 10   |       |       | 11/1/17 23:05:56 | N   | IV   |
| R1710236-003 | Zinc, Total         | N/A |               | Water  | 0.01 ppm   | 50 mL       | 20 µg/L U    | 1   | 7   | 20   |       |       | 11/1/17 23:05:56 | N   | IV   |
| R1710236-004 | Cadmium, Dissolved  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 0.9 | 5.0  |       |       | 11/1/17 23:09:15 | N   | IV   |
| R1710236-005 | Antimony, Total     | N/A |               | Water  | 0.00 ppm   | 50 mL       | 60 µg/L U    | 1   | 8   | 60   |       |       | 11/1/17 23:12:34 | N   | IV   |

† indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

# Analytical Results Summary

Instrument Name: R-ICP-AES-06

Analyst: NMANSEN

Analysis Lot: 568462 Method/Testcode: 6010C/Ba T

| Lab Code     | Target Analytes    | QC  | Parent Sample | Matrix | Raw Result | Sample Amt. | Final Result | Dil | MDL | PQL  | % Rec | % RSD | Date Analyzed    | QC? | Tier |
|--------------|--------------------|-----|---------------|--------|------------|-------------|--------------|-----|-----|------|-------|-------|------------------|-----|------|
| 21710236-005 | Barium, Total      | N/A |               | Water  | 0.06 ppm   | 50 mL       | 64 µg/L      | 1   | 13  | 20   |       |       | 11/1/17 23:12:34 | N   | IV   |
| 21710236-005 | Beryllium, Total   | N/A |               | Water  | 0.00 ppm   | 50 mL       | 3.0 µg/L U   | 1   | 0.7 | 3.0  |       |       | 11/1/17 23:12:34 | N   | IV   |
| 21710236-005 | Cadmium, Total     | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 0.9 | 5.0  |       |       | 11/1/17 23:12:34 | N   | IV   |
| 21710236-005 | Chromium, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 3   | 10   |       |       | 11/1/17 23:12:34 | N   | IV   |
| 21710236-005 | Copper, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 20 µg/L U    | 1   | 10  | 20   |       |       | 11/1/17 23:12:34 | N   | IV   |
| 21710236-005 | Iron, Total        | N/A |               | Water  | 31.37 ppm  | 50 mL       | 31400 µg/L   | 1   | 80  | 100  |       |       | 11/1/17 23:12:34 | N   | IV   |
| 21710236-005 | Magnesium, Total   | N/A |               | Water  | 9.57 ppm   | 50 mL       | 9600 µg/L    | 1   | 300 | 1000 |       |       | 11/1/17 23:12:34 | N   | IV   |
| 21710236-005 | Nickel, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 40 µg/L U    | 1   | 9   | 40   |       |       | 11/1/17 23:12:34 | N   | IV   |
| 21710236-005 | Silver, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 2   | 10   |       |       | 11/1/17 23:12:34 | N   | IV   |
| 21710236-005 | Zinc, Total        | N/A |               | Water  | 0.01 ppm   | 50 mL       | 20 µg/L U    | 1   | 7   | 20   |       |       | 11/1/17 23:12:34 | N   | IV   |
| 21710236-006 | Cadmium, Dissolved | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 0.9 | 5.0  |       |       | 11/1/17 23:15:53 | N   | IV   |
| 21710236-007 | Antimony, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 60 µg/L U    | 1   | 8   | 60   |       |       | 11/1/17 23:19:11 | N   | IV   |
| 21710236-007 | Barium, Total      | N/A |               | Water  | 0.15 ppm   | 50 mL       | 153 µg/L     | 1   | 13  | 20   |       |       | 11/1/17 23:19:11 | N   | IV   |
| 21710236-007 | Beryllium, Total   | N/A |               | Water  | 0.00 ppm   | 50 mL       | 3.0 µg/L U   | 1   | 0.7 | 3.0  |       |       | 11/1/17 23:19:11 | N   | IV   |
| 21710236-007 | Cadmium, Total     | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 0.9 | 5.0  |       |       | 11/1/17 23:19:11 | N   | IV   |
| 21710236-007 | Chromium, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 3   | 10   |       |       | 11/1/17 23:19:11 | N   | IV   |
| 21710236-007 | Copper, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 20 µg/L U    | 1   | 10  | 20   |       |       | 11/1/17 23:19:11 | N   | IV   |
| 21710236-007 | Iron, Total        | N/A |               | Water  | 17.34 ppm  | 50 mL       | 17300 µg/L   | 1   | 80  | 100  |       |       | 11/1/17 23:19:11 | N   | IV   |
| 21710236-007 | Magnesium, Total   | N/A |               | Water  | 11.37 ppm  | 50 mL       | 11400 µg/L   | 1   | 300 | 1000 |       |       | 11/1/17 23:19:11 | N   | IV   |
| 21710236-007 | Nickel, Total      | N/A |               | Water  | -0.01 ppm  | 50 mL       | 40 µg/L U    | 1   | 9   | 40   |       |       | 11/1/17 23:19:11 | N   | IV   |
| 21710236-007 | Silver, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 2   | 10   |       |       | 11/1/17 23:19:11 | N   | IV   |
| 21710236-007 | Zinc, Total        | N/A |               | Water  | 0.01 ppm   | 50 mL       | 20 µg/L U    | 1   | 7   | 20   |       |       | 11/1/17 23:19:11 | N   | IV   |
| 21710236-008 | Cadmium, Dissolved | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 0.9 | 5.0  |       |       | 11/1/17 23:22:30 | N   | IV   |
| 21710236-009 | Antimony, Total    | N/A |               | Water  | -0.01 ppm  | 50 mL       | 60 µg/L U    | 1   | 8   | 60   |       |       | 11/1/17 23:25:49 | N   | IV   |
| 21710236-009 | Barium, Total      | N/A |               | Water  | 0.01 ppm   | 50 mL       | 15 µg/L J    | 1   | 13  | 20   |       |       | 11/1/17 23:25:49 | N   | IV   |
| 21710236-009 | Beryllium, Total   | N/A |               | Water  | 0.00 ppm   | 50 mL       | 3.0 µg/L U   | 1   | 0.7 | 3.0  |       |       | 11/1/17 23:25:49 | N   | IV   |
| 21710236-009 | Cadmium, Total     | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 0.9 | 5.0  |       |       | 11/1/17 23:25:49 | N   | IV   |
| 21710236-009 | Chromium, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 3   | 10   |       |       | 11/1/17 23:25:49 | N   | IV   |
| 21710236-009 | Copper, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 20 µg/L U    | 1   | 10  | 20   |       |       | 11/1/17 23:25:49 | N   | IV   |
| 21710236-009 | Iron, Total        | N/A |               | Water  | 0.52 ppm   | 50 mL       | 520 µg/L     | 1   | 80  | 100  |       |       | 11/1/17 23:25:49 | N   | IV   |
| 21710236-009 | Magnesium, Total   | N/A |               | Water  | 13.00 ppm  | 50 mL       | 13000 µg/L   | 1   | 300 | 1000 |       |       | 11/1/17 23:25:49 | N   | IV   |
| 21710236-009 | Nickel, Total      | N/A |               | Water  | -0.01 ppm  | 50 mL       | 40 µg/L U    | 1   | 9   | 40   |       |       | 11/1/17 23:25:49 | N   | IV   |
| 21710236-009 | Silver, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 2   | 10   |       |       | 11/1/17 23:25:49 | N   | IV   |
| 21710236-009 | Zinc, Total        | N/A |               | Water  | 0.01 ppm   | 50 mL       | 20 µg/L U    | 1   | 7   | 20   |       |       | 11/1/17 23:25:49 | N   | IV   |
| 21710236-010 | Cadmium, Dissolved | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 0.9 | 5.0  |       |       | 11/1/17 23:29:08 | N   | IV   |

† indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

# Analytical Results Summary

Instrument Name: R-ICP-AES-06

Analyst: NMANSEN

Analysis Lot: 568463 Method/Testcode: 6010C/Sb T

| Lab Code     | Target Analytes | QC  | Parent Sample | Matrix | Raw Result | Sample Amt. | Final Result | Dil | MDL | PQL | % Rec | % RSD | Date Analyzed    | QC? | Tier |
|--------------|-----------------|-----|---------------|--------|------------|-------------|--------------|-----|-----|-----|-------|-------|------------------|-----|------|
| RQ1711312-01 | Antimony, Total | MB  |               | Water  | 0.00 ppm   | 50 mL       | 60 µg/L U    | 1   | 8   | 60  |       |       | 11/2/17 00:08:56 | N   | IV   |
| RQ1711312-01 | Cadmium, Total  | MB  |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 0.9 | 5.0 |       |       | 11/2/17 00:08:56 | N   | IV   |
| RQ1711312-01 | Copper, Total   | MB  |               | Water  | 0.00 ppm   | 50 mL       | 20 µg/L U    | 1   | 10  | 20  |       |       | 11/2/17 00:08:56 | N   | IV   |
| RQ1711312-01 | Iron, Total     | MB  |               | Water  | 0.00 ppm   | 50 mL       | 100 µg/L U   | 1   | 80  | 100 |       |       | 11/2/17 00:08:56 | N   | IV   |
| RQ1711312-01 | Lead, Total     | MB  |               | Water  | 0.00 ppm   | 50 mL       | 50 µg/L U    | 1   | 4   | 50  |       |       | 11/2/17 00:08:56 | N   | IV   |
| RQ1711312-01 | Selenium, Total | MB  |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 4   | 10  |       |       | 11/2/17 00:08:56 | N   | IV   |
| RQ1711312-01 | Zinc, Total     | MB  |               | Water  | 0.00 ppm   | 50 mL       | 20 µg/L U    | 1   | 7   | 20  |       |       | 11/2/17 00:08:56 | N   | IV   |
| RQ1711312-02 | Antimony, Total | LCS |               | Water  | 0.49 ppm   | 50 mL       | 493 µg/L     | 1   | 8   | 60  | 99    |       | 11/2/17 00:12:14 | N   | IV   |
| RQ1711312-02 | Cadmium, Total  | LCS |               | Water  | 0.05 ppm   | 50 mL       | 49.8 µg/L    | 1   | 0.9 | 5.0 | 100   |       | 11/2/17 00:12:14 | N   | IV   |
| RQ1711312-02 | Copper, Total   | LCS |               | Water  | 0.25 ppm   | 50 mL       | 246 µg/L     | 1   | 10  | 20  | 98    |       | 11/2/17 00:12:14 | N   | IV   |
| RQ1711312-02 | Iron, Total     | LCS |               | Water  | 0.95 ppm   | 50 mL       | 951 µg/L     | 1   | 80  | 100 | 95    |       | 11/2/17 00:12:14 | N   | IV   |
| RQ1711312-02 | Lead, Total     | LCS |               | Water  | 0.50 ppm   | 50 mL       | 505 µg/L     | 1   | 4   | 50  | 101   |       | 11/2/17 00:12:14 | N   | IV   |
| RQ1711312-02 | Selenium, Total | LCS |               | Water  | 1.02 ppm   | 50 mL       | 1020 µg/L    | 1   | 4   | 10  | 101   |       | 11/2/17 00:12:14 | N   | IV   |
| RQ1711312-02 | Zinc, Total     | LCS |               | Water  | 0.50 ppm   | 50 mL       | 496 µg/L     | 1   | 7   | 20  | 99    |       | 11/2/17 00:12:14 | N   | IV   |
| R1710078-002 | Antimony, Total | N/A |               | Water  | 0.00 ppm   | 50 mL       | 60 µg/L U    | 1   | 8   | 60  |       |       | 11/2/17 00:15:33 | Y   | IV   |
| R1710078-002 | Cadmium, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 0.9 | 5.0 |       |       | 11/2/17 00:15:33 | Y   | IV   |
| R1710078-002 | Iron, Total     | N/A |               | Water  | 0.36 ppm   | 50 mL       | 360 µg/L     | 1   | 80  | 100 |       |       | 11/2/17 00:15:33 | Y   | IV   |
| R1710078-002 | Lead, Total     | N/A |               | Water  | 0.00 ppm   | 50 mL       | 50 µg/L U    | 1   | 4   | 50  |       |       | 11/2/17 00:15:33 | Y   | IV   |
| RQ1711312-03 | Antimony, Total | MS  | R1710078-002  | Water  | 0.53 ppm   | 50 mL       | 532 µg/L     | 1   | 8   | 60  | 106   |       | 11/2/17 00:18:52 | N   | IV   |
| RQ1711312-03 | Cadmium, Total  | MS  | R1710078-002  | Water  | 0.05 ppm   | 50 mL       | 47.0 µg/L    | 1   | 0.9 | 5.0 | 94    |       | 11/2/17 00:18:52 | N   | IV   |
| RQ1711312-03 | Iron, Total     | MS  | R1710078-002  | Water  | 1.32 ppm   | 50 mL       | 1320 µg/L    | 1   | 80  | 100 | 96    |       | 11/2/17 00:18:52 | N   | IV   |
| RQ1711312-03 | Lead, Total     | MS  | R1710078-002  | Water  | 0.48 ppm   | 50 mL       | 483 µg/L     | 1   | 4   | 50  | 97    |       | 11/2/17 00:18:52 | N   | IV   |
| RQ1711312-04 | Antimony, Total | DMS | R1710078-002  | Water  | 0.52 ppm   | 50 mL       | 524 µg/L     | 1   | 8   | 60  | 105   | 2     | 11/2/17 00:22:11 | N   | IV   |
| RQ1711312-04 | Cadmium, Total  | DMS | R1710078-002  | Water  | 0.05 ppm   | 50 mL       | 46.8 µg/L    | 1   | 0.9 | 5.0 | 94    | <1    | 11/2/17 00:22:11 | N   | IV   |
| RQ1711312-04 | Iron, Total     | DMS | R1710078-002  | Water  | 1.30 ppm   | 50 mL       | 1300 µg/L    | 1   | 80  | 100 | 94    | 2     | 11/2/17 00:22:11 | N   | IV   |
| RQ1711312-04 | Lead, Total     | DMS | R1710078-002  | Water  | 0.48 ppm   | 50 mL       | 479 µg/L     | 1   | 4   | 50  | 96    | <1    | 11/2/17 00:22:11 | N   | IV   |
| R1710078-003 | Antimony, Total | N/A |               | Water  | 0.00 ppm   | 50 mL       | 60 µg/L U    | 1   | 8   | 60  |       |       | 11/2/17 00:32:08 | N   | IV   |
| R1710078-003 | Cadmium, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 0.9 | 5.0 |       |       | 11/2/17 00:32:08 | N   | IV   |
| R1710078-003 | Iron, Total     | N/A |               | Water  | 0.29 ppm   | 50 mL       | 290 µg/L     | 1   | 80  | 100 |       |       | 11/2/17 00:32:08 | N   | IV   |
| R1710078-003 | Lead, Total     | N/A |               | Water  | 0.00 ppm   | 50 mL       | 50 µg/L U    | 1   | 4   | 50  |       |       | 11/2/17 00:32:08 | N   | IV   |
| R1710078-004 | Antimony, Total | N/A |               | Water  | 0.00 ppm   | 50 mL       | 60 µg/L U    | 1   | 8   | 60  |       |       | 11/2/17 00:35:28 | N   | IV   |
| R1710078-004 | Cadmium, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 0.9 | 5.0 |       |       | 11/2/17 00:35:28 | N   | IV   |
| R1710078-004 | Iron, Total     | N/A |               | Water  | 0.28 ppm   | 50 mL       | 280 µg/L     | 1   | 80  | 100 |       |       | 11/2/17 00:35:28 | N   | IV   |
| R1710078-004 | Lead, Total     | N/A |               | Water  | 0.00 ppm   | 50 mL       | 50 µg/L U    | 1   | 4   | 50  |       |       | 11/2/17 00:35:28 | N   | IV   |
| R1710078-005 | Antimony, Total | N/A |               | Water  | 0.00 ppm   | 50 mL       | 60 µg/L U    | 1   | 8   | 60  |       |       | 11/2/17 00:38:47 | N   | IV   |
| R1710078-005 | Cadmium, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 0.9 | 5.0 |       |       | 11/2/17 00:38:47 | N   | IV   |

U indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

# Analytical Results Summary

Instrument Name: R-ICP-AES-06

Analyst: NMANSEN

Analysis Lot: 568463 Method/Testcode: 6010C/Fe T

| Lab Code     | Target Analytes | QC  | Parent Sample | Matrix | Raw Result | Sample Amt. | Final Result | Dil | MDL | PQL | % Rec | % RSD | Date Analyzed    | QC? | Tier |
|--------------|-----------------|-----|---------------|--------|------------|-------------|--------------|-----|-----|-----|-------|-------|------------------|-----|------|
| 21710078-005 | Iron, Total     | N/A |               | Water  | 0.31 ppm   | 50 mL       | 310 µg/L     | 1   | 80  | 100 |       |       | 11/2/17 00:38:47 | N   | IV   |
| 21710078-005 | Lead, Total     | N/A |               | Water  | 0.00 ppm   | 50 mL       | 50 µg/L U    | 1   | 4   | 50  |       |       | 11/2/17 00:38:47 | N   | IV   |
| 21710078-006 | Antimony, Total | N/A |               | Water  | 0.00 ppm   | 50 mL       | 60 µg/L U    | 1   | 8   | 60  |       |       | 11/2/17 00:48:43 | N   | IV   |
| 21710078-006 | Cadmium, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 0.9 | 5.0 |       |       | 11/2/17 00:48:43 | N   | IV   |
| 21710078-006 | Iron, Total     | N/A |               | Water  | 0.20 ppm   | 50 mL       | 200 µg/L     | 1   | 80  | 100 |       |       | 11/2/17 00:48:43 | N   | IV   |
| 21710078-006 | Lead, Total     | N/A |               | Water  | 0.00 ppm   | 50 mL       | 50 µg/L U    | 1   | 4   | 50  |       |       | 11/2/17 00:48:43 | N   | IV   |
| 21710078-007 | Antimony, Total | N/A |               | Water  | 0.00 ppm   | 50 mL       | 60 µg/L U    | 1   | 8   | 60  |       |       | 11/2/17 00:52:01 | N   | IV   |
| 21710078-007 | Cadmium, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 0.9 | 5.0 |       |       | 11/2/17 00:52:01 | N   | IV   |
| 21710078-007 | Iron, Total     | N/A |               | Water  | 0.29 ppm   | 50 mL       | 290 µg/L     | 1   | 80  | 100 |       |       | 11/2/17 00:52:01 | N   | IV   |
| 21710078-007 | Lead, Total     | N/A |               | Water  | 0.00 ppm   | 50 mL       | 50 µg/L U    | 1   | 4   | 50  |       |       | 11/2/17 00:52:01 | N   | IV   |
| 21710078-009 | Antimony, Total | N/A |               | Water  | 0.00 ppm   | 50 mL       | 60 µg/L U    | 1   | 8   | 60  |       |       | 11/2/17 00:55:19 | N   | IV   |
| 21710078-009 | Cadmium, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 0.9 | 5.0 |       |       | 11/2/17 00:55:19 | N   | IV   |
| 21710078-009 | Iron, Total     | N/A |               | Water  | 0.12 ppm   | 50 mL       | 120 µg/L     | 1   | 80  | 100 |       |       | 11/2/17 00:55:19 | N   | IV   |
| 21710078-009 | Lead, Total     | N/A |               | Water  | 0.00 ppm   | 50 mL       | 50 µg/L U    | 1   | 4   | 50  |       |       | 11/2/17 00:55:19 | N   | IV   |
| 21710078-010 | Antimony, Total | N/A |               | Water  | 0.00 ppm   | 50 mL       | 60 µg/L U    | 1   | 8   | 60  |       |       | 11/2/17 00:58:38 | N   | IV   |
| 21710078-010 | Cadmium, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 0.9 | 5.0 |       |       | 11/2/17 00:58:38 | N   | IV   |
| 21710078-010 | Iron, Total     | N/A |               | Water  | 0.21 ppm   | 50 mL       | 210 µg/L     | 1   | 80  | 100 |       |       | 11/2/17 00:58:38 | N   | IV   |
| 21710078-010 | Lead, Total     | N/A |               | Water  | 0.00 ppm   | 50 mL       | 50 µg/L U    | 1   | 4   | 50  |       |       | 11/2/17 00:58:38 | N   | IV   |
| 21710078-011 | Antimony, Total | N/A |               | Water  | 0.00 ppm   | 50 mL       | 60 µg/L U    | 1   | 8   | 60  |       |       | 11/2/17 01:01:56 | N   | IV   |
| 21710078-011 | Cadmium, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 0.9 | 5.0 |       |       | 11/2/17 01:01:56 | N   | IV   |
| 21710078-011 | Iron, Total     | N/A |               | Water  | 0.01 ppm   | 50 mL       | 100 µg/L U   | 1   | 80  | 100 |       |       | 11/2/17 01:01:56 | N   | IV   |
| 21710078-011 | Lead, Total     | N/A |               | Water  | 0.00 ppm   | 50 mL       | 50 µg/L U    | 1   | 4   | 50  |       |       | 11/2/17 01:01:56 | N   | IV   |
| 21710078-012 | Antimony, Total | N/A |               | Water  | 0.00 ppm   | 50 mL       | 60 µg/L U    | 1   | 8   | 60  |       |       | 11/2/17 01:05:15 | N   | IV   |
| 21710078-012 | Cadmium, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 0.9 | 5.0 |       |       | 11/2/17 01:05:15 | N   | IV   |
| 21710078-012 | Iron, Total     | N/A |               | Water  | 1.48 ppm   | 50 mL       | 1480 µg/L    | 1   | 80  | 100 |       |       | 11/2/17 01:05:15 | N   | IV   |
| 21710078-012 | Lead, Total     | N/A |               | Water  | 0.00 ppm   | 50 mL       | 50 µg/L U    | 1   | 4   | 50  |       |       | 11/2/17 01:05:15 | N   | IV   |
| 21710078-013 | Antimony, Total | N/A |               | Water  | 0.00 ppm   | 50 mL       | 60 µg/L U    | 1   | 8   | 60  |       |       | 11/2/17 01:08:34 | N   | IV   |
| 21710078-013 | Cadmium, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 0.9 | 5.0 |       |       | 11/2/17 01:08:34 | N   | IV   |
| 21710078-013 | Iron, Total     | N/A |               | Water  | 1.36 ppm   | 50 mL       | 1360 µg/L    | 1   | 80  | 100 |       |       | 11/2/17 01:08:34 | N   | IV   |
| 21710078-013 | Lead, Total     | N/A |               | Water  | 0.00 ppm   | 50 mL       | 50 µg/L U    | 1   | 4   | 50  |       |       | 11/2/17 01:08:34 | N   | IV   |
| 21710078-014 | Antimony, Total | N/A |               | Water  | 0.00 ppm   | 50 mL       | 60 µg/L U    | 1   | 8   | 60  |       |       | 11/2/17 01:11:53 | N   | IV   |
| 21710078-014 | Cadmium, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 0.9 | 5.0 |       |       | 11/2/17 01:11:53 | N   | IV   |
| 21710078-014 | Iron, Total     | N/A |               | Water  | 0.11 ppm   | 50 mL       | 110 µg/L     | 1   | 80  | 100 |       |       | 11/2/17 01:11:53 | N   | IV   |
| 21710078-014 | Lead, Total     | N/A |               | Water  | 0.00 ppm   | 50 mL       | 50 µg/L U    | 1   | 4   | 50  |       |       | 11/2/17 01:11:53 | N   | IV   |
| 21710078-015 | Antimony, Total | N/A |               | Water  | 0.00 ppm   | 50 mL       | 60 µg/L U    | 1   | 8   | 60  |       |       | 11/2/17 01:15:11 | N   | IV   |
| 21710078-015 | Cadmium, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 0.9 | 5.0 |       |       | 11/2/17 01:15:11 | N   | IV   |

† indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

# Analytical Results Summary

Instrument Name: R-ICP-AES-06

Analyst: NMANSEN

Analysis Lot: 568463 Method/Testcode: 6010C/Fe T

| Lab Code    | Target Analytes | QC  | Parent Sample | Matrix | Raw Result | Sample Amt. | Final Result | Dil | MDL  | PQL  | % Rec | % RSD | Date Analyzed    | QC? | Tier |
|-------------|-----------------|-----|---------------|--------|------------|-------------|--------------|-----|------|------|-------|-------|------------------|-----|------|
| 1710078-015 | Iron, Total     | N/A |               | Water  | 0.03 ppm   | 50 mL       | 100 µg/L U   | 1   | 80   | 100  |       |       | 11/2/17 01:15:11 | N   | IV   |
| 1710078-015 | Lead, Total     | N/A |               | Water  | 0.00 ppm   | 50 mL       | 50 µg/L U    | 1   | 4    | 50   |       |       | 11/2/17 01:15:11 | N   | IV   |
| 1710078-016 | Antimony, Total | N/A |               | Water  | 0.00 ppm   | 50 mL       | 60 µg/L U    | 1   | 8    | 60   |       |       | 11/2/17 01:18:30 | N   | IV   |
| 1710078-016 | Cadmium, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 0.9  | 5.0  |       |       | 11/2/17 01:18:30 | N   | IV   |
| 1710078-016 | Iron, Total     | N/A |               | Water  | 1.38 ppm   | 50 mL       | 1380 µg/L    | 1   | 80   | 100  |       |       | 11/2/17 01:18:30 | N   | IV   |
| 1710078-016 | Lead, Total     | N/A |               | Water  | 0.00 ppm   | 50 mL       | 50 µg/L U    | 1   | 4    | 50   |       |       | 11/2/17 01:18:30 | N   | IV   |
| 1710205-001 | Zinc, Total     | N/A |               | Water  | 1.01 ppm   | 5.0000 mL   | 202 mg/L     | 20  | 1.4  | 4.0  |       |       | 11/2/17 01:28:27 | N   | II   |
| 1710205-001 | Selenium, Total | N/A |               | Water  | 0.15 ppm   | 5.0000 mL   | 7.37 mg/L    | 5   | 0.17 | 0.50 |       |       | 11/2/17 01:31:46 | Y   | II   |
| 1710205-001 | Copper, Total   | N/A |               | Water  | 0.04 ppm   | 5.0000 mL   | 0.41 mg/L    | 1   | 0.10 | 0.20 |       |       | 11/2/17 01:35:04 | N   | II   |
| 1711312-05  | Selenium, Total | DUP | R1710205-001  | Water  | 0.15 ppm   | 5.0000 mL   | 7320 µg/L    | 5   | 170  | 500  |       | <1    | 11/2/17 01:38:22 | N   | II   |
| 1710205-002 | Zinc, Total     | N/A |               | Water  | 0.97 ppm   | 5.0000 mL   | 193 mg/L     | 20  | 1.4  | 4.0  |       |       | 11/2/17 01:41:41 | N   | II   |
| 1710205-002 | Selenium, Total | N/A |               | Water  | 0.15 ppm   | 5.0000 mL   | 7.28 mg/L    | 5   | 0.17 | 0.50 |       |       | 11/2/17 01:45:00 | Y   | II   |
| 1710205-002 | Copper, Total   | N/A |               | Water  | 0.04 ppm   | 5.0000 mL   | 0.40 mg/L    | 1   | 0.10 | 0.20 |       |       | 11/2/17 01:48:19 | N   | II   |
| 1711312-06  | Selenium, Total | DUP | R1710205-002  | Water  | 0.14 ppm   | 5.0000 mL   | 7190 µg/L    | 5   | 170  | 500  |       | 1     | 11/2/17 01:51:38 | N   | II   |

! indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

# Analytical Results Summary

Instrument Name: R-ICP-AES-06

Analyst: NMANSEN

Analysis Lot: 568464

Method/Testcode: 6010C/Al T

| Lab Code     | Target Analytes    | QC  | Parent Sample | Matrix | Raw Result | Sample Amt. | Final Result | Dil | MDL | PQL  | % Rec | % RSD | Date Analyzed    | QC? | Tier |
|--------------|--------------------|-----|---------------|--------|------------|-------------|--------------|-----|-----|------|-------|-------|------------------|-----|------|
| RQ1711238-01 | Aluminum, Total    | MB  |               | Water  | 0.00 ppm   | 50 mL       | 100 µg/L U   | 1   | 100 | 100  |       |       | 11/2/17 02:18:09 | N   | IV   |
| RQ1711238-01 | Antimony, Total    | MB  |               | Water  | 0.00 ppm   | 50 mL       | 60 µg/L U    | 1   | 8   | 60   |       |       | 11/2/17 02:18:09 | N   | IV   |
| RQ1711238-01 | Arsenic, Total     | MB  |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 4   | 10   |       |       | 11/2/17 02:18:09 | N   | IV   |
| RQ1711238-01 | Barium, Total      | MB  |               | Water  | 0.00 ppm   | 50 mL       | 20 µg/L U    | 1   | 13  | 20   |       |       | 11/2/17 02:18:09 | N   | IV   |
| RQ1711238-01 | Beryllium, Total   | MB  |               | Water  | 0.00 ppm   | 50 mL       | 3.0 µg/L U   | 1   | 0.7 | 3.0  |       |       | 11/2/17 02:18:09 | N   | IV   |
| RQ1711238-01 | Boron, Total       | MB  |               | Water  | 0.00 ppm   | 50 mL       | 200 µg/L U   | 1   | 80  | 200  |       |       | 11/2/17 02:18:09 | N   | IV   |
| RQ1711238-01 | Cadmium, Dissolved | MB  |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 0.9 | 5.0  |       |       | 11/2/17 02:18:09 | N   | IV   |
| RQ1711238-01 | Cadmium, Total     | MB  |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 0.9 | 5.0  |       |       | 11/2/17 02:18:09 | N   | IV   |
| RQ1711238-01 | Calcium, Total     | MB  |               | Water  | -0.04 ppm  | 50 mL       | 1000 µg/L U  | 1   | 400 | 1000 |       |       | 11/2/17 02:18:09 | N   | IV   |
| RQ1711238-01 | Chromium, Total    | MB  |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 3   | 10   |       |       | 11/2/17 02:18:09 | N   | IV   |
| RQ1711238-01 | Cobalt, Total      | MB  |               | Water  | 0.00 ppm   | 50 mL       | 50 µg/L U    | 1   | 3   | 50   |       |       | 11/2/17 02:18:09 | N   | IV   |
| RQ1711238-01 | Copper, Total      | MB  |               | Water  | 0.00 ppm   | 50 mL       | 20 µg/L U    | 1   | 10  | 20   |       |       | 11/2/17 02:18:09 | N   | IV   |
| RQ1711238-01 | Iron, Total        | MB  |               | Water  | 0.00 ppm   | 50 mL       | 100 µg/L U   | 1   | 80  | 100  |       |       | 11/2/17 02:18:09 | N   | IV   |
| RQ1711238-01 | Lead, Total        | MB  |               | Water  | 0.00 ppm   | 50 mL       | 50 µg/L U    | 1   | 4   | 50   |       |       | 11/2/17 02:18:09 | N   | IV   |
| RQ1711238-01 | Magnesium, Total   | MB  |               | Water  | 0.00 ppm   | 50 mL       | 1000 µg/L U  | 1   | 300 | 1000 |       |       | 11/2/17 02:18:09 | N   | IV   |
| RQ1711238-01 | Manganese, Total   | MB  |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 5   | 10   |       |       | 11/2/17 02:18:09 | N   | IV   |
| RQ1711238-01 | Molybdenum, Total  | MB  |               | Water  | 0.00 ppm   | 50 mL       | 25 µg/L U    | 1   | 4   | 25   |       |       | 11/2/17 02:18:09 | N   | IV   |
| RQ1711238-01 | Nickel, Total      | MB  |               | Water  | 0.00 ppm   | 50 mL       | 40 µg/L U    | 1   | 9   | 40   |       |       | 11/2/17 02:18:09 | N   | IV   |
| RQ1711238-01 | Potassium, Total   | MB  |               | Water  | -0.01 ppm  | 50 mL       | 2000 µg/L U  | 1   | 300 | 2000 |       |       | 11/2/17 02:18:09 | N   | IV   |
| RQ1711238-01 | Selenium, Total    | MB  |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 4   | 10   |       |       | 11/2/17 02:18:09 | N   | IV   |
| RQ1711238-01 | Silver, Total      | MB  |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 2   | 10   |       |       | 11/2/17 02:18:09 | N   | IV   |
| RQ1711238-01 | Sodium, Total      | MB  |               | Water  | 0.01 ppm   | 50 mL       | 1000 µg/L U  | 1   | 400 | 1000 |       |       | 11/2/17 02:18:09 | N   | IV   |
| RQ1711238-01 | Strontium, Total   | MB  |               | Water  | 0.00 ppm   | 50 mL       | 100 µg/L U   | 1   | 3   | 100  |       |       | 11/2/17 02:18:09 | N   | IV   |
| RQ1711238-01 | Thallium, Total    | MB  |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 6   | 10   |       |       | 11/2/17 02:18:09 | N   | IV   |
| RQ1711238-01 | Tin, Total         | MB  |               | Water  | 0.00 ppm   | 50 mL       | 500 µg/L U   | 1   | 30  | 500  |       |       | 11/2/17 02:18:09 | N   | IV   |
| RQ1711238-01 | Vanadium, Total    | MB  |               | Water  | 0.00 ppm   | 50 mL       | 50 µg/L U    | 1   | 3   | 50   |       |       | 11/2/17 02:18:09 | N   | IV   |
| RQ1711238-01 | Zinc, Total        | MB  |               | Water  | 0.00 ppm   | 50 mL       | 20 µg/L U    | 1   | 7   | 20   |       |       | 11/2/17 02:18:09 | N   | IV   |
| RQ1711238-02 | Aluminum, Total    | LCS |               | Water  | 1.82 ppm   | 50 mL       | 1820 µg/L    | 1   | 100 | 100  | 91    |       | 11/2/17 02:21:28 | N   | IV   |
| RQ1711238-02 | Antimony, Total    | LCS |               | Water  | 0.48 ppm   | 50 mL       | 477 µg/L     | 1   | 8   | 60   | 95    |       | 11/2/17 02:21:28 | N   | IV   |
| RQ1711238-02 | Arsenic, Total     | LCS |               | Water  | 0.04 ppm   | 50 mL       | 38.1 µg/L    | 1   | 4   | 10   | 95    |       | 11/2/17 02:21:28 | N   | IV   |
| RQ1711238-02 | Barium, Total      | LCS |               | Water  | 2.00 ppm   | 50 mL       | 2000 µg/L    | 1   | 13  | 20   | 100   |       | 11/2/17 02:21:28 | N   | IV   |
| RQ1711238-02 | Beryllium, Total   | LCS |               | Water  | 0.05 ppm   | 50 mL       | 48.9 µg/L    | 1   | 0.7 | 3.0  | 98    |       | 11/2/17 02:21:28 | N   | IV   |
| RQ1711238-02 | Boron, Total       | LCS |               | Water  | 0.94 ppm   | 50 mL       | 935 µg/L     | 1   | 80  | 200  | 94    |       | 11/2/17 02:21:28 | N   | IV   |
| RQ1711238-02 | Cadmium, Dissolved | LCS |               | Water  | 0.05 ppm   | 50 mL       | 49.2 µg/L    | 1   | 0.9 | 5.0  | 98    |       | 11/2/17 02:21:28 | N   | IV   |
| RQ1711238-02 | Cadmium, Total     | LCS |               | Water  | 0.05 ppm   | 50 mL       | 49.2 µg/L    | 1   | 0.9 | 5.0  | 98    |       | 11/2/17 02:21:28 | N   | IV   |
| RQ1711238-02 | Calcium, Total     | LCS |               | Water  | 1.84 ppm   | 50 mL       | 1840 µg/L    | 1   | 400 | 1000 | 92    |       | 11/2/17 02:21:28 | N   | IV   |

† indicates Final Result is not yet adjusted for Solids because it has not yet been determined.



# Analytical Results Summary

Instrument Name: R-ICP-AES-06

Analyst: NMANSEN

Analysis Lot: 568464

Method/Testcode: 6010C/Cr T

| Lab Code     | Target Analytes    | QC  | Parent Sample | Matrix | Raw Result | Sample Amt. | Final Result | Dil | MDL | PQL  | % Rec | % RSD | Date Analyzed    | QC? | Tier |
|--------------|--------------------|-----|---------------|--------|------------|-------------|--------------|-----|-----|------|-------|-------|------------------|-----|------|
| 2Q1711238-02 | Chromium, Total    | LCS |               | Water  | 0.19 ppm   | 50 mL       | 191 µg/L     | 1   | 3   | 10   | 95    |       | 11/2/17 02:21:28 | N   | IV   |
| 2Q1711238-02 | Cobalt, Total      | LCS |               | Water  | 0.50 ppm   | 50 mL       | 495 µg/L     | 1   | 3   | 50   | 99    |       | 11/2/17 02:21:28 | N   | IV   |
| 2Q1711238-02 | Copper, Total      | LCS |               | Water  | 0.24 ppm   | 50 mL       | 241 µg/L     | 1   | 10  | 20   | 97    |       | 11/2/17 02:21:28 | N   | IV   |
| 2Q1711238-02 | Iron, Total        | LCS |               | Water  | 0.93 ppm   | 50 mL       | 932 µg/L     | 1   | 80  | 100  | 93    |       | 11/2/17 02:21:28 | N   | IV   |
| 2Q1711238-02 | Lead, Total        | LCS |               | Water  | 0.50 ppm   | 50 mL       | 495 µg/L     | 1   | 4   | 50   | 99    |       | 11/2/17 02:21:28 | N   | IV   |
| 2Q1711238-02 | Magnesium, Total   | LCS |               | Water  | 1.92 ppm   | 50 mL       | 1920 µg/L    | 1   | 300 | 1000 | 96    |       | 11/2/17 02:21:28 | N   | IV   |
| 2Q1711238-02 | Manganese, Total   | LCS |               | Water  | 0.48 ppm   | 50 mL       | 481 µg/L     | 1   | 5   | 10   | 96    |       | 11/2/17 02:21:28 | N   | IV   |
| 2Q1711238-02 | Molybdenum, Total  | LCS |               | Water  | 0.46 ppm   | 50 mL       | 460 µg/L     | 1   | 4   | 25   | 92    |       | 11/2/17 02:21:28 | N   | IV   |
| 2Q1711238-02 | Nickel, Total      | LCS |               | Water  | 0.49 ppm   | 50 mL       | 495 µg/L     | 1   | 9   | 40   | 99    |       | 11/2/17 02:21:28 | N   | IV   |
| 2Q1711238-02 | Potassium, Total   | LCS |               | Water  | 19.06 ppm  | 50 mL       | 19100 µg/L   | 1   | 300 | 2000 | 95    |       | 11/2/17 02:21:28 | N   | IV   |
| 2Q1711238-02 | Selenium, Total    | LCS |               | Water  | 1.00 ppm   | 50 mL       | 1000 µg/L    | 1   | 4   | 10   | 99    |       | 11/2/17 02:21:28 | N   | IV   |
| 2Q1711238-02 | Silver, Total      | LCS |               | Water  | 0.05 ppm   | 50 mL       | 48.5 µg/L    | 1   | 2   | 10   | 97    |       | 11/2/17 02:21:28 | N   | IV   |
| 2Q1711238-02 | Sodium, Total      | LCS |               | Water  | 19.50 ppm  | 50 mL       | 19500 µg/L   | 1   | 400 | 1000 | 97    |       | 11/2/17 02:21:28 | N   | IV   |
| 2Q1711238-02 | Strontium, Total   | LCS |               | Water  | 1.96 ppm   | 50 mL       | 1960 µg/L    | 1   | 3   | 100  | 98    |       | 11/2/17 02:21:28 | N   | IV   |
| 2Q1711238-02 | Thallium, Total    | LCS |               | Water  | 1.84 ppm   | 50 mL       | 1840 µg/L    | 1   | 6   | 10   | 92    |       | 11/2/17 02:21:28 | N   | IV   |
| 2Q1711238-02 | Tin, Total         | LCS |               | Water  | 4.84 ppm   | 50 mL       | 4840 µg/L    | 1   | 30  | 500  | 97    |       | 11/2/17 02:21:28 | N   | IV   |
| 2Q1711238-02 | Vanadium, Total    | LCS |               | Water  | 0.48 ppm   | 50 mL       | 484 µg/L     | 1   | 3   | 50   | 97    |       | 11/2/17 02:21:28 | N   | IV   |
| 2Q1711238-02 | Zinc, Total        | LCS |               | Water  | 0.49 ppm   | 50 mL       | 486 µg/L     | 1   | 7   | 20   | 97    |       | 11/2/17 02:21:28 | N   | IV   |
| 21710073-023 | Antimony, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 60 µg/L      | U 1 | 8   | 60   |       |       | 11/2/17 02:24:48 | N   | IV   |
| 21710073-023 | Barium, Total      | N/A |               | Water  | 0.02 ppm   | 50 mL       | 20 µg/L      | 1   | 13  | 20   |       |       | 11/2/17 02:24:48 | N   | IV   |
| 21710073-023 | Beryllium, Total   | N/A |               | Water  | 0.00 ppm   | 50 mL       | 3.0 µg/L     | U 1 | 0.7 | 3.0  |       |       | 11/2/17 02:24:48 | N   | IV   |
| 21710073-023 | Cadmium, Total     | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L     | U 1 | 0.9 | 5.0  |       |       | 11/2/17 02:24:48 | N   | IV   |
| 21710073-023 | Chromium, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L      | U 1 | 3   | 10   |       |       | 11/2/17 02:24:48 | N   | IV   |
| 21710073-023 | Copper, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 20 µg/L      | U 1 | 10  | 20   |       |       | 11/2/17 02:24:48 | N   | IV   |
| 21710073-023 | Iron, Total        | N/A |               | Water  | 10.59 ppm  | 50 mL       | 10600 µg/L   | 1   | 80  | 100  |       |       | 11/2/17 02:24:48 | N   | IV   |
| 21710073-023 | Magnesium, Total   | N/A |               | Water  | 8.74 ppm   | 50 mL       | 8700 µg/L    | 1   | 300 | 1000 |       |       | 11/2/17 02:24:48 | N   | IV   |
| 21710073-023 | Manganese, Total   | N/A |               | Water  | 0.14 ppm   | 50 mL       | 141 µg/L     | 1   | 5   | 10   |       |       | 11/2/17 02:24:48 | N   | IV   |
| 21710073-023 | Nickel, Total      | N/A |               | Water  | -0.01 ppm  | 50 mL       | 40 µg/L      | U 1 | 9   | 40   |       |       | 11/2/17 02:24:48 | N   | IV   |
| 21710073-023 | Silver, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L      | U 1 | 2   | 10   |       |       | 11/2/17 02:24:48 | N   | IV   |
| 21710073-023 | Zinc, Total        | N/A |               | Water  | 0.00 ppm   | 50 mL       | 20 µg/L      | U 1 | 7   | 20   |       |       | 11/2/17 02:24:48 | N   | IV   |
| 21710073-024 | Cadmium, Dissolved | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L     | U 1 | 0.9 | 5.0  |       |       | 11/2/17 02:28:07 | N   | IV   |
| 21710073-028 | Antimony, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 60 µg/L      | U 1 | 8   | 60   |       |       | 11/2/17 02:31:26 | N   | IV   |
| 21710073-028 | Barium, Total      | N/A |               | Water  | 0.05 ppm   | 50 mL       | 47 µg/L      | 1   | 13  | 20   |       |       | 11/2/17 02:31:26 | N   | IV   |
| 21710073-028 | Beryllium, Total   | N/A |               | Water  | 0.00 ppm   | 50 mL       | 3.0 µg/L     | U 1 | 0.7 | 3.0  |       |       | 11/2/17 02:31:26 | N   | IV   |
| 21710073-028 | Cadmium, Total     | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L     | U 1 | 0.9 | 5.0  |       |       | 11/2/17 02:31:26 | N   | IV   |
| 21710073-028 | Chromium, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L      | U 1 | 3   | 10   |       |       | 11/2/17 02:31:26 | N   | IV   |

† indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

# Analytical Results Summary

Instrument Name: R-ICP-AES-06

Analyst: NMANSEN

Analysis Lot: 568464

Method/Testcode: 6010C/Cu T

| Lab Code    | Target Analytes    | QC  | Parent Sample | Matrix | Raw Result | Sample Amt. | Final Result | Dil | MDL   | PQL   | % Rec | % RSD | Date Analyzed    | QC? | Tier |
|-------------|--------------------|-----|---------------|--------|------------|-------------|--------------|-----|-------|-------|-------|-------|------------------|-----|------|
| 1710073-028 | Copper, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 20 µg/L U    | 1   | 10    | 20    |       |       | 11/2/17 02:31:26 | N   | IV   |
| 1710073-028 | Iron, Total        | N/A |               | Water  | 17.08 ppm  | 50 mL       | 17100 µg/L   | 1   | 80    | 100   |       |       | 11/2/17 02:31:26 | N   | IV   |
| 1710073-028 | Magnesium, Total   | N/A |               | Water  | 8.04 ppm   | 50 mL       | 8000 µg/L    | 1   | 300   | 1000  |       |       | 11/2/17 02:31:26 | N   | IV   |
| 1710073-028 | Manganese, Total   | N/A |               | Water  | 0.98 ppm   | 50 mL       | 976 µg/L     | 1   | 5     | 10    |       |       | 11/2/17 02:31:26 | N   | IV   |
| 1710073-028 | Nickel, Total      | N/A |               | Water  | -0.01 ppm  | 50 mL       | 40 µg/L U    | 1   | 9     | 40    |       |       | 11/2/17 02:31:26 | N   | IV   |
| 1710073-028 | Silver, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 2     | 10    |       |       | 11/2/17 02:31:26 | N   | IV   |
| 1710073-028 | Zinc, Total        | N/A |               | Water  | 0.01 ppm   | 50 mL       | 20 µg/L U    | 1   | 7     | 20    |       |       | 11/2/17 02:31:26 | N   | IV   |
| 1710073-029 | Cadmium, Dissolved | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 0.9   | 5.0   |       |       | 11/2/17 02:34:46 | N   | IV   |
| 1710073-030 | Antimony, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 60 µg/L U    | 1   | 8     | 60    |       |       | 11/2/17 02:38:07 | N   | IV   |
| 1710073-030 | Barium, Total      | N/A |               | Water  | 0.13 ppm   | 50 mL       | 126 µg/L     | 1   | 13    | 20    |       |       | 11/2/17 02:38:07 | N   | IV   |
| 1710073-030 | Beryllium, Total   | N/A |               | Water  | 0.00 ppm   | 50 mL       | 3.0 µg/L U   | 1   | 0.7   | 3.0   |       |       | 11/2/17 02:38:07 | N   | IV   |
| 1710073-030 | Cadmium, Total     | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 0.9   | 5.0   |       |       | 11/2/17 02:38:07 | N   | IV   |
| 1710073-030 | Chromium, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 3 µg/L J     | 1   | 3     | 10    |       |       | 11/2/17 02:38:07 | N   | IV   |
| 1710073-030 | Copper, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 20 µg/L U    | 1   | 10    | 20    |       |       | 11/2/17 02:38:07 | N   | IV   |
| 1710073-030 | Iron, Total        | N/A |               | Water  | 11.28 ppm  | 50 mL       | 11300 µg/L   | 1   | 80    | 100   |       |       | 11/2/17 02:38:07 | N   | IV   |
| 1710073-030 | Magnesium, Total   | N/A |               | Water  | 10.45 ppm  | 50 mL       | 10400 µg/L   | 1   | 300   | 1000  |       |       | 11/2/17 02:38:07 | N   | IV   |
| 1710073-030 | Manganese, Total   | N/A |               | Water  | 0.46 ppm   | 50 mL       | 461 µg/L     | 1   | 5     | 10    |       |       | 11/2/17 02:38:07 | N   | IV   |
| 1710073-030 | Nickel, Total      | N/A |               | Water  | -0.01 ppm  | 50 mL       | 40 µg/L U    | 1   | 9     | 40    |       |       | 11/2/17 02:38:07 | N   | IV   |
| 1710073-030 | Silver, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 2     | 10    |       |       | 11/2/17 02:38:07 | N   | IV   |
| 1710073-030 | Zinc, Total        | N/A |               | Water  | 0.01 ppm   | 50 mL       | 12 µg/L J    | 1   | 7     | 20    |       |       | 11/2/17 02:38:07 | N   | IV   |
| 1710073-031 | Cadmium, Dissolved | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 0.9   | 5.0   |       |       | 11/2/17 02:41:27 | N   | IV   |
| 1710073-032 | Antimony, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 60 µg/L U    | 1   | 8     | 60    |       |       | 11/2/17 02:44:48 | N   | IV   |
| 1710073-032 | Barium, Total      | N/A |               | Water  | 0.08 ppm   | 50 mL       | 79 µg/L      | 1   | 13    | 20    |       |       | 11/2/17 02:44:48 | N   | IV   |
| 1710073-032 | Beryllium, Total   | N/A |               | Water  | 0.00 ppm   | 50 mL       | 3.0 µg/L U   | 1   | 0.7   | 3.0   |       |       | 11/2/17 02:44:48 | N   | IV   |
| 1710073-032 | Cadmium, Total     | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 0.9   | 5.0   |       |       | 11/2/17 02:44:48 | N   | IV   |
| 1710073-032 | Chromium, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 3     | 10    |       |       | 11/2/17 02:44:48 | N   | IV   |
| 1710073-032 | Copper, Total      | N/A |               | Water  | 0.01 ppm   | 50 mL       | 20 µg/L U    | 1   | 10    | 20    |       |       | 11/2/17 02:44:48 | N   | IV   |
| 1710073-032 | Iron, Total        | N/A |               | Water  | 11.67 ppm  | 50 mL       | 11700 µg/L   | 1   | 80    | 100   |       |       | 11/2/17 02:44:48 | N   | IV   |
| 1710073-032 | Magnesium, Total   | N/A |               | Water  | 6.42 ppm   | 50 mL       | 6400 µg/L    | 1   | 300   | 1000  |       |       | 11/2/17 02:44:48 | N   | IV   |
| 1710073-032 | Manganese, Total   | N/A |               | Water  | 0.43 ppm   | 50 mL       | 429 µg/L     | 1   | 5     | 10    |       |       | 11/2/17 02:44:48 | N   | IV   |
| 1710073-032 | Nickel, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 40 µg/L U    | 1   | 9     | 40    |       |       | 11/2/17 02:44:48 | N   | IV   |
| 1710073-032 | Silver, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 2     | 10    |       |       | 11/2/17 02:44:48 | N   | IV   |
| 1710073-032 | Zinc, Total        | N/A |               | Water  | 0.01 ppm   | 50 mL       | 20 µg/L U    | 1   | 7     | 20    |       |       | 11/2/17 02:44:48 | N   | IV   |
| 1710073-033 | Cadmium, Dissolved | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 0.9   | 5.0   |       |       | 11/2/17 02:48:09 | N   | IV   |
| 1710163-003 | Aluminum, Total    | N/A |               | Water  | 0.03 ppm   | 50 mL       | 0.10 mg/L U  | 1   | 0.10  | 0.10  |       |       | 11/2/17 03:01:26 | N   | IV   |
| 1710163-003 | Barium, Total      | N/A |               | Water  | 0.05 ppm   | 50 mL       | 0.050 mg/L   | 1   | 0.013 | 0.020 |       |       | 11/2/17 03:01:26 | N   | IV   |

# indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

# Analytical Results Summary

Instrument Name: R-ICP-AES-06

Analyst: NMANSEN

Analysis Lot: 568464

Method/Testcode: 6010C/Be T

| Lab Code     | Target Analytes   | QC  | Parent Sample | Matrix | Raw Result | Sample Amt. | Final Result  | Dil | MDL    | PQL    | % Rec | % RSD | Date Analyzed    | QC? | Tier |
|--------------|-------------------|-----|---------------|--------|------------|-------------|---------------|-----|--------|--------|-------|-------|------------------|-----|------|
| 21710163-003 | Beryllium, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 0.0030 mg/L U | 1   | 0.0007 | 0.0030 |       |       | 11/2/17 03:01:26 | N   | IV   |
| 21710163-003 | Boron, Total      | N/A |               | Water  | 0.12 ppm   | 50 mL       | 0.12 mg/L J   | 1   | 0.08   | 0.20   |       |       | 11/2/17 03:01:26 | N   | IV   |
| 21710163-003 | Cadmium, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 0.0050 mg/L U | 1   | 0.0009 | 0.0050 |       |       | 11/2/17 03:01:26 | N   | IV   |
| 21710163-003 | Calcium, Total    | N/A |               | Water  | 64.03 ppm  | 50 mL       | 64.0 mg/L I   |     | 0.4    | 1.0    |       |       | 11/2/17 03:01:26 | N   | IV   |
| 21710163-003 | Chromium, Total   | N/A |               | Water  | 0.00 ppm   | 50 mL       | 0.010 mg/L U  | 1   | 0.003  | 0.010  |       |       | 11/2/17 03:01:26 | N   | IV   |
| 21710163-003 | Cobalt, Total     | N/A |               | Water  | 0.00 ppm   | 50 mL       | 0.050 mg/L U  | 1   | 0.003  | 0.050  |       |       | 11/2/17 03:01:26 | N   | IV   |
| 21710163-003 | Copper, Total     | N/A |               | Water  | 0.00 ppm   | 50 mL       | 0.020 mg/L U  | 1   | 0.010  | 0.020  |       |       | 11/2/17 03:01:26 | N   | IV   |
| 21710163-003 | Iron, Total       | N/A |               | Water  | 0.17 ppm   | 50 mL       | 0.17 mg/L I   |     | 0.08   | 0.10   |       |       | 11/2/17 03:01:26 | N   | IV   |
| 21710163-003 | Lead, Total       | N/A |               | Water  | 0.01 ppm   | 50 mL       | 0.013 mg/L J  | 1   | 0.004  | 0.050  |       |       | 11/2/17 03:01:26 | N   | IV   |
| 21710163-003 | Magnesium, Total  | N/A |               | Water  | 38.09 ppm  | 50 mL       | 38.1 mg/L I   |     | 0.3    | 1.0    |       |       | 11/2/17 03:01:26 | N   | IV   |
| 21710163-003 | Manganese, Total  | N/A |               | Water  | 0.01 ppm   | 50 mL       | 0.008 mg/L J  | 1   | 0.005  | 0.010  |       |       | 11/2/17 03:01:26 | N   | IV   |
| 21710163-003 | Molybdenum, Total | N/A |               | Water  | 0.01 ppm   | 50 mL       | 0.012 mg/L J  | 1   | 0.004  | 0.025  |       |       | 11/2/17 03:01:26 | N   | IV   |
| 21710163-003 | Nickel, Total     | N/A |               | Water  | -0.01 ppm  | 50 mL       | 0.040 mg/L U  | 1   | 0.009  | 0.040  |       |       | 11/2/17 03:01:26 | N   | IV   |
| 21710163-003 | Potassium, Total  | N/A |               | Water  | 5.26 ppm   | 50 mL       | 5.3 mg/L I    |     | 0.3    | 2.0    |       |       | 11/2/17 03:01:26 | N   | IV   |
| 21710163-003 | Selenium, Total   | N/A |               | Water  | 0.00 ppm   | 50 mL       | 0.010 mg/L U  | 1   | 0.004  | 0.010  |       |       | 11/2/17 03:01:26 | N   | IV   |
| 21710163-003 | Silver, Total     | N/A |               | Water  | 0.00 ppm   | 50 mL       | 0.010 mg/L U  | 1   | 0.002  | 0.010  |       |       | 11/2/17 03:01:26 | N   | IV   |
| 21710163-003 | Sodium, Total     | N/A |               | Water  | 87.14 ppm  | 50 mL       | 87.1 mg/L I   |     | 0.4    | 1.0    |       |       | 11/2/17 03:01:26 | N   | IV   |
| 21710163-003 | Strontium, Total  | N/A |               | Water  | 2.59 ppm   | 50 mL       | 2.59 mg/L I   |     | 0.003  | 0.10   |       |       | 11/2/17 03:01:26 | N   | IV   |
| 21710163-003 | Tin, Total        | N/A |               | Water  | 0.00 ppm   | 50 mL       | 0.50 mg/L U   | 1   | 0.03   | 0.50   |       |       | 11/2/17 03:01:26 | N   | IV   |
| 21710163-003 | Vanadium, Total   | N/A |               | Water  | 0.01 ppm   | 50 mL       | 0.013 mg/L J  | 1   | 0.003  | 0.050  |       |       | 11/2/17 03:01:26 | N   | IV   |
| 21710163-003 | Zinc, Total       | N/A |               | Water  | 0.09 ppm   | 50 mL       | 0.086 mg/L I  |     | 0.007  | 0.020  |       |       | 11/2/17 03:01:26 | N   | IV   |
| 21710163-010 | Aluminum, Total   | N/A |               | Water  | 0.02 ppm   | 50 mL       | 0.10 mg/L U   | 1   | 0.10   | 0.10   |       |       | 11/2/17 03:04:46 | N   | IV   |
| 21710163-010 | Barium, Total     | N/A |               | Water  | 0.02 ppm   | 50 mL       | 0.018 mg/L J  | 1   | 0.013  | 0.020  |       |       | 11/2/17 03:04:46 | N   | IV   |
| 21710163-010 | Beryllium, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 0.0030 mg/L U | 1   | 0.0007 | 0.0030 |       |       | 11/2/17 03:04:46 | N   | IV   |
| 21710163-010 | Boron, Total      | N/A |               | Water  | 0.15 ppm   | 50 mL       | 0.15 mg/L J   | 1   | 0.08   | 0.20   |       |       | 11/2/17 03:04:46 | N   | IV   |
| 21710163-010 | Cadmium, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 0.0050 mg/L U | 1   | 0.0009 | 0.0050 |       |       | 11/2/17 03:04:46 | N   | IV   |
| 21710163-010 | Calcium, Total    | N/A |               | Water  | 59.80 ppm  | 50 mL       | 59.8 mg/L I   |     | 0.4    | 1.0    |       |       | 11/2/17 03:04:46 | N   | IV   |
| 21710163-010 | Chromium, Total   | N/A |               | Water  | 0.00 ppm   | 50 mL       | 0.010 mg/L U  | 1   | 0.003  | 0.010  |       |       | 11/2/17 03:04:46 | N   | IV   |
| 21710163-010 | Cobalt, Total     | N/A |               | Water  | 0.00 ppm   | 50 mL       | 0.050 mg/L U  | 1   | 0.003  | 0.050  |       |       | 11/2/17 03:04:46 | N   | IV   |
| 21710163-010 | Copper, Total     | N/A |               | Water  | 0.00 ppm   | 50 mL       | 0.020 mg/L U  | 1   | 0.010  | 0.020  |       |       | 11/2/17 03:04:46 | N   | IV   |
| 21710163-010 | Iron, Total       | N/A |               | Water  | 0.17 ppm   | 50 mL       | 0.17 mg/L I   |     | 0.08   | 0.10   |       |       | 11/2/17 03:04:46 | N   | IV   |
| 21710163-010 | Lead, Total       | N/A |               | Water  | 0.00 ppm   | 50 mL       | 0.050 mg/L U  | 1   | 0.004  | 0.050  |       |       | 11/2/17 03:04:46 | N   | IV   |
| 21710163-010 | Magnesium, Total  | N/A |               | Water  | 35.81 ppm  | 50 mL       | 35.8 mg/L I   |     | 0.3    | 1.0    |       |       | 11/2/17 03:04:46 | N   | IV   |
| 21710163-010 | Manganese, Total  | N/A |               | Water  | 0.01 ppm   | 50 mL       | 0.008 mg/L J  | 1   | 0.005  | 0.010  |       |       | 11/2/17 03:04:46 | N   | IV   |
| 21710163-010 | Molybdenum, Total | N/A |               | Water  | 0.01 ppm   | 50 mL       | 0.014 mg/L J  | 1   | 0.004  | 0.025  |       |       | 11/2/17 03:04:46 | N   | IV   |
| 21710163-010 | Nickel, Total     | N/A |               | Water  | -0.01 ppm  | 50 mL       | 0.040 mg/L U  | 1   | 0.009  | 0.040  |       |       | 11/2/17 03:04:46 | N   | IV   |

† indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

# Analytical Results Summary

Instrument Name: R-ICP-AES-06

Analyst: NMANSEN

Analysis Lot: 568464 Method/Testcode: 6010C/K T

| Lab Code     | Target Analytes  | QC  | Parent Sample | Matrix | Raw Result | Sample Amt. | Final Result | Dil | MDL   | PQL   | % Rec | % RSD | Date Analyzed    | QC? | Tier |
|--------------|------------------|-----|---------------|--------|------------|-------------|--------------|-----|-------|-------|-------|-------|------------------|-----|------|
| 21710163-010 | Potassium, Total | N/A |               | Water  | 3.87 ppm   | 50 mL       | 3.9 mg/L     | 1   | 0.3   | 2.0   |       |       | 11/2/17 03:04:46 | N   | IV   |
| 21710163-010 | Selenium, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 0.010 mg/L   | U 1 | 0.004 | 0.010 |       |       | 11/2/17 03:04:46 | N   | IV   |
| 21710163-010 | Silver, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 0.010 mg/L   | U 1 | 0.002 | 0.010 |       |       | 11/2/17 03:04:46 | N   | IV   |
| 21710163-010 | Sodium, Total    | N/A |               | Water  | 80.50 ppm  | 50 mL       | 80.5 mg/L    | 1   | 0.4   | 1.0   |       |       | 11/2/17 03:04:46 | N   | IV   |
| 21710163-010 | Strontium, Total | N/A |               | Water  | 1.87 ppm   | 50 mL       | 1.87 mg/L    | 1   | 0.003 | 0.10  |       |       | 11/2/17 03:04:46 | N   | IV   |
| 21710163-010 | Tin, Total       | N/A |               | Water  | 0.00 ppm   | 50 mL       | 0.50 mg/L    | U 1 | 0.03  | 0.50  |       |       | 11/2/17 03:04:46 | N   | IV   |
| 21710163-010 | Vanadium, Total  | N/A |               | Water  | 0.01 ppm   | 50 mL       | 0.015 mg/L   | J 1 | 0.003 | 0.050 |       |       | 11/2/17 03:04:46 | N   | IV   |
| 21710163-010 | Zinc, Total      | N/A |               | Water  | 0.03 ppm   | 50 mL       | 0.027 mg/L   | 1   | 0.007 | 0.020 |       |       | 11/2/17 03:04:46 | N   | IV   |
| 21710194-001 | Aluminum, Total  | N/A |               | Water  | 0.05 ppm   | 50 mL       | 100 µg/L     | U 1 | 100   | 100   |       |       | 11/2/17 03:08:07 | N   | IV   |
| 21710194-001 | Antimony, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 60 µg/L      | U 1 | 8     | 60    |       |       | 11/2/17 03:08:07 | N   | IV   |
| 21710194-001 | Arsenic, Total   | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L      | U 1 | 4     | 10    |       |       | 11/2/17 03:08:07 | N   | IV   |
| 21710194-001 | Barium, Total    | N/A |               | Water  | 0.17 ppm   | 50 mL       | 170 µg/L     | 1   | 13    | 20    |       |       | 11/2/17 03:08:07 | N   | IV   |
| 21710194-001 | Beryllium, Total | N/A |               | Water  | 0.00 ppm   | 50 mL       | 3.0 µg/L     | U 1 | 0.7   | 3.0   |       |       | 11/2/17 03:08:07 | N   | IV   |
| 21710194-001 | Boron, Total     | N/A |               | Water  | 0.12 ppm   | 50 mL       | 120 µg/L     | J 1 | 80    | 200   |       |       | 11/2/17 03:08:07 | N   | IV   |
| 21710194-001 | Cadmium, Total   | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L     | U 1 | 0.9   | 5.0   |       |       | 11/2/17 03:08:07 | N   | IV   |
| 21710194-001 | Calcium, Total   | N/A |               | Water  | 102.75 ppm | 50 mL       | 103000 µg/L  | 1   | 400   | 1000  |       |       | 11/2/17 03:08:07 | N   | IV   |
| 21710194-001 | Chromium, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L      | U 1 | 3     | 10    |       |       | 11/2/17 03:08:07 | N   | IV   |
| 21710194-001 | Cobalt, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 50 µg/L      | U 1 | 3     | 50    |       |       | 11/2/17 03:08:07 | N   | IV   |
| 21710194-001 | Copper, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 20 µg/L      | U 1 | 10    | 20    |       |       | 11/2/17 03:08:07 | N   | IV   |
| 21710194-001 | Iron, Total      | N/A |               | Water  | 41.34 ppm  | 50 mL       | 41300 µg/L   | 1   | 80    | 100   |       |       | 11/2/17 03:08:07 | N   | IV   |
| 21710194-001 | Lead, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L     | U 1 | 3.6   | 5.0   |       |       | 11/2/17 03:08:07 | N   | IV   |
| 21710194-001 | Magnesium, Total | N/A |               | Water  | 12.94 ppm  | 50 mL       | 12900 µg/L   | 1   | 300   | 1000  |       |       | 11/2/17 03:08:07 | N   | IV   |
| 21710194-001 | Manganese, Total | N/A |               | Water  | 0.86 ppm   | 50 mL       | 857 µg/L     | 1   | 5     | 10    |       |       | 11/2/17 03:08:07 | N   | IV   |
| 21710194-001 | Nickel, Total    | N/A |               | Water  | -0.01 ppm  | 50 mL       | 40 µg/L      | U 1 | 9     | 40    |       |       | 11/2/17 03:08:07 | N   | IV   |
| 21710194-001 | Potassium, Total | N/A |               | Water  | 4.07 ppm   | 50 mL       | 4100 µg/L    | 1   | 300   | 2000  |       |       | 11/2/17 03:08:07 | N   | IV   |
| 21710194-001 | Selenium, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L      | U 1 | 4     | 10    |       |       | 11/2/17 03:08:07 | N   | IV   |
| 21710194-001 | Silver, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L      | U 1 | 2     | 10    |       |       | 11/2/17 03:08:07 | N   | IV   |
| 21710194-001 | Sodium, Total    | N/A |               | Water  | 2.82 ppm   | 50 mL       | 2800 µg/L    | 1   | 400   | 1000  |       |       | 11/2/17 03:08:07 | N   | IV   |
| 21710194-001 | Thallium, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L      | U 1 | 6     | 10    |       |       | 11/2/17 03:08:07 | N   | IV   |
| 21710194-001 | Vanadium, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 4 µg/L       | J 1 | 3     | 50    |       |       | 11/2/17 03:08:07 | N   | IV   |
| 21710194-001 | Zinc, Total      | N/A |               | Water  | 0.01 ppm   | 50 mL       | 8 µg/L       | J 1 | 7     | 20    |       |       | 11/2/17 03:08:07 | N   | IV   |
| 21710194-002 | Aluminum, Total  | N/A |               | Water  | 0.07 ppm   | 50 mL       | 100 µg/L     | U 1 | 100   | 100   |       |       | 11/2/17 03:11:26 | Y   | IV   |
| 21710194-002 | Antimony, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 60 µg/L      | U 1 | 8     | 60    |       |       | 11/2/17 03:11:26 | Y   | IV   |
| 21710194-002 | Arsenic, Total   | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L      | U 1 | 4     | 10    |       |       | 11/2/17 03:11:26 | Y   | IV   |
| 21710194-002 | Barium, Total    | N/A |               | Water  | 0.06 ppm   | 50 mL       | 63 µg/L      | 1   | 13    | 20    |       |       | 11/2/17 03:11:26 | Y   | IV   |
| 21710194-002 | Beryllium, Total | N/A |               | Water  | 0.00 ppm   | 50 mL       | 3.0 µg/L     | U 1 | 0.7   | 3.0   |       |       | 11/2/17 03:11:26 | Y   | IV   |

† indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

# Analytical Results Summary

Instrument Name: R-ICP-AES-06

Analyst: NMANSEN

Analysis Lot: 568464

Method/Testcode: 6010C/B T

| Lab Code     | Target Analytes  | QC  | Parent Sample | Matrix | Raw Result | Sample Amt. | Final Result | Dil | MDL | PQL  | % Rec | % RSD | Date Analyzed    | QC? | Tier |
|--------------|------------------|-----|---------------|--------|------------|-------------|--------------|-----|-----|------|-------|-------|------------------|-----|------|
| R1710194-002 | Boron, Total     | N/A |               | Water  | 0.03 ppm   | 50 mL       | 200 µg/L U   | 1   | 80  | 200  |       |       | 11/2/17 03:11:26 | Y   | IV   |
| R1710194-002 | Cadmium, Total   | N/A |               | Water  | 0.00 ppm   | 50 mL       | 0.9 µg/L J   | 1   | 0.9 | 5.0  |       |       | 11/2/17 03:11:26 | Y   | IV   |
| R1710194-002 | Calcium, Total   | N/A |               | Water  | 107.72 ppm | 50 mL       | 108000 µg/L  | 1   | 400 | 1000 |       |       | 11/2/17 03:11:26 | Y   | IV   |
| R1710194-002 | Chromium, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 3   | 10   |       |       | 11/2/17 03:11:26 | Y   | IV   |
| R1710194-002 | Cobalt, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 4 µg/L J     | 1   | 3   | 50   |       |       | 11/2/17 03:11:26 | Y   | IV   |
| R1710194-002 | Copper, Total    | N/A |               | Water  | 0.04 ppm   | 50 mL       | 43 µg/L      | 1   | 10  | 20   |       |       | 11/2/17 03:11:26 | Y   | IV   |
| R1710194-002 | Iron, Total      | N/A |               | Water  | 3.48 ppm   | 50 mL       | 3480 µg/L    | 1   | 80  | 100  |       |       | 11/2/17 03:11:26 | Y   | IV   |
| R1710194-002 | Lead, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 3.6 | 5.0  |       |       | 11/2/17 03:11:26 | Y   | IV   |
| R1710194-002 | Magnesium, Total | N/A |               | Water  | 7.58 ppm   | 50 mL       | 7600 µg/L    | 1   | 300 | 1000 |       |       | 11/2/17 03:11:26 | Y   | IV   |
| R1710194-002 | Manganese, Total | N/A |               | Water  | 0.16 ppm   | 50 mL       | 161 µg/L     | 1   | 5   | 10   |       |       | 11/2/17 03:11:26 | Y   | IV   |
| R1710194-002 | Nickel, Total    | N/A |               | Water  | 0.02 ppm   | 50 mL       | 17 µg/L J    | 1   | 9   | 40   |       |       | 11/2/17 03:11:26 | Y   | IV   |
| R1710194-002 | Potassium, Total | N/A |               | Water  | 3.43 ppm   | 50 mL       | 3400 µg/L    | 1   | 300 | 2000 |       |       | 11/2/17 03:11:26 | Y   | IV   |
| R1710194-002 | Selenium, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 4   | 10   |       |       | 11/2/17 03:11:26 | Y   | IV   |
| R1710194-002 | Silver, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 2   | 10   |       |       | 11/2/17 03:11:26 | Y   | IV   |
| R1710194-002 | Sodium, Total    | N/A |               | Water  | 0.58 ppm   | 50 mL       | 600 µg/L J   | 1   | 400 | 1000 |       |       | 11/2/17 03:11:26 | Y   | IV   |
| R1710194-002 | Thallium, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 6   | 10   |       |       | 11/2/17 03:11:26 | Y   | IV   |
| R1710194-002 | Vanadium, Total  | N/A |               | Water  | 0.01 ppm   | 50 mL       | 10 µg/L J    | 1   | 3   | 50   |       |       | 11/2/17 03:11:26 | Y   | IV   |
| R1710194-002 | Zinc, Total      | N/A |               | Water  | 0.50 ppm   | 50 mL       | 496 µg/L     | 1   | 7   | 20   |       |       | 11/2/17 03:11:26 | Y   | IV   |
| RQ1711238-03 | Aluminum, Total  | MS  | R1710194-002  | Water  | 2.02 ppm   | 50 mL       | 2020 µg/L    | 1   | 100 | 100  | 101   |       | 11/2/17 03:14:46 | N   | IV   |
| RQ1711238-03 | Antimony, Total  | MS  | R1710194-002  | Water  | 0.50 ppm   | 50 mL       | 503 µg/L     | 1   | 8   | 60   | 101   |       | 11/2/17 03:14:46 | N   | IV   |
| RQ1711238-03 | Arsenic, Total   | MS  | R1710194-002  | Water  | 0.04 ppm   | 50 mL       | 43 µg/L      | 1   | 4   | 10   | 108   |       | 11/2/17 03:14:46 | N   | IV   |
| RQ1711238-03 | Barium, Total    | MS  | R1710194-002  | Water  | 2.07 ppm   | 50 mL       | 2070 µg/L    | 1   | 13  | 20   | 101   |       | 11/2/17 03:14:46 | N   | IV   |
| RQ1711238-03 | Beryllium, Total | MS  | R1710194-002  | Water  | 0.05 ppm   | 50 mL       | 50.2 µg/L    | 1   | 0.7 | 3.0  | 100   |       | 11/2/17 03:14:46 | N   | IV   |
| RQ1711238-03 | Boron, Total     | MS  | R1710194-002  | Water  | 1.02 ppm   | 50 mL       | 1020 µg/L    | 1   | 80  | 200  | 102   |       | 11/2/17 03:14:46 | N   | IV   |
| RQ1711238-03 | Cadmium, Total   | MS  | R1710194-002  | Water  | 0.05 ppm   | 50 mL       | 49.6 µg/L    | 1   | 0.9 | 5.0  | 97    |       | 11/2/17 03:14:46 | N   | IV   |
| RQ1711238-03 | Calcium, Total   | MS  | R1710194-002  | Water  | 113.81 ppm | 50 mL       | 114000 µg/L  | 1   | 400 | 1000 | 304*  |       | 11/2/17 03:14:46 | N   | IV   |
| RQ1711238-03 | Chromium, Total  | MS  | R1710194-002  | Water  | 0.19 ppm   | 50 mL       | 193 µg/L     | 1   | 3   | 10   | 96    |       | 11/2/17 03:14:46 | N   | IV   |
| RQ1711238-03 | Cobalt, Total    | MS  | R1710194-002  | Water  | 0.50 ppm   | 50 mL       | 502 µg/L     | 1   | 3   | 50   | 100   |       | 11/2/17 03:14:46 | N   | IV   |
| RQ1711238-03 | Copper, Total    | MS  | R1710194-002  | Water  | 0.29 ppm   | 50 mL       | 294 µg/L     | 1   | 10  | 20   | 101   |       | 11/2/17 03:14:46 | N   | IV   |
| RQ1711238-03 | Iron, Total      | MS  | R1710194-002  | Water  | 4.51 ppm   | 50 mL       | 4510 µg/L    | 1   | 80  | 100  | 103   |       | 11/2/17 03:14:46 | N   | IV   |
| RQ1711238-03 | Lead, Total      | MS  | R1710194-002  | Water  | 0.50 ppm   | 50 mL       | 499 µg/L     | 1   | 4   | 50   | 100   |       | 11/2/17 03:14:46 | N   | IV   |
| RQ1711238-03 | Magnesium, Total | MS  | R1710194-002  | Water  | 9.70 ppm   | 50 mL       | 9700 µg/L    | 1   | 300 | 1000 | 106   |       | 11/2/17 03:14:46 | N   | IV   |
| RQ1711238-03 | Manganese, Total | MS  | R1710194-002  | Water  | 0.65 ppm   | 50 mL       | 650 µg/L     | 1   | 5   | 10   | 98    |       | 11/2/17 03:14:46 | N   | IV   |
| RQ1711238-03 | Nickel, Total    | MS  | R1710194-002  | Water  | 0.51 ppm   | 50 mL       | 510 µg/L     | 1   | 9   | 40   | 99    |       | 11/2/17 03:14:46 | N   | IV   |
| RQ1711238-03 | Potassium, Total | MS  | R1710194-002  | Water  | 24.11 ppm  | 50 mL       | 24100 µg/L   | 1   | 300 | 2000 | 103   |       | 11/2/17 03:14:46 | N   | IV   |
| RQ1711238-03 | Selenium, Total  | MS  | R1710194-002  | Water  | 1.05 ppm   | 50 mL       | 1050 µg/L    | 1   | 4   | 10   | 104   |       | 11/2/17 03:14:46 | N   | IV   |

*SP-100 low*

\* indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

# Analytical Results Summary

Instrument Name: R-ICP-AES-06

Analyst: NMANSEN

Analysis Lot: 568464

Method/Testcode: 6010C/Ag T

| Lab Code     | Target Analytes  | QC  | Parent Sample | Matrix | Raw Result | Sample Amt. | Final Result | Dil | MDL | PQL  | % Rec | % RSD | Date Analyzed    | QC? | Tier |
|--------------|------------------|-----|---------------|--------|------------|-------------|--------------|-----|-----|------|-------|-------|------------------|-----|------|
| RQ1711238-03 | Silver, Total    | MS  | R1710194-002  | Water  | 0.05 ppm   | 50 mL       | 50 µg/L      | 1   | 2   | 10   | 101   |       | 11/2/17 03:14:46 | N   | IV   |
| RQ1711238-03 | Sodium, Total    | MS  | R1710194-002  | Water  | 21.53 ppm  | 50 mL       | 21500 µg/L   | 1   | 400 | 1000 | 105   |       | 11/2/17 03:14:46 | N   | IV   |
| RQ1711238-03 | Thallium, Total  | MS  | R1710194-002  | Water  | 1.96 ppm   | 50 mL       | 1960 µg/L    | 1   | 6   | 10   | 98    |       | 11/2/17 03:14:46 | N   | IV   |
| RQ1711238-03 | Vanadium, Total  | MS  | R1710194-002  | Water  | 0.51 ppm   | 50 mL       | 508 µg/L     | 1   | 3   | 50   | 100   |       | 11/2/17 03:14:46 | N   | IV   |
| RQ1711238-03 | Zinc, Total      | MS  | R1710194-002  | Water  | 1.00 ppm   | 50 mL       | 1000 µg/L    | 1   | 7   | 20   | 101   |       | 11/2/17 03:14:46 | N   | IV   |
| RQ1711238-04 | Aluminum, Total  | DMS | R1710194-002  | Water  | 1.99 ppm   | 50 mL       | 1990 µg/L    | 1   | 100 | 100  | 100   | 1     | 11/2/17 03:18:06 | N   | IV   |
| RQ1711238-04 | Antimony, Total  | DMS | R1710194-002  | Water  | 0.50 ppm   | 50 mL       | 496 µg/L     | 1   | 8   | 60   | 99    | 1     | 11/2/17 03:18:06 | N   | IV   |
| RQ1711238-04 | Arsenic, Total   | DMS | R1710194-002  | Water  | 0.04 ppm   | 50 mL       | 45 µg/L      | 1   | 4   | 10   | 112   | 3     | 11/2/17 03:18:06 | N   | IV   |
| RQ1711238-04 | Barium, Total    | DMS | R1710194-002  | Water  | 2.05 ppm   | 50 mL       | 2050 µg/L    | 1   | 13  | 20   | 99    | 1     | 11/2/17 03:18:06 | N   | IV   |
| RQ1711238-04 | Beryllium, Total | DMS | R1710194-002  | Water  | 0.05 ppm   | 50 mL       | 49.5 µg/L    | 1   | 0.7 | 3.0  | 99    | 1     | 11/2/17 03:18:06 | N   | IV   |
| RQ1711238-04 | Boron, Total     | DMS | R1710194-002  | Water  | 1.00 ppm   | 50 mL       | 1000 µg/L    | 1   | 80  | 200  | 100   | 1     | 11/2/17 03:18:06 | N   | IV   |
| RQ1711238-04 | Cadmium, Total   | DMS | R1710194-002  | Water  | 0.05 ppm   | 50 mL       | 49.1 µg/L    | 1   | 0.9 | 5.0  | 96    | 1     | 11/2/17 03:18:06 | N   | IV   |
| RQ1711238-04 | Calcium, Total   | DMS | R1710194-002  | Water  | 110.92 ppm | 50 mL       | 111000 µg/L  | 1   | 400 | 1000 | 160*  | 3     | 11/2/17 03:18:06 | N   | IV   |
| RQ1711238-04 | Chromium, Total  | DMS | R1710194-002  | Water  | 0.19 ppm   | 50 mL       | 190 µg/L     | 1   | 3   | 10   | 95    | 1     | 11/2/17 03:18:06 | N   | IV   |
| RQ1711238-04 | Cobalt, Total    | DMS | R1710194-002  | Water  | 0.49 ppm   | 50 mL       | 494 µg/L     | 1   | 3   | 50   | 98    | 2     | 11/2/17 03:18:06 | N   | IV   |
| RQ1711238-04 | Copper, Total    | DMS | R1710194-002  | Water  | 0.29 ppm   | 50 mL       | 290 µg/L     | 1   | 10  | 20   | 99    | 1     | 11/2/17 03:18:06 | N   | IV   |
| RQ1711238-04 | Iron, Total      | DMS | R1710194-002  | Water  | 4.40 ppm   | 50 mL       | 4400 µg/L    | 1   | 80  | 100  | 92    | 2     | 11/2/17 03:18:06 | N   | IV   |
| RQ1711238-04 | Lead, Total      | DMS | R1710194-002  | Water  | 0.49 ppm   | 50 mL       | 494 µg/L     | 1   | 4   | 50   | 99    | 1     | 11/2/17 03:18:06 | N   | IV   |
| RQ1711238-04 | Magnesium, Total | DMS | R1710194-002  | Water  | 9.47 ppm   | 50 mL       | 9500 µg/L    | 1   | 300 | 1000 | 95    | 2     | 11/2/17 03:18:06 | N   | IV   |
| RQ1711238-04 | Manganese, Total | DMS | R1710194-002  | Water  | 0.64 ppm   | 50 mL       | 639 µg/L     | 1   | 5   | 10   | 96    | 2     | 11/2/17 03:18:06 | N   | IV   |
| RQ1711238-04 | Nickel, Total    | DMS | R1710194-002  | Water  | 0.50 ppm   | 50 mL       | 503 µg/L     | 1   | 9   | 40   | 97    | 1     | 11/2/17 03:18:06 | N   | IV   |
| RQ1711238-04 | Potassium, Total | DMS | R1710194-002  | Water  | 23.79 ppm  | 50 mL       | 23800 µg/L   | 1   | 300 | 2000 | 102   | 1     | 11/2/17 03:18:06 | N   | IV   |
| RQ1711238-04 | Selenium, Total  | DMS | R1710194-002  | Water  | 1.04 ppm   | 50 mL       | 1040 µg/L    | 1   | 4   | 10   | 103   | 1     | 11/2/17 03:18:06 | N   | IV   |
| RQ1711238-04 | Silver, Total    | DMS | R1710194-002  | Water  | 0.05 ppm   | 50 mL       | 50 µg/L      | 1   | 2   | 10   | 100   | <1    | 11/2/17 03:18:06 | N   | IV   |
| RQ1711238-04 | Sodium, Total    | DMS | R1710194-002  | Water  | 21.19 ppm  | 50 mL       | 21200 µg/L   | 1   | 400 | 1000 | 103   | 2     | 11/2/17 03:18:06 | N   | IV   |
| RQ1711238-04 | Thallium, Total  | DMS | R1710194-002  | Water  | 1.93 ppm   | 50 mL       | 1930 µg/L    | 1   | 6   | 10   | 97    | 2     | 11/2/17 03:18:06 | N   | IV   |
| RQ1711238-04 | Vanadium, Total  | DMS | R1710194-002  | Water  | 0.50 ppm   | 50 mL       | 501 µg/L     | 1   | 3   | 50   | 98    | 1     | 11/2/17 03:18:06 | N   | IV   |
| RQ1711238-04 | Zinc, Total      | DMS | R1710194-002  | Water  | 0.98 ppm   | 50 mL       | 982 µg/L     | 1   | 7   | 20   | 97    | 2     | 11/2/17 03:18:06 | N   | IV   |
| R1710194-003 | Aluminum, Total  | N/A |               | Water  | 0.15 ppm   | 50 mL       | 150 µg/L     | 1   | 100 | 100  |       |       | 11/2/17 03:28:08 | N   | IV   |
| R1710194-003 | Antimony, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 60 µg/L U    | 1   | 8   | 60   |       |       | 11/2/17 03:28:08 | N   | IV   |
| R1710194-003 | Arsenic, Total   | N/A |               | Water  | 0.01 ppm   | 50 mL       | 7 µg/L J     | 1   | 4   | 10   |       |       | 11/2/17 03:28:08 | N   | IV   |
| R1710194-003 | Barium, Total    | N/A |               | Water  | 0.05 ppm   | 50 mL       | 47 µg/L      | 1   | 13  | 20   |       |       | 11/2/17 03:28:08 | N   | IV   |
| R1710194-003 | Beryllium, Total | N/A |               | Water  | 0.00 ppm   | 50 mL       | 3.0 µg/L U   | 1   | 0.7 | 3.0  |       |       | 11/2/17 03:28:08 | N   | IV   |
| R1710194-003 | Boron, Total     | N/A |               | Water  | 0.05 ppm   | 50 mL       | 200 µg/L U   | 1   | 80  | 200  |       |       | 11/2/17 03:28:08 | N   | IV   |
| R1710194-003 | Cadmium, Total   | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 0.9 | 5.0  |       |       | 11/2/17 03:28:08 | N   | IV   |
| R1710194-003 | Calcium, Total   | N/A |               | Water  | 53.56 ppm  | 50 mL       | 53600 µg/L   | 1   | 400 | 1000 |       |       | 11/2/17 03:28:08 | N   | IV   |

\* indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

# Analytical Results Summary

Instrument Name: R-ICP-AES-06

Analyst: NMANSEN

Analysis Lot: 568464 Method/Testcode: 6010C/Cr T

| Lab Code    | Target Analytes  | QC  | Parent Sample | Matrix | Raw Result | Sample Amt. | Final Result | Dil | MDL | PQL  | % Rec | % RSD | Date Analyzed    | QC? | Tier |
|-------------|------------------|-----|---------------|--------|------------|-------------|--------------|-----|-----|------|-------|-------|------------------|-----|------|
| 1710194-003 | Chromium, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 3   | 10   |       |       | 11/2/17 03:28:08 | N   | IV   |
| 1710194-003 | Cobalt, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 50 µg/L U    | 1   | 3   | 50   |       |       | 11/2/17 03:28:08 | N   | IV   |
| 1710194-003 | Copper, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 20 µg/L U    | 1   | 10  | 20   |       |       | 11/2/17 03:28:08 | N   | IV   |
| 1710194-003 | Lead, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 3.6 | 5.0  |       |       | 11/2/17 03:28:08 | N   | IV   |
| 1710194-003 | Magnesium, Total | N/A |               | Water  | 9.82 ppm   | 50 mL       | 9800 µg/L    | 1   | 300 | 1000 |       |       | 11/2/17 03:28:08 | N   | IV   |
| 1710194-003 | Manganese, Total | N/A |               | Water  | 2.03 ppm   | 50 mL       | 2030 µg/L    | 1   | 5   | 10   |       |       | 11/2/17 03:28:08 | N   | IV   |
| 1710194-003 | Nickel, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 40 µg/L U    | 1   | 9   | 40   |       |       | 11/2/17 03:28:08 | N   | IV   |
| 1710194-003 | Potassium, Total | N/A |               | Water  | 2.62 ppm   | 50 mL       | 2600 µg/L    | 1   | 300 | 2000 |       |       | 11/2/17 03:28:08 | N   | IV   |
| 1710194-003 | Selenium, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 4   | 10   |       |       | 11/2/17 03:28:08 | N   | IV   |
| 1710194-003 | Silver, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 2   | 10   |       |       | 11/2/17 03:28:08 | N   | IV   |
| 1710194-003 | Sodium, Total    | N/A |               | Water  | 1.32 ppm   | 50 mL       | 1300 µg/L    | 1   | 400 | 1000 |       |       | 11/2/17 03:28:08 | N   | IV   |
| 1710194-003 | Thallium, Total  | N/A |               | Water  | -0.01 ppm  | 50 mL       | 10 µg/L U    | 1   | 6   | 10   |       |       | 11/2/17 03:28:08 | N   | IV   |
| 1710194-003 | Vanadium, Total  | N/A |               | Water  | 0.01 ppm   | 50 mL       | 6 µg/L J     | 1   | 3   | 50   |       |       | 11/2/17 03:28:08 | N   | IV   |
| 1710194-003 | Zinc, Total      | N/A |               | Water  | 0.01 ppm   | 50 mL       | 10 µg/L J    | 1   | 7   | 20   |       |       | 11/2/17 03:28:08 | N   | IV   |
| 1710194-004 | Aluminum, Total  | N/A |               | Water  | 0.03 ppm   | 50 mL       | 100 µg/L U   | 1   | 100 | 100  |       |       | 11/2/17 03:38:06 | N   | IV   |
| 1710194-004 | Antimony, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 60 µg/L U    | 1   | 8   | 60   |       |       | 11/2/17 03:38:06 | N   | IV   |
| 1710194-004 | Arsenic, Total   | N/A |               | Water  | 0.02 ppm   | 50 mL       | 19 µg/L      | 1   | 4   | 10   |       |       | 11/2/17 03:38:06 | N   | IV   |
| 1710194-004 | Barium, Total    | N/A |               | Water  | 0.12 ppm   | 50 mL       | 118 µg/L     | 1   | 13  | 20   |       |       | 11/2/17 03:38:06 | N   | IV   |
| 1710194-004 | Beryllium, Total | N/A |               | Water  | 0.00 ppm   | 50 mL       | 3.0 µg/L U   | 1   | 0.7 | 3.0  |       |       | 11/2/17 03:38:06 | N   | IV   |
| 1710194-004 | Boron, Total     | N/A |               | Water  | 0.10 ppm   | 50 mL       | 100 µg/L J   | 1   | 80  | 200  |       |       | 11/2/17 03:38:06 | N   | IV   |
| 1710194-004 | Cadmium, Total   | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 0.9 | 5.0  |       |       | 11/2/17 03:38:06 | N   | IV   |
| 1710194-004 | Calcium, Total   | N/A |               | Water  | 97.32 ppm  | 50 mL       | 97300 µg/L   | 1   | 400 | 1000 |       |       | 11/2/17 03:38:06 | N   | IV   |
| 1710194-004 | Chromium, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 3   | 10   |       |       | 11/2/17 03:38:06 | N   | IV   |
| 1710194-004 | Cobalt, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 50 µg/L U    | 1   | 3   | 50   |       |       | 11/2/17 03:38:06 | N   | IV   |
| 1710194-004 | Copper, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 20 µg/L U    | 1   | 10  | 20   |       |       | 11/2/17 03:38:06 | N   | IV   |
| 1710194-004 | Iron, Total      | N/A |               | Water  | 16.01 ppm  | 50 mL       | 16000 µg/L   | 1   | 80  | 100  |       |       | 11/2/17 03:38:06 | N   | IV   |
| 1710194-004 | Lead, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 3.6 | 5.0  |       |       | 11/2/17 03:38:06 | N   | IV   |
| 1710194-004 | Magnesium, Total | N/A |               | Water  | 11.78 ppm  | 50 mL       | 11800 µg/L   | 1   | 300 | 1000 |       |       | 11/2/17 03:38:06 | N   | IV   |
| 1710194-004 | Manganese, Total | N/A |               | Water  | 0.74 ppm   | 50 mL       | 743 µg/L     | 1   | 5   | 10   |       |       | 11/2/17 03:38:06 | N   | IV   |
| 1710194-004 | Nickel, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 40 µg/L U    | 1   | 9   | 40   |       |       | 11/2/17 03:38:06 | N   | IV   |
| 1710194-004 | Potassium, Total | N/A |               | Water  | 16.23 ppm  | 50 mL       | 16200 µg/L   | 1   | 300 | 2000 |       |       | 11/2/17 03:38:06 | N   | IV   |
| 1710194-004 | Selenium, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 4   | 10   |       |       | 11/2/17 03:38:06 | N   | IV   |
| 1710194-004 | Silver, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 2   | 10   |       |       | 11/2/17 03:38:06 | N   | IV   |
| 1710194-004 | Sodium, Total    | N/A |               | Water  | 5.21 ppm   | 50 mL       | 5200 µg/L    | 1   | 400 | 1000 |       |       | 11/2/17 03:38:06 | N   | IV   |
| 1710194-004 | Thallium, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 6   | 10   |       |       | 11/2/17 03:38:06 | N   | IV   |
| 1710194-004 | Vanadium, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 50 µg/L U    | 1   | 3   | 50   |       |       | 11/2/17 03:38:06 | N   | IV   |

† indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

# Analytical Results Summary

Instrument Name: R-ICP-AES-06

Analyst: NMANSEN

Analysis Lot: 568464

Method/Testcode: 6010C/Zn T

| Lab Code    | Target Analytes  | QC  | Parent Sample | Matrix | Raw Result | Sample Amt. | Final Result | Dil | MDL | PQL  | % Rec | % RSD | Date Analyzed    | QC? | Tier |
|-------------|------------------|-----|---------------|--------|------------|-------------|--------------|-----|-----|------|-------|-------|------------------|-----|------|
| 1710194-004 | Zinc, Total      | N/A |               | Water  | 0.02 ppm   | 50 mL       | 18 µg/L J    | 1   | 7   | 20   |       |       | 11/2/17 03:38:06 | N   | IV   |
| 1710194-005 | Aluminum, Total  | N/A |               | Water  | 0.15 ppm   | 50 mL       | 150 µg/L     | 1   | 100 | 100  |       |       | 11/2/17 03:41:27 | N   | IV   |
| 1710194-005 | Antimony, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 60 µg/L U    | 1   | 8   | 60   |       |       | 11/2/17 03:41:27 | N   | IV   |
| 1710194-005 | Arsenic, Total   | N/A |               | Water  | 0.01 ppm   | 50 mL       | 7 µg/L J     | 1   | 4   | 10   |       |       | 11/2/17 03:41:27 | N   | IV   |
| 1710194-005 | Barium, Total    | N/A |               | Water  | 0.05 ppm   | 50 mL       | 47 µg/L      | 1   | 13  | 20   |       |       | 11/2/17 03:41:27 | N   | IV   |
| 1710194-005 | Beryllium, Total | N/A |               | Water  | 0.00 ppm   | 50 mL       | 3.0 µg/L U   | 1   | 0.7 | 3.0  |       |       | 11/2/17 03:41:27 | N   | IV   |
| 1710194-005 | Boron, Total     | N/A |               | Water  | 0.05 ppm   | 50 mL       | 200 µg/L U   | 1   | 80  | 200  |       |       | 11/2/17 03:41:27 | N   | IV   |
| 1710194-005 | Cadmium, Total   | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 0.9 | 5.0  |       |       | 11/2/17 03:41:27 | N   | IV   |
| 1710194-005 | Calcium, Total   | N/A |               | Water  | 54.11 ppm  | 50 mL       | 54100 µg/L   | 1   | 400 | 1000 |       |       | 11/2/17 03:41:27 | N   | IV   |
| 1710194-005 | Chromium, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 3   | 10   |       |       | 11/2/17 03:41:27 | N   | IV   |
| 1710194-005 | Cobalt, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 50 µg/L U    | 1   | 3   | 50   |       |       | 11/2/17 03:41:27 | N   | IV   |
| 1710194-005 | Copper, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 20 µg/L U    | 1   | 10  | 20   |       |       | 11/2/17 03:41:27 | N   | IV   |
| 1710194-005 | Lead, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 3.6 | 5.0  |       |       | 11/2/17 03:41:27 | N   | IV   |
| 1710194-005 | Magnesium, Total | N/A |               | Water  | 9.91 ppm   | 50 mL       | 9900 µg/L    | 1   | 300 | 1000 |       |       | 11/2/17 03:41:27 | N   | IV   |
| 1710194-005 | Manganese, Total | N/A |               | Water  | 2.05 ppm   | 50 mL       | 2050 µg/L    | 1   | 5   | 10   |       |       | 11/2/17 03:41:27 | N   | IV   |
| 1710194-005 | Nickel, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 40 µg/L U    | 1   | 9   | 40   |       |       | 11/2/17 03:41:27 | N   | IV   |
| 1710194-005 | Potassium, Total | N/A |               | Water  | 2.67 ppm   | 50 mL       | 2700 µg/L    | 1   | 300 | 2000 |       |       | 11/2/17 03:41:27 | N   | IV   |
| 1710194-005 | Selenium, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 4   | 10   |       |       | 11/2/17 03:41:27 | N   | IV   |
| 1710194-005 | Silver, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 2   | 10   |       |       | 11/2/17 03:41:27 | N   | IV   |
| 1710194-005 | Sodium, Total    | N/A |               | Water  | 1.33 ppm   | 50 mL       | 1300 µg/L    | 1   | 400 | 1000 |       |       | 11/2/17 03:41:27 | N   | IV   |
| 1710194-005 | Thallium, Total  | N/A |               | Water  | -0.01 ppm  | 50 mL       | 10 µg/L U    | 1   | 6   | 10   |       |       | 11/2/17 03:41:27 | N   | IV   |
| 1710194-005 | Vanadium, Total  | N/A |               | Water  | 0.01 ppm   | 50 mL       | 6 µg/L J     | 1   | 3   | 50   |       |       | 11/2/17 03:41:27 | N   | IV   |
| 1710194-005 | Zinc, Total      | N/A |               | Water  | 0.01 ppm   | 50 mL       | 8 µg/L J     | 1   | 7   | 20   |       |       | 11/2/17 03:41:27 | N   | IV   |
| 1710194-007 | Aluminum, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 100 µg/L U   | 1   | 100 | 100  |       |       | 11/2/17 03:44:47 | N   | IV   |
| 1710194-007 | Antimony, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 60 µg/L U    | 1   | 8   | 60   |       |       | 11/2/17 03:44:47 | N   | IV   |
| 1710194-007 | Arsenic, Total   | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 4   | 10   |       |       | 11/2/17 03:44:47 | N   | IV   |
| 1710194-007 | Barium, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 20 µg/L U    | 1   | 13  | 20   |       |       | 11/2/17 03:44:47 | N   | IV   |
| 1710194-007 | Beryllium, Total | N/A |               | Water  | 0.00 ppm   | 50 mL       | 3.0 µg/L U   | 1   | 0.7 | 3.0  |       |       | 11/2/17 03:44:47 | N   | IV   |
| 1710194-007 | Boron, Total     | N/A |               | Water  | 0.00 ppm   | 50 mL       | 200 µg/L U   | 1   | 80  | 200  |       |       | 11/2/17 03:44:47 | N   | IV   |
| 1710194-007 | Cadmium, Total   | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 0.9 | 5.0  |       |       | 11/2/17 03:44:47 | N   | IV   |
| 1710194-007 | Calcium, Total   | N/A |               | Water  | -0.02 ppm  | 50 mL       | 1000 µg/L U  | 1   | 400 | 1000 |       |       | 11/2/17 03:44:47 | N   | IV   |
| 1710194-007 | Chromium, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U    | 1   | 3   | 10   |       |       | 11/2/17 03:44:47 | N   | IV   |
| 1710194-007 | Cobalt, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 50 µg/L U    | 1   | 3   | 50   |       |       | 11/2/17 03:44:47 | N   | IV   |
| 1710194-007 | Copper, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 20 µg/L U    | 1   | 10  | 20   |       |       | 11/2/17 03:44:47 | N   | IV   |
| 1710194-007 | Iron, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 100 µg/L U   | 1   | 80  | 100  |       |       | 11/2/17 03:44:47 | N   | IV   |
| 1710194-007 | Lead, Total      | N/A |               | Water  | 0.00 ppm   | 50 mL       | 5.0 µg/L U   | 1   | 3.6 | 5.0  |       |       | 11/2/17 03:44:47 | N   | IV   |

† indicates Final Result is not yet adjusted for Solids because it has not yet been determined.



# Analytical Results Summary

Instrument Name: R-ICP-AES-06

Analyst: NMANSEN

Analysis Lot: 568464

Method/Testcode: 6010C/Mg T

| Lab Code    | Target Analytes   | QC  | Parent Sample | Matrix | Raw Result | Sample Amt. | Final Result  | Dil | MDL    | PQL    | % Rec | % RSD | Date Analyzed    | QC? | Tier |
|-------------|-------------------|-----|---------------|--------|------------|-------------|---------------|-----|--------|--------|-------|-------|------------------|-----|------|
| 1710194-007 | Magnesium, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 1000 µg/L U   | 1   | 300    | 1000   |       |       | 11/2/17 03:44:47 | N   | IV   |
| 1710194-007 | Manganese, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U     | 1   | 5      | 10     |       |       | 11/2/17 03:44:47 | N   | IV   |
| 1710194-007 | Nickel, Total     | N/A |               | Water  | 0.00 ppm   | 50 mL       | 40 µg/L U     | 1   | 9      | 40     |       |       | 11/2/17 03:44:47 | N   | IV   |
| 1710194-007 | Potassium, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 2000 µg/L U   | 1   | 300    | 2000   |       |       | 11/2/17 03:44:47 | N   | IV   |
| 1710194-007 | Selenium, Total   | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U     | 1   | 4      | 10     |       |       | 11/2/17 03:44:47 | N   | IV   |
| 1710194-007 | Silver, Total     | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U     | 1   | 2      | 10     |       |       | 11/2/17 03:44:47 | N   | IV   |
| 1710194-007 | Sodium, Total     | N/A |               | Water  | 0.04 ppm   | 50 mL       | 1000 µg/L U   | 1   | 400    | 1000   |       |       | 11/2/17 03:44:47 | N   | IV   |
| 1710194-007 | Thallium, Total   | N/A |               | Water  | 0.00 ppm   | 50 mL       | 10 µg/L U     | 1   | 6      | 10     |       |       | 11/2/17 03:44:47 | N   | IV   |
| 1710194-007 | Vanadium, Total   | N/A |               | Water  | 0.00 ppm   | 50 mL       | 50 µg/L U     | 1   | 3      | 50     |       |       | 11/2/17 03:44:47 | N   | IV   |
| 1710194-007 | Zinc, Total       | N/A |               | Water  | 0.00 ppm   | 50 mL       | 20 µg/L U     | 1   | 7      | 20     |       |       | 11/2/17 03:44:47 | N   | IV   |
| 1710208-003 | Aluminum, Total   | N/A |               | Water  | 0.02 ppm   | 50 mL       | 0.10 mg/L U   | 1   | 0.10   | 0.10   |       |       | 11/2/17 03:48:07 | N   | IV   |
| 1710208-003 | Barium, Total     | N/A |               | Water  | 0.02 ppm   | 50 mL       | 0.025 mg/L    | 1   | 0.013  | 0.020  |       |       | 11/2/17 03:48:07 | N   | IV   |
| 1710208-003 | Beryllium, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 0.0030 mg/L U | 1   | 0.0007 | 0.0030 |       |       | 11/2/17 03:48:07 | N   | IV   |
| 1710208-003 | Boron, Total      | N/A |               | Water  | 0.15 ppm   | 50 mL       | 0.15 mg/L J   | 1   | 0.08   | 0.20   |       |       | 11/2/17 03:48:07 | N   | IV   |
| 1710208-003 | Cadmium, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 0.0050 mg/L U | 1   | 0.0009 | 0.0050 |       |       | 11/2/17 03:48:07 | N   | IV   |
| 1710208-003 | Calcium, Total    | N/A |               | Water  | 18.06 ppm  | 50 mL       | 18.1 mg/L     | 1   | 0.4    | 1.0    |       |       | 11/2/17 03:48:07 | N   | IV   |
| 1710208-003 | Chromium, Total   | N/A |               | Water  | 0.00 ppm   | 50 mL       | 0.010 mg/L U  | 1   | 0.003  | 0.010  |       |       | 11/2/17 03:48:07 | N   | IV   |
| 1710208-003 | Cobalt, Total     | N/A |               | Water  | 0.00 ppm   | 50 mL       | 0.050 mg/L U  | 1   | 0.003  | 0.050  |       |       | 11/2/17 03:48:07 | N   | IV   |
| 1710208-003 | Copper, Total     | N/A |               | Water  | 0.00 ppm   | 50 mL       | 0.020 mg/L U  | 1   | 0.010  | 0.020  |       |       | 11/2/17 03:48:07 | N   | IV   |
| 1710208-003 | Iron, Total       | N/A |               | Water  | 0.00 ppm   | 50 mL       | 0.10 mg/L U   | 1   | 0.08   | 0.10   |       |       | 11/2/17 03:48:07 | N   | IV   |
| 1710208-003 | Lead, Total       | N/A |               | Water  | 0.00 ppm   | 50 mL       | 0.050 mg/L U  | 1   | 0.004  | 0.050  |       |       | 11/2/17 03:48:07 | N   | IV   |
| 1710208-003 | Magnesium, Total  | N/A |               | Water  | 28.80 ppm  | 50 mL       | 28.8 mg/L     | 1   | 0.3    | 1.0    |       |       | 11/2/17 03:48:07 | N   | IV   |
| 1710208-003 | Manganese, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 0.010 mg/L U  | 1   | 0.005  | 0.010  |       |       | 11/2/17 03:48:07 | N   | IV   |
| 1710208-003 | Molybdenum, Total | N/A |               | Water  | 0.01 ppm   | 50 mL       | 0.006 mg/L J  | 1   | 0.004  | 0.025  |       |       | 11/2/17 03:48:07 | N   | IV   |
| 1710208-003 | Nickel, Total     | N/A |               | Water  | -0.01 ppm  | 50 mL       | 0.040 mg/L U  | 1   | 0.009  | 0.040  |       |       | 11/2/17 03:48:07 | N   | IV   |
| 1710208-003 | Potassium, Total  | N/A |               | Water  | 4.41 ppm   | 50 mL       | 4.4 mg/L      | 1   | 0.3    | 2.0    |       |       | 11/2/17 03:48:07 | N   | IV   |
| 1710208-003 | Selenium, Total   | N/A |               | Water  | 0.00 ppm   | 50 mL       | 0.010 mg/L U  | 1   | 0.004  | 0.010  |       |       | 11/2/17 03:48:07 | N   | IV   |
| 1710208-003 | Silver, Total     | N/A |               | Water  | 0.00 ppm   | 50 mL       | 0.010 mg/L U  | 1   | 0.002  | 0.010  |       |       | 11/2/17 03:48:07 | N   | IV   |
| 1710208-003 | Sodium, Total     | N/A |               | Water  | 33.85 ppm  | 50 mL       | 33.9 mg/L     | 1   | 0.4    | 1.0    |       |       | 11/2/17 03:48:07 | N   | IV   |
| 1710208-003 | Strontium, Total  | N/A |               | Water  | 0.77 ppm   | 50 mL       | 0.77 mg/L     | 1   | 0.003  | 0.10   |       |       | 11/2/17 03:48:07 | N   | IV   |
| 1710208-003 | Tin, Total        | N/A |               | Water  | 0.00 ppm   | 50 mL       | 0.50 mg/L U   | 1   | 0.03   | 0.50   |       |       | 11/2/17 03:48:07 | N   | IV   |
| 1710208-003 | Vanadium, Total   | N/A |               | Water  | 0.01 ppm   | 50 mL       | 0.006 mg/L J  | 1   | 0.003  | 0.050  |       |       | 11/2/17 03:48:07 | N   | IV   |
| 1710208-003 | Zinc, Total       | N/A |               | Water  | 0.00 ppm   | 50 mL       | 0.020 mg/L U  | 1   | 0.007  | 0.020  |       |       | 11/2/17 03:48:07 | N   | IV   |
| 1710208-008 | Aluminum, Total   | N/A |               | Water  | 0.01 ppm   | 50 mL       | 0.10 mg/L U   | 1   | 0.10   | 0.10   |       |       | 11/2/17 03:51:27 | N   | IV   |
| 1710208-008 | Barium, Total     | N/A |               | Water  | 0.04 ppm   | 50 mL       | 0.043 mg/L    | 1   | 0.013  | 0.020  |       |       | 11/2/17 03:51:27 | N   | IV   |
| 1710208-008 | Beryllium, Total  | N/A |               | Water  | 0.04 ppm   | 50 mL       | 0.0405 mg/L   | 1   | 0.0007 | 0.0030 |       |       | 11/2/17 03:51:27 | N   | IV   |

† indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

# Analytical Results Summary

Instrument Name: R-ICP-AES-06

Analyst: NMANSEN

Analysis Lot: 568464 Method/Testcode: 6010C/B T

| Lab Code    | Target Analytes   | QC  | Parent Sample | Matrix | Raw Result | Sample Amt. | Final Result | Dil | MDL    | PQL    | % Rec | % RSD | Date Analyzed    | QC? | Tier |
|-------------|-------------------|-----|---------------|--------|------------|-------------|--------------|-----|--------|--------|-------|-------|------------------|-----|------|
| 1710208-008 | Boron, Total      | N/A |               | Water  | 0.04 ppm   | 50 mL       | 0.20 mg/L U  | 1   | 0.08   | 0.20   |       |       | 11/2/17 03:51:27 | N   | IV   |
| 1710208-008 | Cadmium, Total    | N/A |               | Water  | 0.04 ppm   | 50 mL       | 0.0409 mg/L  | 1   | 0.0009 | 0.0050 |       |       | 11/2/17 03:51:27 | N   | IV   |
| 1710208-008 | Calcium, Total    | N/A |               | Water  | 0.00 ppm   | 50 mL       | 1.0 mg/L U   | 1   | 0.4    | 1.0    |       |       | 11/2/17 03:51:27 | N   | IV   |
| 1710208-008 | Chromium, Total   | N/A |               | Water  | 0.04 ppm   | 50 mL       | 0.041 mg/L   | 1   | 0.003  | 0.010  |       |       | 11/2/17 03:51:27 | N   | IV   |
| 1710208-008 | Cobalt, Total     | N/A |               | Water  | 0.04 ppm   | 50 mL       | 0.043 mg/L J | 1   | 0.003  | 0.050  |       |       | 11/2/17 03:51:27 | N   | IV   |
| 1710208-008 | Copper, Total     | N/A |               | Water  | 0.04 ppm   | 50 mL       | 0.040 mg/L   | 1   | 0.010  | 0.020  |       |       | 11/2/17 03:51:27 | N   | IV   |
| 1710208-008 | Iron, Total       | N/A |               | Water  | 0.00 ppm   | 50 mL       | 0.10 mg/L U  | 1   | 0.08   | 0.10   |       |       | 11/2/17 03:51:27 | N   | IV   |
| 1710208-008 | Lead, Total       | N/A |               | Water  | 0.04 ppm   | 50 mL       | 0.041 mg/L J | 1   | 0.004  | 0.050  |       |       | 11/2/17 03:51:27 | N   | IV   |
| 1710208-008 | Magnesium, Total  | N/A |               | Water  | 0.04 ppm   | 50 mL       | 1.0 mg/L U   | 1   | 0.3    | 1.0    |       |       | 11/2/17 03:51:27 | N   | IV   |
| 1710208-008 | Manganese, Total  | N/A |               | Water  | 0.05 ppm   | 50 mL       | 0.045 mg/L   | 1   | 0.005  | 0.010  |       |       | 11/2/17 03:51:27 | N   | IV   |
| 1710208-008 | Molybdenum, Total | N/A |               | Water  | 0.00 ppm   | 50 mL       | 0.025 mg/L U | 1   | 0.004  | 0.025  |       |       | 11/2/17 03:51:27 | N   | IV   |
| 1710208-008 | Nickel, Total     | N/A |               | Water  | 0.04 ppm   | 50 mL       | 0.043 mg/L   | 1   | 0.009  | 0.040  |       |       | 11/2/17 03:51:27 | N   | IV   |
| 1710208-008 | Potassium, Total  | N/A |               | Water  | 0.00 ppm   | 50 mL       | 2.0 mg/L U   | 1   | 0.3    | 2.0    |       |       | 11/2/17 03:51:27 | N   | IV   |
| 1710208-008 | Selenium, Total   | N/A |               | Water  | 0.04 ppm   | 50 mL       | 0.037 mg/L   | 1   | 0.004  | 0.010  |       |       | 11/2/17 03:51:27 | N   | IV   |
| 1710208-008 | Silver, Total     | N/A |               | Water  | 0.02 ppm   | 50 mL       | 0.020 mg/L   | 1   | 0.002  | 0.010  |       |       | 11/2/17 03:51:27 | N   | IV   |
| 1710208-008 | Sodium, Total     | N/A |               | Water  | 0.03 ppm   | 50 mL       | 1.0 mg/L U   | 1   | 0.4    | 1.0    |       |       | 11/2/17 03:51:27 | N   | IV   |
| 1710208-008 | Strontium, Total  | N/A |               | Water  | 0.04 ppm   | 50 mL       | 0.04 mg/L J  | 1   | 0.003  | 0.10   |       |       | 11/2/17 03:51:27 | N   | IV   |
| 1710208-008 | Tin, Total        | N/A |               | Water  | 0.00 ppm   | 50 mL       | 0.50 mg/L U  | 1   | 0.03   | 0.50   |       |       | 11/2/17 03:51:27 | N   | IV   |
| 1710208-008 | Vanadium, Total   | N/A |               | Water  | 0.04 ppm   | 50 mL       | 0.040 mg/L J | 1   | 0.003  | 0.050  |       |       | 11/2/17 03:51:27 | N   | IV   |
| 1710208-008 | Zinc, Total       | N/A |               | Water  | 0.04 ppm   | 50 mL       | 0.042 mg/L   | 1   | 0.007  | 0.020  |       |       | 11/2/17 03:51:27 | N   | IV   |

† indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

# Metals Cover Page

Analyst: KSM

Date: 11/3/17

Instrument: FIMSTL

Data File: NOV03-W

Reviewed By: NM

Entered By: NM

| Starlims Run # | Analytes Used | Batch ID | Method | Failed Analytes | Repeats |
|----------------|---------------|----------|--------|-----------------|---------|
| 568758         | Hg            | 302169   | 7470A  |                 |         |
|                |               |          |        |                 |         |

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## Package Data:

| Client Sub# | TIER           | Analytes Used | Batch ID | Raw Data Copied? |
|-------------|----------------|---------------|----------|------------------|
|             | III / IV / ILM |               |          | Yes / No         |
|             | III / IV / ILM |               |          | Yes / No         |
|             | III / IV / ILM |               |          | Yes / No         |
|             | III / IV / ILM |               |          | Yes / No         |
|             | III / IV / ILM |               |          | Yes / No         |
|             | III / IV / ILM |               |          | Yes / No         |
|             | III / IV / ILM |               |          | Yes / No         |
|             | III / IV / ILM |               |          | Yes / No         |

Perkin Elmer FIMS Run Log

Serial number: 101S12110203

Analyst: KSM

Data File: NOV03-W NOV W KSM  
11/3/17

Date Prepped: 11/2/17

Date Analyzed: 11/3/17

Lot #: Calibration/CRDL Source Standard: M7600001V ICV/CCV/LCS/MS Source Standard: M7600001G  
Cal/ CRDL 10ppm stock: M7590074A ICV/CCV/LCS/MS 10ppm stock: M7590024A  
Cal/ CRDL 0.1ppm stock: M7590074B ICV/CCV/LCS/MS 0.1 ppm stock: M7590024B  
Pipet ID: M28 DOD Pipet Verification: —

|   |             |    |   |
|---|-------------|----|---|
| 1 | Calib Blank | 38 | PBW-302169  |
| 2 | 0.2ppb std  | 39 | LCSW-302169   |
| 3 | 0.5ppb std  | 40 | R1710088-001  |
| 4 | 1.0ppb std  | 41 | R1710088-002  |
| 5 | 2.0ppb std  | 42 | R1710088-002S   |
| 6 | 5.0ppb std  | 8  | CCV   |
| 7 | 10.0ppb std | 1  | CCB   |
| 8 | ICV         | 43 | R1710088-002SD  |
| 1 | ICB         | 44 | R1710088-003  |
| 2 | MRL         | 45 | R1710088-004  |
| 8 | CCV         | 46 | R1710113-001  |
| 1 | CCB         | 47 | R1710113-002 <u>003</u>   |
|   |             | 8  | CCV <u>CR11/11/17</u>   |
|   |             | 1  | CCB   |
|   |             | 48 | R1710113-003 <u>002</u>   |
|   |             | 49 | R1710113-004  |
|   |             | 50 | R1710113-005  |
|   |             | 51 | R1710113-006  |
|   |             | 52 | R1710113-007  |
|   |             | 8  | CCV   |
|   |             | 1  | CCB   |
|   |             | 53 | R1710266-003  |
|   |             | 54 | R1710266-010  |
|   |             | 55 | R1710266-011  |
|   |             | 56 | R1710266-017  |
|   |             | 57 | R1710266-018 <u>006 RPT</u><br><u>SA KSM</u><br><u>file 11/3/17</u> |
|   |             | 8  | CCV   |
|   |             | 1  | CCB <u>006 RPT</u><br><u>SA KSM</u><br><u>file 11/3/17</u>          |
|   |             | 58 | R1710266-019 <u>SA KSM</u><br><u>file 11/3/17</u>                   |
|   |             | 59 | R1710304-002  |
|   |             | 60 | R1710312-001  |
|   |             | 61 | R1710312-002  |
|   |             | 2  | MRL   |
|   |             | 8  | CCV   |
|   |             | 1  | CCB   |
|   |             | 62 | Sample062   |

*KSM*  
*11/3/17*

KSM 11/3/17 (MM 11/3/17)

=====  
Analysis BegunLogged In Analyst: ALRCE Metals01  
Spectrometer: FIMS-100, S/N B050-9550Technique: AA FIMS-MHS  
Autosampler: S10Sample Information File: C:\Users\Public\PerkinElmer\AA\Data\Sample Information\Routine.sif  
Batch ID:  
Results Data Set: NOV03-W  
Results Library: C:\Users\Public\PerkinElmer\AA\Data\Results\NOV17.mdb=====  
Sequence No.: 1  
Sample ID: Calib Blank  
Analyst:  
Autosampler Location: 1  
Date Collected: 11/3/2017 12:19:11 PM  
Data Type: Original=====  
Replicate Data: Calib Blank  
Analyte: Hg 253.7  
Repl SampleConc StndConc BlnkCorr Peak Peak Time Peak  
# ug/L ug/L Signal Area Height Stored  
1 [0.00] 0.0004 0.0029 0.0004 12:20:03 PM Yes  
2 [0.00] 0.0002 0.0005 0.0002 12:20:32 PM Yes  
Mean: [0.00] 0.0003  
SD: 0.0000 0.0001  
%RSD: 0.00% 40.89  
Auto-zero performed.=====  
Sequence No.: 2  
Sample ID: 0.2ppb std  
Analyst:  
Autosampler Location: 2  
Date Collected: 11/3/2017 12:20:50 PM  
Data Type: Original=====  
Replicate Data: 0.2ppb std  
Analyte: Hg 253.7  
Repl SampleConc StndConc BlnkCorr Peak Peak Time Peak  
# ug/L ug/L Signal Area Height Stored  
1 [0.2] 0.0024 0.0109 0.0027 12:21:40 PM Yes  
2 [0.2] 0.0024 0.0110 0.0027 12:22:09 PM Yes  
Mean: [0.2] 0.0024  
SD: 0.000 0.0000  
%RSD: 0.00% 0.41  
Standard number 1 applied. [0.2]  
Correlation Coef.: 1.000000 Slope: 0.01206 Intercept: 0.00000=====  
Sequence No.: 3  
Sample ID: 0.5ppb std  
Analyst:  
Autosampler Location: 3  
Date Collected: 11/3/2017 12:22:28 PM  
Data Type: Original=====  
Replicate Data: 0.5ppb std  
Analyte: Hg 253.7  
Repl SampleConc StndConc BlnkCorr Peak Peak Time Peak  
# ug/L ug/L Signal Area Height Stored  
1 [0.5] 0.0062 0.0264 0.0065 12:23:18 PM Yes  
2 [0.5] 0.0062 0.0260 0.0065 12:23:46 PM Yes  
Mean: [0.5] 0.0062  
SD: 0.000 0.0000  
%RSD: 0.00% 0.33  
Standard number 2 applied. [0.5]  
Correlation Coef.: 0.999583 Slope: 0.01242 Intercept: 0.00000=====  
Sequence No.: 4  
Sample ID: 1.0ppb std  
Analyst:  
Autosampler Location: 4  
Date Collected: 11/3/2017 12:24:06 PM  
Data Type: Original=====  
Replicate Data: 1.0ppb std  
Analyte: Hg 253.7  
Repl SampleConc StndConc BlnkCorr Peak Peak Time Peak  
# ug/L ug/L Signal Area Height Stored  
1 [1.0] 0.0128 0.0533 0.0131 12:24:55 PM Yes

2 [1.0] 0.0129 0.0537 0.0132 12:25:25 PM Yes  
 Mean: [1.0] 0.0129  
 SD: 0.000 0.0001  
 %RSD: 0.00% 0.50  
 Standard number 3 applied. [1.0]  
 Correlation Coef.: 0.999504 Slope: 0.01277 Intercept: 0.00000

Sequence No.: 5 Autosampler Location: 5  
 Sample ID: 2.0ppb std Date Collected: 11/3/2017 12:25:45 PM  
 Analyst: Data Type: Original

Replicate Data: 2.0ppb std Analyte: Hg 253.7  

| Repl # | SampleConc ug/L | StdConc ug/L | BlkCorr Signal | Peak Area | Peak Height | Time        | Peak Stored |
|--------|-----------------|--------------|----------------|-----------|-------------|-------------|-------------|
| 1      | [2.0]           | [2.0]        | 0.0257         | 0.1050    | 0.0259      | 12:26:35 PM | Yes         |
| 2      | [2.0]           | [2.0]        | 0.0257         | 0.1046    | 0.0260      | 12:27:05 PM | Yes         |

Mean: [2.0] 0.0257  
 SD: 0.000 0.0000  
 %RSD: 0.00% 0.06  
 Standard number 4 applied. [2.0]  
 Correlation Coef.: 0.999907 Slope: 0.01282 Intercept: 0.00000

Sequence No.: 6 Autosampler Location: 6  
 Sample ID: 5.0ppb std Date Collected: 11/3/2017 12:27:25 PM  
 Analyst: Data Type: Original

Replicate Data: 5.0ppb std Analyte: Hg 253.7  

| Repl # | SampleConc ug/L | StdConc ug/L | BlkCorr Signal | Peak Area | Peak Height | Time        | Peak Stored |
|--------|-----------------|--------------|----------------|-----------|-------------|-------------|-------------|
| 1      | [5.0]           | [5.0]        | 0.0645         | 0.2627    | 0.0648      | 12:28:13 PM | Yes         |
| 2      | [5.0]           | [5.0]        | 0.0649         | 0.2640    | 0.0652      | 12:28:42 PM | Yes         |

Mean: [5.0] 0.0647  
 SD: 0.000 0.0003  
 %RSD: 0.00% 0.48  
 Standard number 5 applied. [5.0]  
 Correlation Coef.: 0.999975 Slope: 0.01292 Intercept: 0.00000

Sequence No.: 7 Autosampler Location: 7  
 Sample ID: 10.0ppb std Date Collected: 11/3/2017 12:29:01 PM  
 Analyst: Data Type: Original

Replicate Data: 10.0ppb std Analyte: Hg 253.7  

| Repl # | SampleConc ug/L | StdConc ug/L | BlkCorr Signal | Peak Area | Peak Height | Time        | Peak Stored |
|--------|-----------------|--------------|----------------|-----------|-------------|-------------|-------------|
| 1      | [10.0]          | [10.0]       | 0.1251         | 0.5123    | 0.1254      | 12:29:50 PM | Yes         |
| 2      | [10.0]          | [10.0]       | 0.1248         | 0.5095    | 0.1251      | 12:30:19 PM | Yes         |

Mean: [10.0] 0.1250  
 SD: 0.000 0.0003  
 %RSD: 0.00% 0.21  
 Standard number 6 applied. [10.0]  
 Correlation Coef.: 0.999811 Slope: 0.01260 Intercept: 0.00000

Calibration data for Hg 253.7 Equation: Linear Through Zero

| ID          | Mean Signal (Abs) | Entered Conc. ug/L | Calculated Conc. ug/L | Standard Deviation | %RSD  |
|-------------|-------------------|--------------------|-----------------------|--------------------|-------|
| Calib Blank | 0.0000            | 0                  | 0.000                 | 0.00               | 40.89 |
| 0.2ppb std  | 0.0024            | 0.2                | 0.191                 | 0.00               | 0.41  |
| 0.5ppb std  | 0.0062            | 0.5                | 0.495                 | 0.00               | 0.33  |
| 1.0ppb std  | 0.0129            | 1.0                | 1.022                 | 0.00               | 0.50  |
| 2.0ppb std  | 0.0257            | 2.0                | 2.038                 | 0.00               | 0.06  |
| 5.0ppb std  | 0.0647            | 5.0                | 5.137                 | 0.00               | 0.48  |
| 10.0ppb std | 0.1250            | 10.0               | 9.919                 | 0.00               | 0.21  |

Correlation Coef.: 0.999811 Slope: 0.01260 Intercept: 0.00000

Sequence No.: 8  
 Sample ID: ICV  
 Analyst:

Autosampler Location: 8  
 Date Collected: 11/3/2017 12:30:37 PM  
 Data Type: Original

## Replicate Data: ICV

Analyte: Hg 253.7

| Repl # | SampleConc ug/L | StndConc ug/L | BlkCorr Signal | Peak Area | Peak Height | Time        | Peak Stored |
|--------|-----------------|---------------|----------------|-----------|-------------|-------------|-------------|
| 1      | 3.045           | 3.045         | 0.0384         | 0.1559    | 0.0387      | 12:31:28 PM | Yes         |
| 2      | 3.036           | 3.036         | 0.0382         | 0.1566    | 0.0385      | 12:31:57 PM | Yes         |
| Mean:  | 3.041           | 3.041         | 0.0383         |           |             |             |             |
| SD:    | 0.0066          | 0.0066        | 0.0001         |           |             |             |             |
| %RSD:  | 0.22%           | 0.22%         | 0.22           |           |             |             |             |

QC value within limits for Hg 253.7 Recovery = 101.35%  
 All analyte(s) passed QC.

Sequence No.: 9  
 Sample ID: ICB  
 Analyst:

Autosampler Location: 1  
 Date Collected: 11/3/2017 12:32:16 PM  
 Data Type: Original

## Replicate Data: ICB

Analyte: Hg 253.7

| Repl # | SampleConc ug/L | StndConc ug/L | BlkCorr Signal | Peak Area | Peak Height | Time        | Peak Stored |
|--------|-----------------|---------------|----------------|-----------|-------------|-------------|-------------|
| 1      | -0.004          | -0.004        | -0.0000        | 0.0006    | 0.0002      | 12:33:05 PM | Yes         |
| 2      | -0.008          | -0.008        | -0.0001        | 0.0003    | 0.0002      | 12:33:35 PM | Yes         |
| Mean:  | -0.006          | -0.006        | -0.0001        |           |             |             |             |
| SD:    | 0.0033          | 0.0033        | 0.0000         |           |             |             |             |
| %RSD:  | 52.69%          | 52.69%        | 52.69          |           |             |             |             |

QC value within limits for Hg 253.7 Recovery = Not calculated  
 All analyte(s) passed QC.

Sequence No.: 10  
 Sample ID: MRL  
 Analyst:

Autosampler Location: 2  
 Date Collected: 11/3/2017 12:33:53 PM  
 Data Type: Original

## Replicate Data: MRL

Analyte: Hg 253.7

| Repl # | SampleConc ug/L | StndConc ug/L | BlkCorr Signal | Peak Area | Peak Height | Time        | Peak Stored |
|--------|-----------------|---------------|----------------|-----------|-------------|-------------|-------------|
| 1      | 0.196           | 0.196         | 0.0025         | 0.0112    | 0.0028      | 12:34:42 PM | Yes         |
| 2      | 0.197           | 0.197         | 0.0025         | 0.0108    | 0.0028      | 12:35:11 PM | Yes         |
| Mean:  | 0.196           | 0.196         | 0.0025         |           |             |             |             |
| SD:    | 0.0013          | 0.0013        | 0.0000         |           |             |             |             |
| %RSD:  | 0.67%           | 0.67%         | 0.67           |           |             |             |             |

QC value within limits for Hg 253.7 Recovery = 98.23%  
 All analyte(s) passed QC.

Sequence No.: 11  
 Sample ID: CCV  
 Analyst:

Autosampler Location: 8  
 Date Collected: 11/3/2017 12:35:30 PM  
 Data Type: Original

## Replicate Data: CCV

Analyte: Hg 253.7

| Repl # | SampleConc ug/L | StndConc ug/L | BlkCorr Signal | Peak Area | Peak Height | Time        | Peak Stored |
|--------|-----------------|---------------|----------------|-----------|-------------|-------------|-------------|
| 1      | 3.023           | 3.023         | 0.0381         | 0.1560    | 0.0384      | 12:36:19 PM | Yes         |
| 2      | 3.042           | 3.042         | 0.0383         | 0.1562    | 0.0386      | 12:36:48 PM | Yes         |
| Mean:  | 3.033           | 3.033         | 0.0382         |           |             |             |             |
| SD:    | 0.0134          | 0.0134        | 0.0002         |           |             |             |             |
| %RSD:  | 0.44%           | 0.44%         | 0.44           |           |             |             |             |

QC value within limits for Hg 253.7 Recovery = 101.09%  
 All analyte(s) passed QC.

Sequence No.: 12  
 Sample ID: CCB  
 Analyst:

Autosampler Location: 1  
 Date Collected: 11/3/2017 12:37:07 PM  
 Data Type: Original

## Replicate Data: CCB

Analyte: Hg 253.7

| Repl # | SampleConc ug/L | StdConc ug/L | BlkCorr Signal | Peak Area | Peak Height | Time        | Peak Stored |
|--------|-----------------|--------------|----------------|-----------|-------------|-------------|-------------|
| 1      | -0.001          | -0.001       | -0.0000        | 0.0014    | 0.0003      | 12:37:57 PM | Yes         |
| 2      | 0.001           | 0.001        | 0.0000         | 0.0012    | 0.0003      | 12:38:26 PM | Yes         |
| Mean:  | -0.000          | -0.000       | -0.0000        |           |             |             |             |
| SD:    | 0.0012          | 0.0012       | 0.0000         |           |             |             |             |
| %RSD:  | 360.09%         | 360.09%      | 360.09         |           |             |             |             |

QC value within limits for Hg 253.7 Recovery = Not calculated

All analyte(s) passed QC.

Sequence No.: 13

Autosampler Location: 38

Sample ID: PBW-302169

Date Collected: 11/3/2017 12:38:45 PM

Analyst:

Data Type: Original

## Replicate Data: PBW-302169

Analyte: Hg 253.7

| Repl # | SampleConc ug/L | StdConc ug/L | BlkCorr Signal | Peak Area | Peak Height | Time        | Peak Stored |
|--------|-----------------|--------------|----------------|-----------|-------------|-------------|-------------|
| 1      | -0.000          | -0.000       | -0.0000        | 0.0011    | 0.0003      | 12:39:34 PM | Yes         |
| 2      | 0.003           | 0.003        | 0.0000         | 0.0019    | 0.0003      | 12:40:03 PM | Yes         |
| Mean:  | 0.001           | 0.001        | 0.0000         |           |             |             |             |
| SD:    | 0.0019          | 0.0019       | 0.0000         |           |             |             |             |
| %RSD:  | 146.15%         | 146.15%      | 146.15         |           |             |             |             |

Sequence No.: 14

Autosampler Location: 39

Sample ID: LCSW-302169

Date Collected: 11/3/2017 12:40:22 PM

Analyst:

Data Type: Original

## Replicate Data: LCSW-302169

Analyte: Hg 253.7

| Repl # | SampleConc ug/L | StdConc ug/L | BlkCorr Signal | Peak Area | Peak Height | Time        | Peak Stored |
|--------|-----------------|--------------|----------------|-----------|-------------|-------------|-------------|
| 1      | 1.018           | 1.018        | 0.0128         | 0.0529    | 0.0131      | 12:41:12 PM | Yes         |
| 2      | 1.007           | 1.007        | 0.0127         | 0.0521    | 0.0130      | 12:41:41 PM | Yes         |
| Mean:  | 1.013           | 1.013        | 0.0128         |           |             |             |             |
| SD:    | 0.0080          | 0.0080       | 0.0001         |           |             |             |             |
| %RSD:  | 0.79%           | 0.79%        | 0.79           |           |             |             |             |

Sequence No.: 15

Autosampler Location: 40

Sample ID: R1710088-001

Date Collected: 11/3/2017 12:42:00 PM

Analyst:

Data Type: Original

## Replicate Data: R1710088-001

Analyte: Hg 253.7

| Repl # | SampleConc ug/L | StdConc ug/L | BlkCorr Signal | Peak Area | Peak Height | Time        | Peak Stored |
|--------|-----------------|--------------|----------------|-----------|-------------|-------------|-------------|
| 1      | -0.002          | -0.002       | -0.0000        | 0.0013    | 0.0003      | 12:42:50 PM | Yes         |
| 2      | -0.003          | -0.003       | -0.0000        | 0.0007    | 0.0003      | 12:43:19 PM | Yes         |
| Mean:  | -0.002          | -0.002       | -0.0000        |           |             |             |             |
| SD:    | 0.0008          | 0.0008       | 0.0000         |           |             |             |             |
| %RSD:  | 33.12%          | 33.12%       | 33.12          |           |             |             |             |

Sequence No.: 16

Autosampler Location: 41

Sample ID: R1710088-002

Date Collected: 11/3/2017 12:43:38 PM

Analyst:

Data Type: Original

## Replicate Data: R1710088-002

Analyte: Hg 253.7

| Repl # | SampleConc ug/L | StdConc ug/L | BlkCorr Signal | Peak Area | Peak Height | Time        | Peak Stored |
|--------|-----------------|--------------|----------------|-----------|-------------|-------------|-------------|
| 1      | -0.000          | -0.000       | -0.0000        | 0.0018    | 0.0003      | 12:44:28 PM | Yes         |
| 2      | -0.003          | -0.003       | -0.0000        | 0.0011    | 0.0003      | 12:44:57 PM | Yes         |
| Mean:  | -0.002          | -0.002       | -0.0000        |           |             |             |             |
| SD:    | 0.0019          | 0.0019       | 0.0000         |           |             |             |             |
| %RSD:  | 119.14%         | 119.14%      | 119.14         |           |             |             |             |



Sequence No.: 17  
Sample ID: R1710088-002S  
Analyst:

Autosampler Location: 42  
Date Collected: 11/3/2017 12:45:17 PM  
Data Type: Original

Replicate Data: R1710088-002S

Analyte: Hg 253.7

| Repl # | SampleConc ug/L | StndConc ug/L | BlkCorr Signal | Peak Area | Peak Height | Time        | Peak Stored |
|--------|-----------------|---------------|----------------|-----------|-------------|-------------|-------------|
| 1      | 0.973           | 0.973         | 0.0123         | 0.0516    | 0.0126      | 12:46:07 PM | Yes         |
| 2      | 0.976           | 0.976         | 0.0123         | 0.0514    | 0.0126      | 12:46:36 PM | Yes         |
| Mean:  | 0.975           | 0.975         | 0.0123         |           |             |             |             |
| SD:    | 0.0018          | 0.0018        | 0.0000         |           |             |             |             |
| %RSD:  | 0.19%           | 0.19%         | 0.19           |           |             |             |             |

Sequence No.: 18  
Sample ID: CCV  
Analyst:

Autosampler Location: 8  
Date Collected: 11/3/2017 12:46:55 PM  
Data Type: Original

Replicate Data: CCV

Analyte: Hg 253.7

| Repl # | SampleConc ug/L | StndConc ug/L | BlkCorr Signal | Peak Area | Peak Height | Time        | Peak Stored |
|--------|-----------------|---------------|----------------|-----------|-------------|-------------|-------------|
| 1      | 3.022           | 3.022         | 0.0381         | 0.1553    | 0.0384      | 12:47:44 PM | Yes         |
| 2      | 3.028           | 3.028         | 0.0381         | 0.1553    | 0.0384      | 12:48:13 PM | Yes         |
| Mean:  | 3.025           | 3.025         | 0.0381         |           |             |             |             |
| SD:    | 0.0043          | 0.0043        | 0.0001         |           |             |             |             |
| %RSD:  | 0.14%           | 0.14%         | 0.14           |           |             |             |             |

QC value within limits for Hg 253.7 Recovery = 100.83%

All analyte(s) passed QC.

Sequence No.: 19  
Sample ID: CCB  
Analyst:

Autosampler Location: 1  
Date Collected: 11/3/2017 12:48:32 PM  
Data Type: Original

Replicate Data: CCB

Analyte: Hg 253.7

| Repl # | SampleConc ug/L | StndConc ug/L | BlkCorr Signal | Peak Area | Peak Height | Time        | Peak Stored |
|--------|-----------------|---------------|----------------|-----------|-------------|-------------|-------------|
| 1      | -0.008          | -0.008        | -0.0001        | 0.0002    | 0.0002      | 12:49:21 PM | Yes         |
| 2      | -0.006          | -0.006        | -0.0001        | 0.0006    | 0.0002      | 12:49:50 PM | Yes         |
| Mean:  | -0.007          | -0.007        | -0.0001        |           |             |             |             |
| SD:    | 0.0009          | 0.0009        | 0.0000         |           |             |             |             |
| %RSD:  | 12.67%          | 12.67%        | 12.67          |           |             |             |             |

QC value within limits for Hg 253.7 Recovery = Not calculated

All analyte(s) passed QC.

Sequence No.: 20  
Sample ID: R1710088-002SD  
Analyst:

Autosampler Location: 43  
Date Collected: 11/3/2017 12:50:09 PM  
Data Type: Original

Replicate Data: R1710088-002SD

Analyte: Hg 253.7

| Repl # | SampleConc ug/L | StndConc ug/L | BlkCorr Signal | Peak Area | Peak Height | Time        | Peak Stored |
|--------|-----------------|---------------|----------------|-----------|-------------|-------------|-------------|
| 1      | 0.954           | 0.954         | 0.0120         | 0.0502    | 0.0123      | 12:50:58 PM | Yes         |
| 2      | 0.963           | 0.963         | 0.0121         | 0.0507    | 0.0124      | 12:51:27 PM | Yes         |
| Mean:  | 0.958           | 0.958         | 0.0121         |           |             |             |             |
| SD:    | 0.0065          | 0.0065        | 0.0001         |           |             |             |             |
| %RSD:  | 0.68%           | 0.68%         | 0.68           |           |             |             |             |

Sequence No.: 21  
Sample ID: R1710088-003  
Analyst:

Autosampler Location: 44  
Date Collected: 11/3/2017 12:51:46 PM  
Data Type: Original

Replicate Data: R1710088-003

Analyte: Hg 253.7

| Repl # | Sample Conc ug/L | Std Conc ug/L | Blncorr Signal | Peak Area | Peak Height | Time        | Peak Stored |
|--------|------------------|---------------|----------------|-----------|-------------|-------------|-------------|
| 1      | 0.005            | 0.005         | 0.0001         | 0.0022    | 0.0003      | 12:52:36 PM | Yes         |
| 2      | -0.002           | -0.002        | -0.0000        | 0.0014    | 0.0003      | 12:53:06 PM | Yes         |
| Mean:  | 0.001            | 0.001         | 0.0000         |           |             |             |             |
| SD:    | 0.0047           | 0.0047        | 0.0001         |           |             |             |             |
| %RSD:  | 382.07%          | 382.07%       | 382.07         |           |             |             |             |

Sequence No.: 22 Autosampler Location: 45  
 Sample ID: R1710088-004 Date Collected: 11/3/2017 12:53:25 PM  
 Analyst: Data Type: Original

Replicate Data: R1710088-004 Analyte: Hg 253.7

| Repl # | Sample Conc ug/L | Std Conc ug/L | Blncorr Signal | Peak Area | Peak Height | Time        | Peak Stored |
|--------|------------------|---------------|----------------|-----------|-------------|-------------|-------------|
| 1      | 0.049            | 0.049         | 0.0006         | 0.0037    | 0.0009      | 12:54:15 PM | Yes         |
| 2      | 0.051            | 0.051         | 0.0006         | 0.0044    | 0.0009      | 12:54:44 PM | Yes         |
| Mean:  | 0.050            | 0.050         | 0.0006         |           |             |             |             |
| SD:    | 0.0015           | 0.0015        | 0.0000         |           |             |             |             |
| %RSD:  | 3.04%            | 3.04%         | 3.04           |           |             |             |             |

Sequence No.: 23 Autosampler Location: 46  
 Sample ID: R1710113-001 Date Collected: 11/3/2017 12:55:03 PM  
 Analyst: Data Type: Original

Replicate Data: R1710113-001 Analyte: Hg 253.7

| Repl # | Sample Conc ug/L | Std Conc ug/L | Blncorr Signal | Peak Area | Peak Height | Time        | Peak Stored |
|--------|------------------|---------------|----------------|-----------|-------------|-------------|-------------|
| 1      | -0.001           | -0.001        | -0.0000        | 0.0009    | 0.0003      | 12:55:53 PM | Yes         |
| 2      | 0.002            | 0.002         | 0.0000         | 0.0014    | 0.0003      | 12:56:22 PM | Yes         |
| Mean:  | 0.001            | 0.001         | 0.0000         |           |             |             |             |
| SD:    | 0.0018           | 0.0018        | 0.0000         |           |             |             |             |
| %RSD:  | 257.70%          | 257.70%       | 257.70         |           |             |             |             |

Sequence No.: 24 Autosampler Location: 47  
 Sample ID: R1710113-002 Date Collected: 11/3/2017 12:56:42 PM  
 Analyst: Data Type: Original

Replicate Data: R1710113-002 Analyte: Hg 253.7

| Repl # | Sample Conc ug/L | Std Conc ug/L | Blncorr Signal | Peak Area | Peak Height | Time        | Peak Stored |
|--------|------------------|---------------|----------------|-----------|-------------|-------------|-------------|
| 1      | 0.004            | 0.004         | 0.0001         | 0.0016    | 0.0003      | 12:57:32 PM | Yes         |
| 2      | 0.005            | 0.005         | 0.0001         | 0.0020    | 0.0004      | 12:58:01 PM | Yes         |
| Mean:  | 0.005            | 0.005         | 0.0001         |           |             |             |             |
| SD:    | 0.0006           | 0.0006        | 0.0000         |           |             |             |             |
| %RSD:  | 12.17%           | 12.17%        | 12.17          |           |             |             |             |

Sequence No.: 25 Autosampler Location: 8  
 Sample ID: CCV Date Collected: 11/3/2017 12:58:20 PM  
 Analyst: Data Type: Original

Replicate Data: CCV Analyte: Hg 253.7

| Repl # | Sample Conc ug/L | Std Conc ug/L | Blncorr Signal | Peak Area | Peak Height | Time        | Peak Stored |
|--------|------------------|---------------|----------------|-----------|-------------|-------------|-------------|
| 1      | 3.041            | 3.041         | 0.0383         | 0.1561    | 0.0386      | 12:59:10 PM | Yes         |
| 2      | 3.036            | 3.036         | 0.0382         | 0.1559    | 0.0385      | 12:59:39 PM | Yes         |
| Mean:  | 3.039            | 3.039         | 0.0383         |           |             |             |             |
| SD:    | 0.0037           | 0.0037        | 0.0000         |           |             |             |             |
| %RSD:  | 0.12%            | 0.12%         | 0.12           |           |             |             |             |

QC value within limits for Hg 253.7 Recovery = 101.29%  
 All analyte(s) passed QC.

Sequence No.: 26 Autosampler Location: 1

Sample ID: CCB  
Analyst:

Date Collected: 11/3/2017 12:59:58 PM  
Data Type: Original

Replicate Data: CCB

Analyte: Hg 253.7

| Repl # | SampleConc ug/L | StndConc ug/L | BlkCorr Signal | Peak Area | Peak Height | Time       | Peak Stored |
|--------|-----------------|---------------|----------------|-----------|-------------|------------|-------------|
| 1      | 0.003           | 0.003         | 0.0000         | 0.0020    | 0.0003      | 1:00:48 PM | Yes         |
| 2      | -0.007          | -0.007        | -0.0001        | 0.0005    | 0.0002      | 1:01:17 PM | Yes         |
| Mean:  | -0.002          | -0.002        | -0.0000        |           |             |            |             |
| SD:    | 0.0066          | 0.0066        | 0.0001         |           |             |            |             |
| %RSD:  | 333.95%         | 333.95%       | 333.95         |           |             |            |             |

QC value within limits for Hg 253.7 Recovery = Not calculated  
All analyte(s) passed QC.

Sequence No.: 27  
Sample ID: R1710113-003  
Analyst:

*002 OK 11/4/17*

Autosampler Location: 48  
Date Collected: 11/3/2017 1:01:35 PM  
Data Type: Original

Replicate Data: R1710113-003

Analyte: Hg 253.7

| Repl # | SampleConc ug/L | StndConc ug/L | BlkCorr Signal | Peak Area | Peak Height | Time       | Peak Stored |
|--------|-----------------|---------------|----------------|-----------|-------------|------------|-------------|
| 1      | 0.018           | 0.018         | 0.0002         | 0.0021    | 0.0005      | 1:02:25 PM | Yes         |
| 2      | 0.015           | 0.015         | 0.0002         | 0.0022    | 0.0005      | 1:02:54 PM | Yes         |
| Mean:  | 0.016           | 0.016         | 0.0002         |           |             |            |             |
| SD:    | 0.0016          | 0.0016        | 0.0000         |           |             |            |             |
| %RSD:  | 9.60%           | 9.60%         | 9.60           |           |             |            |             |

Sequence No.: 28  
Sample ID: R1710113-004  
Analyst:

Autosampler Location: 49  
Date Collected: 11/3/2017 1:03:14 PM  
Data Type: Original

Replicate Data: R1710113-004

Analyte: Hg 253.7

| Repl # | SampleConc ug/L | StndConc ug/L | BlkCorr Signal | Peak Area | Peak Height | Time       | Peak Stored |
|--------|-----------------|---------------|----------------|-----------|-------------|------------|-------------|
| 1      | 0.020           | 0.020         | 0.0002         | 0.0026    | 0.0005      | 1:04:04 PM | Yes         |
| 2      | 0.013           | 0.013         | 0.0002         | 0.0014    | 0.0005      | 1:04:33 PM | Yes         |
| Mean:  | 0.016           | 0.016         | 0.0002         |           |             |            |             |
| SD:    | 0.0051          | 0.0051        | 0.0001         |           |             |            |             |
| %RSD:  | 31.13%          | 31.13%        | 31.13          |           |             |            |             |

Sequence No.: 29  
Sample ID: R1710113-005  
Analyst:

Autosampler Location: 50  
Date Collected: 11/3/2017 1:04:53 PM  
Data Type: Original

Replicate Data: R1710113-005

Analyte: Hg 253.7

| Repl # | SampleConc ug/L | StndConc ug/L | BlkCorr Signal | Peak Area | Peak Height | Time       | Peak Stored |
|--------|-----------------|---------------|----------------|-----------|-------------|------------|-------------|
| 1      | -0.005          | -0.005        | -0.0001        | 0.0002    | 0.0002      | 1:05:43 PM | Yes         |
| 2      | 0.001           | 0.001         | 0.0000         | 0.0011    | 0.0003      | 1:06:12 PM | Yes         |
| Mean:  | -0.002          | -0.002        | -0.0000        |           |             |            |             |
| SD:    | 0.0037          | 0.0037        | 0.0000         |           |             |            |             |
| %RSD:  | 189.25%         | 189.25%       | 189.25         |           |             |            |             |

Sequence No.: 30  
Sample ID: R1710113-006  
Analyst:

Autosampler Location: 51  
Date Collected: 11/3/2017 1:06:32 PM  
Data Type: Original

*Repeat*

Replicate Data: R1710113-006

Analyte: Hg 253.7

| Repl #   | SampleConc ug/L | StndConc ug/L | BlkCorr Signal | Peak Area | Peak Height | Time       | Peak Stored |
|--|-----------------|---------------|----------------|-----------|-------------|------------|-------------|
| 1  | 12.21           | 12.21         | 0.1538         | 0.6306    | 0.1541      | 1:07:22 PM | Yes         |
| Sample concentration is greater than that of the highest standard. |                 |               |                |           |             |            |             |
| 2  | 12.13           | 12.13         | 0.1528         | 0.6232    | 0.1531      | 1:07:51 PM | Yes         |

Sample concentration is greater than that of the highest standard.

Mean: 12.17 12.17 0.1533  
SD: 0.054 0.054 0.0007  
%RSD: 0.44% 0.44% 0.44

Sample concentration is greater than that of the highest standard.

Sequence No.: 31

Sample ID: R1710113-007

Analyst:

Autosampler Location: 52

Date Collected: 11/3/2017 1:08:11 PM

Data Type: Original

Replicate Data: R1710113-007

Analyte: Hg 253.7

| Repl # | SampleConc ug/L | StdConc ug/L | BlkCorr Signal | Peak Area | Peak Height | Time       | Peak Stored |
|--------|-----------------|--------------|----------------|-----------|-------------|------------|-------------|
| 1      | 8.168           | 8.168        | 0.1029         | 0.4190    | 0.1032      | 1:09:01 PM | Yes         |
| 2      | 8.103           | 8.103        | 0.1021         | 0.4164    | 0.1024      | 1:09:29 PM | Yes         |
| Mean:  | 8.135           | 8.135        | 0.1025         |           |             |            |             |
| SD:    | 0.0460          | 0.0460       | 0.0006         |           |             |            |             |
| %RSD:  | 0.56%           | 0.56%        | 0.56           |           |             |            |             |

Sequence No.: 32

Sample ID: CCV

Analyst:

Autosampler Location: 8

Date Collected: 11/3/2017 1:09:49 PM

Data Type: Original

Replicate Data: CCV

Analyte: Hg 253.7

| Repl # | SampleConc ug/L | StdConc ug/L | BlkCorr Signal | Peak Area | Peak Height | Time       | Peak Stored |
|--------|-----------------|--------------|----------------|-----------|-------------|------------|-------------|
| 1      | 3.050           | 3.050        | 0.0384         | 0.1552    | 0.0387      | 1:10:38 PM | Yes         |
| 2      | 3.046           | 3.046        | 0.0384         | 0.1551    | 0.0387      | 1:11:07 PM | Yes         |
| Mean:  | 3.048           | 3.048        | 0.0384         |           |             |            |             |
| SD:    | 0.0025          | 0.0025       | 0.0000         |           |             |            |             |
| %RSD:  | 0.08%           | 0.08%        | 0.08           |           |             |            |             |

QC value within limits for Hg 253.7 Recovery = 101.60%

All analyte(s) passed QC.

Sequence No.: 33

Sample ID: CCB

Analyst:

Autosampler Location: 1

Date Collected: 11/3/2017 1:11:26 PM

Data Type: Original

Replicate Data: CCB

Analyte: Hg 253.7

| Repl # | SampleConc ug/L | StdConc ug/L | BlkCorr Signal | Peak Area | Peak Height | Time       | Peak Stored |
|--------|-----------------|--------------|----------------|-----------|-------------|------------|-------------|
| 1      | -0.003          | -0.003       | -0.0000        | 0.0007    | 0.0003      | 1:12:16 PM | Yes         |
| 2      | -0.000          | -0.000       | -0.0000        | 0.0013    | 0.0003      | 1:12:45 PM | Yes         |
| Mean:  | -0.002          | -0.002       | -0.0000        |           |             |            |             |
| SD:    | 0.0019          | 0.0019       | 0.0000         |           |             |            |             |
| %RSD:  | 119.38%         | 119.38%      | 119.38         |           |             |            |             |

QC value within limits for Hg 253.7 Recovery = Not calculated

All analyte(s) passed QC.

Sequence No.: 34

Sample ID: R1710266-003

Analyst:

Autosampler Location: 53

Date Collected: 11/3/2017 1:13:03 PM

Data Type: Original

Replicate Data: R1710266-003

Analyte: Hg 253.7

| Repl # | SampleConc ug/L | StdConc ug/L | BlkCorr Signal | Peak Area | Peak Height | Time       | Peak Stored |
|--------|-----------------|--------------|----------------|-----------|-------------|------------|-------------|
| 1      | -0.004          | -0.004       | -0.0000        | 0.0009    | 0.0002      | 1:13:53 PM | Yes         |
| 2      | -0.005          | -0.005       | -0.0001        | 0.0009    | 0.0002      | 1:14:22 PM | Yes         |
| Mean:  | -0.004          | -0.004       | -0.0001        |           |             |            |             |
| SD:    | 0.0011          | 0.0011       | 0.0000         |           |             |            |             |
| %RSD:  | 24.83%          | 24.83%       | 24.83          |           |             |            |             |

Sequence No.: 35

Autosampler Location: 54

Sample ID: R1710266-010  
Analyst:

Date Collected: 11/3/2017 1:14:41 PM  
Data Type: Original

-----  
Replicate Data: R1710266-010

Analyte: Hg 253.7

| Repl # | SampleConc ug/L | StndConc ug/L | BlnkCorr Signal | Peak Area | Peak Height | Time       | Peak Stored |
|--------|-----------------|---------------|-----------------|-----------|-------------|------------|-------------|
| 1      | -0.005          | -0.005        | -0.0001         | 0.0005    | 0.0002      | 1:15:32 PM | Yes         |
| 2      | -0.004          | -0.004        | -0.0001         | 0.0010    | 0.0002      | 1:16:01 PM | Yes         |
| Mean:  | -0.005          | -0.005        | -0.0001         |           |             |            |             |
| SD:    | 0.0006          | 0.0006        | 0.0000          |           |             |            |             |
| %RSD:  | 13.83%          | 13.83%        | 13.83           |           |             |            |             |

Sequence No.: 36  
Sample ID: R1710266-011  
Analyst:

Autosampler Location: 55  
Date Collected: 11/3/2017 1:16:20 PM  
Data Type: Original

-----  
Replicate Data: R1710266-011

Analyte: Hg 253.7

| Repl # | SampleConc ug/L | StndConc ug/L | BlnkCorr Signal | Peak Area | Peak Height | Time       | Peak Stored |
|--------|-----------------|---------------|-----------------|-----------|-------------|------------|-------------|
| 1      | 0.000           | 0.000         | 0.0000          | 0.0016    | 0.0003      | 1:17:10 PM | Yes         |
| 2      | -0.008          | -0.008        | -0.0001         | 0.0005    | 0.0002      | 1:17:39 PM | Yes         |
| Mean:  | -0.004          | -0.004        | -0.0000         |           |             |            |             |
| SD:    | 0.0058          | 0.0058        | 0.0001          |           |             |            |             |
| %RSD:  | 154.48%         | 154.48%       | 154.48          |           |             |            |             |

Sequence No.: 37  
Sample ID: R1710266-017  
Analyst:

Autosampler Location: 56  
Date Collected: 11/3/2017 1:17:58 PM  
Data Type: Original

-----  
Replicate Data: R1710266-017

Analyte: Hg 253.7

| Repl # | SampleConc ug/L | StndConc ug/L | BlnkCorr Signal | Peak Area | Peak Height | Time       | Peak Stored |
|--------|-----------------|---------------|-----------------|-----------|-------------|------------|-------------|
| 1      | -0.003          | -0.003        | -0.0000         | 0.0004    | 0.0003      | 1:18:48 PM | Yes         |
| 2      | -0.003          | -0.003        | -0.0000         | 0.0008    | 0.0003      | 1:19:16 PM | Yes         |
| Mean:  | -0.003          | -0.003        | -0.0000         |           |             |            |             |
| SD:    | 0.0000          | 0.0000        | 0.0000          |           |             |            |             |
| %RSD:  | 0.53%           | 0.53%         | 0.53            |           |             |            |             |

Sequence No.: 38 R1710113-006 RPT 5X KSM  
Sample ID: ~~R1710133-006 RPT 5X~~ 11/3/17  
Analyst:

Autosampler Location: 73  
Date Collected: 11/3/2017 1:19:36 PM  
Data Type: Original

-----  
Replicate Data: R1710133-006 RPT 5X

Analyte: Hg 253.7

| Repl # | SampleConc ug/L | StndConc ug/L | BlnkCorr Signal | Peak Area | Peak Height | Time       | Peak Stored |
|--------|-----------------|---------------|-----------------|-----------|-------------|------------|-------------|
| 1      | 2.993           | 2.993         | 0.0377          | 0.1449    | 0.0380      | 1:20:27 PM | Yes         |
| 2      | 2.796           | 2.796         | 0.0352          | 0.1354    | 0.0355      | 1:20:56 PM | Yes         |
| Mean:  | 2.895           | 2.895         | 0.0365          |           |             |            |             |
| SD:    | 0.1396          | 0.1396        | 0.0018          |           |             |            |             |
| %RSD:  | 4.82%           | 4.82%         | 4.82            |           |             |            |             |

Sequence No.: 39  
Sample ID: R1710266-018  
Analyst:

Autosampler Location: 57  
Date Collected: 11/3/2017 1:21:16 PM  
Data Type: Original

-----  
Replicate Data: R1710266-018

Analyte: Hg 253.7

| Repl # | SampleConc ug/L | StndConc ug/L | BlnkCorr Signal | Peak Area | Peak Height | Time       | Peak Stored |
|--------|-----------------|---------------|-----------------|-----------|-------------|------------|-------------|
| 1      | -0.001          | -0.001        | -0.0000         | 0.0015    | 0.0003      | 1:22:06 PM | Yes         |
| 2      | -0.001          | -0.001        | -0.0000         | 0.0013    | 0.0003      | 1:22:35 PM | Yes         |
| Mean:  | -0.001          | -0.001        | -0.0000         |           |             |            |             |
| SD:    | 0.0005          | 0.0005        | 0.0000          |           |             |            |             |
| %RSD:  | 42.40%          | 42.40%        | 42.40           |           |             |            |             |

Sequence No.: 40  
 Sample ID: CCV  
 Analyst:

Autosampler Location: 8  
 Date Collected: 11/3/2017 1:22:55 PM  
 Data Type: Original

## Replicate Data: CCV

Analyte: Hg 253.7

| Repl # | SampleConc ug/L | StdConc ug/L | BlkCorr Signal | Peak Area | Peak Height | Time       | Peak Stored |
|--------|-----------------|--------------|----------------|-----------|-------------|------------|-------------|
| 1      | 3.028           | 3.028        | 0.0381         | 0.1558    | 0.0384      | 1:23:44 PM | Yes         |
| 2      | 3.021           | 3.021        | 0.0380         | 0.1546    | 0.0383      | 1:24:13 PM | Yes         |
| Mean:  | 3.024           | 3.024        | 0.0381         |           |             |            |             |
| SD:    | 0.0055          | 0.0055       | 0.0001         |           |             |            |             |
| %RSD:  | 0.18%           | 0.18%        | 0.18           |           |             |            |             |

QC value within limits for Hg 253.7 Recovery = 100.81%  
 All analyte(s) passed QC.

Sequence No.: 41  
 Sample ID: CCB  
 Analyst:

Autosampler Location: 1  
 Date Collected: 11/3/2017 1:24:32 PM  
 Data Type: Original

## Replicate Data: CCB

Analyte: Hg 253.7

| Repl # | SampleConc ug/L | StdConc ug/L | BlkCorr Signal | Peak Area | Peak Height | Time       | Peak Stored |
|--------|-----------------|--------------|----------------|-----------|-------------|------------|-------------|
| 1      | -0.006          | -0.006       | -0.0001        | 0.0004    | 0.0002      | 1:25:21 PM | Yes         |
| 2      | -0.006          | -0.006       | -0.0001        | 0.0005    | 0.0002      | 1:25:50 PM | Yes         |
| Mean:  | -0.006          | -0.006       | -0.0001        |           |             |            |             |
| SD:    | 0.0001          | 0.0001       | 0.0000         |           |             |            |             |
| %RSD:  | 1.43%           | 1.43%        | 1.43           |           |             |            |             |

QC value within limits for Hg 253.7 Recovery = Not calculated  
 All analyte(s) passed QC.

Sequence No.: 42  
 Sample ID: R1710113-006 RPT 5X  
 Analyst:

Autosampler Location: 73  
 Date Collected: 11/3/2017 1:26:09 PM  
 Data Type: Original

## Replicate Data: R1710113-006 RPT 5X

Analyte: Hg 253.7

| Repl # | SampleConc ug/L | StdConc ug/L | BlkCorr Signal | Peak Area | Peak Height | Time       | Peak Stored |
|--------|-----------------|--------------|----------------|-----------|-------------|------------|-------------|
| 1      | 2.904           | 2.904        | 0.0366         | 0.1407    | 0.0369      | 1:27:00 PM | Yes         |
| 2      | 2.815           | 2.815        | 0.0355         | 0.1363    | 0.0358      | 1:27:28 PM | Yes         |
| Mean:  | 2.860           | 2.860        | 0.0360         |           |             |            |             |
| SD:    | 0.0629          | 0.0629       | 0.0008         |           |             |            |             |
| %RSD:  | 2.20%           | 2.20%        | 2.20           |           |             |            |             |

Sequence No.: 43  
 Sample ID: R1710266-019  
 Analyst:

Autosampler Location: 58  
 Date Collected: 11/3/2017 1:27:49 PM  
 Data Type: Original

## Replicate Data: R1710266-019

Analyte: Hg 253.7

| Repl # | SampleConc ug/L | StdConc ug/L | BlkCorr Signal | Peak Area | Peak Height | Time       | Peak Stored |
|--------|-----------------|--------------|----------------|-----------|-------------|------------|-------------|
| 1      | -0.009          | -0.009       | -0.0001        | 0.0002    | 0.0002      | 1:28:39 PM | Yes         |
| 2      | -0.006          | -0.006       | -0.0001        | 0.0005    | 0.0002      | 1:29:07 PM | Yes         |
| Mean:  | -0.008          | -0.008       | -0.0001        |           |             |            |             |
| SD:    | 0.0022          | 0.0022       | 0.0000         |           |             |            |             |
| %RSD:  | 28.23%          | 28.23%       | 28.23          |           |             |            |             |

Sequence No.: 44  
 Sample ID: R1710304-002  
 Analyst:

Autosampler Location: 59  
 Date Collected: 11/3/2017 1:29:27 PM  
 Data Type: Original

## Replicate Data: R1710304-002

Analyte: Hg 253.7

| Repl # | SampleConc ug/L | StndConc ug/L | BlkCorr Signal | Peak Area | Peak Height | Time       | Peak Stored |
|--------|-----------------|---------------|----------------|-----------|-------------|------------|-------------|
| 1      | -0.002          | -0.002        | -0.0000        | 0.0013    | 0.0003      | 1:30:17 PM | Yes         |
| 2      | -0.007          | -0.007        | -0.0001        | 0.0006    | 0.0002      | 1:30:47 PM | Yes         |
| Mean:  | -0.005          | -0.005        | -0.0001        |           |             |            |             |
| SD:    | 0.0041          | 0.0041        | 0.0001         |           |             |            |             |
| %RSD:  | 90.39%          | 90.39%        | 90.39          |           |             |            |             |

Sequence No.: 45  
 Sample ID: R1710312-001  
 Analyst:

Autosampler Location: 60  
 Date Collected: 11/3/2017 1:31:07 PM  
 Data Type: Original

Replicate Data: R1710312-001  
 Analyte: Hg 253.7

| Repl # | SampleConc ug/L | StndConc ug/L | BlkCorr Signal | Peak Area | Peak Height | Time       | Peak Stored |
|--------|-----------------|---------------|----------------|-----------|-------------|------------|-------------|
| 1      | -0.006          | -0.006        | -0.0001        | 0.0006    | 0.0002      | 1:31:57 PM | Yes         |
| 2      | 0.003           | 0.003         | 0.0000         | 0.0017    | 0.0003      | 1:32:26 PM | Yes         |
| Mean:  | -0.002          | -0.002        | -0.0000        |           |             |            |             |
| SD:    | 0.0059          | 0.0059        | 0.0001         |           |             |            |             |
| %RSD:  | 374.17%         | 374.17%       | 374.17         |           |             |            |             |

Sequence No.: 46  
 Sample ID: R1710312-002  
 Analyst:

Autosampler Location: 61  
 Date Collected: 11/3/2017 1:32:46 PM  
 Data Type: Original

Replicate Data: R1710312-002  
 Analyte: Hg 253.7

| Repl # | SampleConc ug/L | StndConc ug/L | BlkCorr Signal | Peak Area | Peak Height | Time       | Peak Stored |
|--------|-----------------|---------------|----------------|-----------|-------------|------------|-------------|
| 1      | -0.006          | -0.006        | -0.0001        | 0.0001    | 0.0002      | 1:33:37 PM | Yes         |
| 2      | -0.002          | -0.002        | -0.0000        | 0.0005    | 0.0003      | 1:34:06 PM | Yes         |
| Mean:  | -0.004          | -0.004        | -0.0001        |           |             |            |             |
| SD:    | 0.0029          | 0.0029        | 0.0000         |           |             |            |             |
| %RSD:  | 70.60%          | 70.60%        | 70.60          |           |             |            |             |

Sequence No.: 47  
 Sample ID: MRL  
 Analyst:

Autosampler Location: 2  
 Date Collected: 11/3/2017 1:34:26 PM  
 Data Type: Original

Replicate Data: MRL  
 Analyte: Hg 253.7

| Repl # | SampleConc ug/L | StndConc ug/L | BlkCorr Signal | Peak Area | Peak Height | Time       | Peak Stored |
|--------|-----------------|---------------|----------------|-----------|-------------|------------|-------------|
| 1      | 0.195           | 0.195         | 0.0025         | 0.0109    | 0.0028      | 1:35:15 PM | Yes         |
| 2      | 0.199           | 0.199         | 0.0025         | 0.0117    | 0.0028      | 1:35:45 PM | Yes         |
| Mean:  | 0.197           | 0.197         | 0.0025         |           |             |            |             |
| SD:    | 0.0023          | 0.0023        | 0.0000         |           |             |            |             |
| %RSD:  | 1.14%           | 1.14%         | 1.14           |           |             |            |             |

QC value within limits for Hg 253.7 Recovery = 98.46%  
 All analyte(s) passed QC.

Sequence No.: 48  
 Sample ID: CCV  
 Analyst:

Autosampler Location: 8  
 Date Collected: 11/3/2017 1:36:03 PM  
 Data Type: Original

Replicate Data: CCV  
 Analyte: Hg 253.7

| Repl # | SampleConc ug/L | StndConc ug/L | BlkCorr Signal | Peak Area | Peak Height | Time       | Peak Stored |
|--------|-----------------|---------------|----------------|-----------|-------------|------------|-------------|
| 1      | 3.045           | 3.045         | 0.0384         | 0.1558    | 0.0387      | 1:36:53 PM | Yes         |
| 2      | 3.035           | 3.035         | 0.0382         | 0.1553    | 0.0385      | 1:37:22 PM | Yes         |
| Mean:  | 3.040           | 3.040         | 0.0383         |           |             |            |             |
| SD:    | 0.0074          | 0.0074        | 0.0001         |           |             |            |             |
| %RSD:  | 0.24%           | 0.24%         | 0.24           |           |             |            |             |

QC value within limits for Hg 253.7 Recovery = 101.34%  
 All analyte(s) passed QC.

Sequence No.: 49  
 Sample ID: CCB  
 Analyst:

Autosampler Location: 1  
 Date Collected: 11/3/2017 1:37:41 PM  
 Data Type: Original

## Replicate Data: CCB

Analyte: Hg 253.7

| Repl # | SampleConc ug/L | StdConc ug/L | BlkCorr Signal | Peak Area | Peak Height | Time       | Peak Stored |
|--------|-----------------|--------------|----------------|-----------|-------------|------------|-------------|
| 1      | -0.001          | -0.001       | -0.0000        | 0.0008    | 0.0003      | 1:38:32 PM | Yes         |
| 2      | -0.001          | -0.001       | -0.0000        | 0.0015    | 0.0003      | 1:39:01 PM | Yes         |
| Mean:  | -0.001          | -0.001       | -0.0000        |           |             |            |             |
| SD:    | 0.0001          | 0.0001       | 0.0000         |           |             |            |             |
| %RSD:  | 14.61%          | 14.61%       | 14.61          |           |             |            |             |

QC value within limits for Hg 253.7 Recovery = Not calculated  
 All analyte(s) passed QC.

Sequence No.: 50  
 Sample ID: Sample062  
 Analyst:

Autosampler Location: 62  
 Date Collected: 11/3/2017 1:39:19 PM  
 Data Type: Original

## Replicate Data: Sample062

Analyte: Hg 253.7

| Repl # | SampleConc ug/L | StdConc ug/L | BlkCorr Signal | Peak Area | Peak Height | Time       | Peak Stored |
|--------|-----------------|--------------|----------------|-----------|-------------|------------|-------------|
| 1      | -0.021          | -0.021       | -0.0003        | 0.0001    | 0.0000      | 1:40:09 PM | Yes         |
| 2      | -0.022          | -0.022       | -0.0003        | -0.0000   | 0.0000      | 1:40:38 PM | Yes         |
| Mean:  | -0.022          | -0.022       | -0.0003        |           |             |            |             |
| SD:    | 0.0009          | 0.0009       | 0.0000         |           |             |            |             |
| %RSD:  | 4.03%           | 4.03%        | 4.03           |           |             |            |             |



# Preparation Information Benchsheet

Prep Run#: 302169  
Team: Metals/KMCLAEN

Prep Workflow: HgDigAq  
Prep Method: Method

Status: Prepped  
Prep Date/Time: 11/2/17 10:30 AM

| #  | Lab Code     | Client ID             | B#  | Amt. Ext | Method /Test     | pH | AE | BN | Final Vol | Sample Desc. (Initial/Final) | SpikeAmt./Inv. ID | Comments   |
|----|--------------|-----------------------|-----|----------|------------------|----|----|----|-----------|------------------------------|-------------------|--|
| 1  | RQ1711370-01 | MB                    |     | 25mL     | 7470A/Hg D, Hg T |    |    |    | 25.00mL   |                              |                   | HB: 8<br>Well: B3<br>Temp: 92.0C/94.0C<br>Corr. Factor: -1.0C<br>Corr. Temp: 91.0C/93.0C |
| 2  | RQ1711370-02 | LCS                   |     | 25mL     | 7470A/Hg D, Hg T |    |    |    | 25.00mL   |                              | 0.2500 mL/185258  |  |
| 3  | R1710088-001 | PCBM-01-1017          | .09 | 25mL     | 7470A/Hg T       |    |    |    | 25.00mL   |                              |                   |  |
| 4  | R1710088-002 | PCBM-02-1017          | .09 | 25mL     | 7470A/Hg T       |    |    |    | 25.00mL   |                              |                   |  |
| 5  | RQ1711370-03 | R1710088-002 MS       | .09 | 25mL     | 7470A/Hg T       |    |    |    | 25.00mL   |                              | 0.2500 mL/185258  |  |
| 6  | RQ1711370-04 | R1710088-002 DMS      | .09 | 25mL     | 7470A/Hg T       |    |    |    | 25.00mL   |                              | 0.2500 mL/185258  |  |
| 7  | R1710088-003 | PCM-03-1017           | .09 | 25mL     | 7470A/Hg T       |    |    |    | 25.00mL   |                              |                   |  |
| 8  | R1710088-004 | PCM-04-1017           | .09 | 25mL     | 7470A/Hg T       |    |    |    | 25.00mL   |                              |                   |  |
| 9  | R1710113-001 | MW-7                  | .03 | 25mL     | 7470A/Hg T       |    |    |    | 25.00mL   |                              |                   |  |
| 10 | R1710113-002 | MW-3                  | .03 | 25mL     | 7470A/Hg T       |    |    |    | 25.00mL   |                              |                   |  |
| 11 | R1710113-003 | MW-3 Diss             | .02 | 25mL     | 7470A/Hg D       |    |    |    | 25.00mL   |                              |                   |  |
| 12 | R1710113-004 | MW-D                  | .03 | 25mL     | 7470A/Hg T       |    |    |    | 25.00mL   |                              |                   |  |
| 13 | R1710113-005 | MW-D Diss             | .02 | 25mL     | 7470A/Hg D       |    |    |    | 25.00mL   |                              |                   |  |
| 14 | R1710113-006 | MW-8                  | .03 | 25mL     | 7470A/Hg T       |    |    |    | 25.00mL   |                              |                   |  |
| 15 | R1710113-007 | MW-8 Diss             | .02 | 25mL     | 7470A/Hg D       |    |    |    | 25.00mL   |                              |                   |  |
| 16 | R1710266-003 | 1710261253B JER-2-504 | .02 | 25mL     | 7470A/Hg T       |    |    |    | 25.00mL   |                              |                   |  |
| 17 | R1710266-010 | 1710261305B JER-2-584 | .02 | 25mL     | 7470A/Hg T       |    |    |    | 25.00mL   |                              |                   |  |
| 18 | R1710266-011 | 1710261309B JER-2-584 | .02 | 25mL     | 7470A/Hg T       |    |    |    | 25.00mL   |                              |                   |  |
| 19 | R1710266-017 | 1710280433 B655-EFF-2 | .02 | 25mL     | 7470A/Hg T       |    |    |    | 25.00mL   |                              |                   |  |
| 20 | R1710266-018 | 1710280434 B655-EFF-2 | .02 | 25mL     | 7470A/Hg T       |    |    |    | 25.00mL   |                              |                   |  |
| 21 | R1710266-019 | 1710280503 B655-INF-2 | .02 | 25mL     | 7470A/Hg T       |    |    |    | 25.00mL   |                              |                   |  |
| 22 | R1710304-002 | NEX-0007-(S)          | .01 | 25mL     | 7470A/Hg T       |    |    |    | 25.00mL   |                              |                   |  |
| 23 | R1710312-001 | EFF-103117            | .16 | 25mL     | 7470A/Hg T       |    |    |    | 25.00mL   |                              |                   |  |
| 24 | R1710312-002 | INF-103117            | .16 | 25mL     | 7470A/Hg T       |    |    |    | 25.00mL   |                              |                   |  |

## Spiking Solutions

Name: Mercury LCSW Metals Hg

Inventory ID 185258

Logbook Ref: 185258

Expires On: 11/03/2017

## Preparation Materials

|   |                            |                                   |                    |                                |                    |
|---|----------------------------|-----------------------------------|--------------------|--------------------------------|--------------------|
| Hot Block Cups                            | 50 mL Lot 1703076 (182080) | Sulfuric Acid Reagent Grade H2SO4 | M7080009S (173657) | Nitric Acid Metals Grade HNO3  | M7600002W (184969) |
| Hydroxylamine Hydrochloride Reagent Grade | M7600002C (184971)         | Potassium Permanganate RG KMnO4   | M7600002E (183698) | Potassium Persulfate RG K2S2O8 | M7080011E (176626) |
| Thermometer                               | 395 (171673)               |                                   |                    |                                |                    |

# Preparation Information Benchsheet

Prep Run#: 302169  
Team: Metals/KMCLAEN

Prep Workflow: HgDigAq  
Prep Method: Method

Status: Prepped  
Prep Date/Time: 11/2/17 10:30 AM

## Preparation Steps

Step: Digestion  
Started: 11/2/17 10:30  
Finished: 11/2/17 15:23  
By: KMCLAEN  
Comments

Comments: prepped with curve M7590074 I

Reviewed By: Nicol [Signature] Date: 11/3/17

### Chain of Custody

|                                    |                      |                             |
|------------------------------------|----------------------|-----------------------------|
| Relinquished By: <u>King Majum</u> | Date: <u>11/2/17</u> | Extracts Examined<br>Yes No |
| Received By: <u>RAOI</u>           | Date: <u>11/2/17</u> |                             |

**MERCURY CCV / LCSW / MS STANDARDS**

| Standard     | ALS Lot # | Conc. (ppm) | Vol. (mls) | Final Vol. (mls) | Final Conc. (ppm) | Matrix   | Analyst/Date | Letter ID | Nitric Acid Lot # | Expiration Date | Pipet ID |
|--------------|-----------|-------------|------------|------------------|-------------------|----------|--------------|-----------|-------------------|-----------------|----------|
| Hg CCV Stk A | M7600001Q | 1000        | 1.00       | 100              | 10                | 0.5%HNO3 | KSM 11/21/17 | A         | M7600002W         | 11/9/17         | M28      |

**(PREPARED DAILY)**

| Standard    | ALS Lot #    | Conc. (ppm) | Vol. (mls) | Final Vol. (mls) | Final Conc. (ppm) | Matrix   | Analyst/Date | Letter ID | Nitric Acid Lot # | Pipet ID |
|-------------|--------------|-------------|------------|------------------|-------------------|----------|--------------|-----------|-------------------|----------|
| Hg CCV StkB | Hg CCV Stk A | 10.0        | 1.00       | 100              | 0.100             | 0.5%HNO3 | KSM 11/21/17 | B         | M7600002W         | M28      |
|             |              |             |            |                  |                   |          | KSM 11/21/17 | C         | M7600002W         | M28      |
|             |              |             |            |                  |                   |          |              | D         |                   |          |
|             |              |             |            |                  |                   |          |              | E         |                   |          |
|             |              |             |            |                  |                   |          |              | F         |                   |          |
|             |              |             |            |                  |                   |          |              | G         |                   |          |
|             |              |             |            |                  |                   |          |              | H         |                   |          |

**(PREPARED AND DIGESTED DAILY WITH SAMPLE PREP RUNS)**

| CCV Standard (ppb) | ALS Lot #    | Conc. (ppm) | Vol. (mL) Soil | Vol. (mL) Water | Final Vol. (mls)                                   | Final Conc. (ppb) | Water/Soil | Analyst/Date | Letter ID | Pipet ID |
|--------------------|--------------|-------------|----------------|-----------------|--|-------------------|------------|--------------|-----------|----------|
| CCV                | Hg CCV Stk B | 0.100       | 3.00           | 0.75            | Soils-<br>Final vol.<br>100mL after<br>digest.     | 3.00              | Water      | KSM 11/21/17 | I         | M26      |
| LCS / MS           |              |             | 1.00           | 0.25            |  | 1.00              | Soil       | KSM 11/21/17 | J         | M26      |
|                    |              |             |                |                 | Water -<br>Final Vol of<br>25 mL before<br>digest. |                   |            |              | K         |          |
|                    |              |             |                |                 |  |                   |            |              | L         |          |
|                    |              |             |                |                 |  |                   |            |              | M         |          |
|                    |              |             |                |                 |  |                   |            |              | N         |          |
|                    |              |             |                |                 |  |                   |            |              | O         |          |

**MERCURY CALIBRATION / CRDL STANDARDS**

| Standard     | ALS Lot # | Conc. (ppm) | Vol. (mls) | Final Vol. (mls) | Final Conc. (ppm) | Matrix   | Analyst/Date | Letter ID | Nitric Acid Lot # | Expiration Date | Pipet ID |
|--------------|-----------|-------------|------------|------------------|-------------------|----------|--------------|-----------|-------------------|-----------------|----------|
| Hg Cal Stk A | M7600001V | 1000        | 1.00       | 100              | 10                | 0.5%HNO3 | KSM 11/21/17 | A         | M7600002W         | 11/9/17         | M28      |

**(PREPARED DAILY)**

| Standard     | ALS Lot #    | Conc. (ppm) | Vol. (mls) | Final Vol. (mls) | Final Conc. (ppm) | Matrix   | Analyst/Date | Letter ID | Nitric Acid Lot # | Pipet ID |
|--------------|--------------|-------------|------------|------------------|-------------------|----------|--------------|-----------|-------------------|----------|
| Hg Cal Stk B | Hg Cal Stk A | 10.0        | 1.00       | 100              | 0.100             | 0.5%HNO3 | KSM 11/21/17 | B         | M7600002W         | M28      |
|              |              |             |            |                  |                   |          | KSM 11/21/17 | C         | M7600002W         | M28      |
|              |              |             |            |                  |                   |          |              | D         |                   |          |
|              |              |             |            |                  |                   |          |              | E         |                   |          |
|              |              |             |            |                  |                   |          |              | F         |                   |          |
|              |              |             |            |                  |                   |          |              | G         |                   |          |
|              |              |             |            |                  |                   |          |              | H         |                   |          |

**(PREPARED AND DIGESTED DAILY WITH SAMPLE PREP RUNS)**

| CAL Standard (ppb) | ALS Lot #    | Conc. (ppm) | Vol. (mL) Soil | Vol. (mL) Water | Final Vol. (mls)  | Final Conc. (ppb) | Water/Soil | Analyst/Date | Letter ID | Pipet ID |
|--------------------|--------------|-------------|----------------|-----------------|---|-------------------|------------|--------------|-----------|----------|
| 0.200              | Hg Cal Stk B | 0.100       | 0.200          | 0.05            | Soils- Dilute to 10mL w/ DI. Final vol. 100mL after digest. Water - dilute to Final Vol of 25 mL with DI before digest. | 0.200             | water      | KSM 11/21/17 | I         | M26, M31 |
| 0.500              |              |             | 0.500          | 0.125           |   | 0.500             | soil       | KSM 11/21/17 | J         | M26      |
| 1.00               |              |             | 1.00           | 0.25            |   | 1.00              |            |              | K         |          |
| 2.00               |              |             | 2.00           | 0.5             |   | 2.00              |            |              | L         |          |
| 5.00               |              |             | 5.00           | 1.25            |   | 5.00              |            |              | M         |          |
| 10.0               |              |             | 10.0           | 2.5             |   | 10.0              |            |              | N         |          |
| CRA                |              |             | 0.200          | 0.05            |   | 0.200             |            |              | O         |          |

# Sample Dilutions

Analyst: KSM

Date: 11/3/17

Instrument: FIMS-II

Analysis: 7470A

## Common Dilutions

| Dilution | Matrix of Diluent | 1st Dilution   |                 |                 | 2nd Dilution   |                 |                 | 3rd Dilution   |                 |                 | 4th Dilution   |                 |                 | 5th Dilution   |                 |                 |
|----------|-------------------|----------------|-----------------|-----------------|----------------|-----------------|-----------------|----------------|-----------------|-----------------|----------------|-----------------|-----------------|----------------|-----------------|-----------------|
|          |                   | mL's of Sample | mL's of Diluent | Dilution Factor | mL's of Sample | mL's of Diluent | Dilution Factor | mL's of Sample | mL's of Diluent | Dilution Factor | mL's of Sample | mL's of Diluent | Dilution Factor | mL's of Sample | mL's of Diluent | Dilution Factor |
| 1/2      | HNO3/HCL          | 3              | 3               | 1/2             |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |
| 1/3      | HNO3/HCL          | 3              | 6               | 1/3             |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |
| 1/4      | HNO3/HCL          | 2              | 6               | 1/4             |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |
| 1/5      | HNO3/HCL          | 2              | 8               | 1/5             |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |
| 1/10     | HNO3/HCL          | 1              | 9               | 1/10            |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |
| 1/20     | HNO3/HCL          | 3              | 3               | 1/2             | 1              | 9               | 1/20            |                |                 |                 |                |                 |                 |                |                 |                 |
| 1/30     | HNO3/HCL          | 3              | 6               | 1/3             | 1              | 9               | 1/30            |                |                 |                 |                |                 |                 |                |                 |                 |
| 1/40     | HNO3/HCL          | 1              | 3               | 1/4             | 1              | 9               | 1/40            |                |                 |                 |                |                 |                 |                |                 |                 |
| 1/50     | HNO3/HCL          | 1              | 4               | 1/5             | 1              | 9               | 1/50            |                |                 |                 |                |                 |                 |                |                 |                 |
| 1/100    | HNO3/HCL          | 1              | 9               | 1/10            | 1              | 9               | 1/100           |                |                 |                 |                |                 |                 |                |                 |                 |
| 1/200    | HNO3/HCL          | 3              | 3               | 1/2             | 1              | 9               | 1/200           | 1              | 9               | 1/200           |                |                 |                 |                |                 |                 |
| 1/300    | HNO3/HCL          | 3              | 6               | 1/3             | 1              | 9               | 1/300           | 1              | 9               | 1/300           |                |                 |                 |                |                 |                 |
| 1/400    | HNO3/HCL          | 1              | 3               | 1/4             | 1              | 9               | 1/400           | 1              | 9               | 1/400           |                |                 |                 |                |                 |                 |
| 1/500    | HNO3/HCL          | 1              | 4               | 1/5             | 1              | 9               | 1/500           | 1              | 9               | 1/500           |                |                 |                 |                |                 |                 |
| 1/1000   | HNO3/HCL          | 1              | 9               | 1/10            | 1              | 9               | 1/1000          | 1              | 9               | 1/1000          |                |                 |                 |                |                 |                 |
| 1/2000   | HNO3/HCL          | 3              | 3               | 1/2             | 1              | 9               | 1/2000          | 1              | 9               | 1/2000          | 1              | 9               | 1/2000          |                |                 |                 |
| 1/3000   | HNO3/HCL          | 3              | 6               | 1/3             | 1              | 9               | 1/3000          | 1              | 9               | 1/3000          | 1              | 9               | 1/3000          |                |                 |                 |
| 1/4000   | HNO3/HCL          | 1              | 3               | 1/4             | 1              | 9               | 1/4000          | 1              | 9               | 1/4000          | 1              | 9               | 1/4000          |                |                 |                 |
| 1/10000  | HNO3/HCL          | 1              | 9               | 1/10            | 1              | 9               | 1/10000         | 1              | 9               | 1/10000         | 1              | 9               | 1/10000         |                |                 |                 |
| 1/20000  | HNO3/HCL          | 1              | 1               | 1/2             | 1              | 9               | 1/20000         | 1              | 9               | 1/20000         | 1              | 9               | 1/20000         | 1              | 9               | 1/20000         |
| 1/40000  | HNO3/HCL          | 1              | 3               | 1/4             | 1              | 9               | 1/40000         | 1              | 9               | 1/40000         | 1              | 9               | 1/40000         | 1              | 9               | 1/40000         |
| 1/100000 | HNO3/HCL          | 1              | 9               | 1/10            | 1              | 9               | 1/100000        | 1              | 9               | 1/100000        | 1              | 9               | 1/100000        | 1              | 9               | 1/100000        |

## Special Dilutions

| Dilution | Matrix of Diluent | 1st Dilution   |                 |                 | 2nd Dilution   |                 |                 | 3rd Dilution   |                 |                 | 4th Dilution   |                 |                 | 5th Dilution   |                 |                 |
|----------|-------------------|----------------|-----------------|-----------------|----------------|-----------------|-----------------|----------------|-----------------|-----------------|----------------|-----------------|-----------------|----------------|-----------------|-----------------|
|          |                   | mL's of Sample | mL's of Diluent | Dilution Factor | mL's of Sample | mL's of Diluent | Dilution Factor | mL's of Sample | mL's of Diluent | Dilution Factor | mL's of Sample | mL's of Diluent | Dilution Factor | mL's of Sample | mL's of Diluent | Dilution Factor |
|          |                   |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |
|          |                   |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |
|          |                   |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |
|          |                   |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |
|          |                   |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |
|          |                   |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |
|          |                   |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |
|          |                   |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |
|          |                   |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |
|          |                   |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |                |                 |                 |

# Analytical Results Summary

Instrument Name: R-CVAA-02

Analyst: KMCLAEN

Analysis Lot: 568758 Method/Testcode: 7470A/Hg D

| Lab Code     | Target Analytes    | QC  | Parent Sample | Matrix | Raw Result | Sample Amt. | Final Result   | Dil | MDL      | PQL     | % Rec | % RSD | Date Analyzed    | QC? | Tier |
|--------------|--------------------|-----|---------------|--------|------------|-------------|----------------|-----|----------|---------|-------|-------|------------------|-----|------|
| RQ1711370-01 | Mercury, Dissolved | MB  |               | Water  | 0.00 µg/L  | 25 mL       | 0.20 µg/L U    | 1   | 0.09     | 0.20    |       |       | 11/3/17 12:40    | N   | II   |
| RQ1711370-01 | Mercury, Total     | MB  |               | Water  | 0.00 µg/L  | 25 mL       | 0.00020 mg/L U | 1   | 0.000090 | 0.00020 |       |       | 11/3/17 12:40    | N   | II   |
| RQ1711370-02 | Mercury, Dissolved | LCS |               | Water  | 1.01 µg/L  | 25 mL       | 1.01 µg/L      | 1   | 0.09     | 0.20    | 101   |       | 11/3/17 12:41    | N   | II   |
| RQ1711370-02 | Mercury, Total     | LCS |               | Water  | 1.01 µg/L  | 25 mL       | 0.00101 mg/L   | 1   | 0.000090 | 0.00020 | 101   |       | 11/3/17 12:41    | N   | II   |
| R1710088-001 | Mercury, Total     | N/A |               | Water  | 0.00 µg/L  | 25 mL       | 0.20 µg/L U    | 1   | 0.09     | 0.20    |       |       | 11/3/17 12:43    | N   | II   |
| R1710088-002 | Mercury, Total     | N/A |               | Water  | 0.00 µg/L  | 25 mL       | 0.20 µg/L U    | 1   | 0.09     | 0.20    |       |       | 11/3/17 12:44    | Y   | II   |
| RQ1711370-03 | Mercury, Total     | MS  | R1710088-002  | Water  | 0.97 µg/L  | 25 mL       | 0.97 µg/L      | 1   | 0.09     | 0.20    | 97    |       | 11/3/17 12:46    | N   | II   |
| RQ1711370-04 | Mercury, Total     | DMS | R1710088-002  | Water  | 0.96 µg/L  | 25 mL       | 0.96 µg/L      | 1   | 0.09     | 0.20    | 96    | 2     | 11/3/17 12:51    | N   | II   |
| R1710088-003 | Mercury, Total     | N/A |               | Water  | 0.00 µg/L  | 25 mL       | 0.20 µg/L U    | 1   | 0.09     | 0.20    |       |       | 11/3/17 12:53    | N   | II   |
| R1710088-004 | Mercury, Total     | N/A |               | Water  | 0.05 µg/L  | 25 mL       | 0.20 µg/L U    | 1   | 0.09     | 0.20    |       |       | 11/3/17 12:54    | N   | II   |
| R1710113-001 | Mercury, Total     | N/A |               | Water  | 0.00 µg/L  | 25 mL       | 0.20 µg/L U    | 1   | 0.09     | 0.20    |       |       | 11/3/17 12:56    | N   | IV   |
| R1710113-003 | Mercury, Dissolved | N/A |               | Water  | 0.01 µg/L  | 25 mL       | 0.20 µg/L U    | 1   | 0.09     | 0.20    |       |       | 11/3/17 12:58:00 | N   | IV   |
| R1710113-002 | Mercury, Total     | N/A |               | Water  | 0.02 µg/L  | 25 mL       | 0.20 µg/L U    | 1   | 0.09     | 0.20    |       |       | 11/3/17 13:02:00 | N   | IV   |
| R1710113-004 | Mercury, Total     | N/A |               | Water  | 0.02 µg/L  | 25 mL       | 0.20 µg/L U    | 1   | 0.09     | 0.20    |       |       | 11/3/17 13:04    | N   | IV   |
| R1710113-005 | Mercury, Dissolved | N/A |               | Water  | 0.00 µg/L  | 25 mL       | 0.20 µg/L U    | 1   | 0.09     | 0.20    |       |       | 11/3/17 13:06    | N   | IV   |
| R1710113-007 | Mercury, Dissolved | N/A |               | Water  | 8.14 µg/L  | 25 mL       | 8.14 µg/L      | 1   | 0.09     | 0.20    |       |       | 11/3/17 13:09    | N   | IV   |
| R1710266-003 | Mercury, Total     | N/A |               | Water  | 0.00 µg/L  | 25 mL       | 0.00020 mg/L U | 1   | 0.000090 | 0.00020 |       |       | 11/3/17 13:14    | N   | IV   |
| R1710266-010 | Mercury, Total     | N/A |               | Water  | 0.00 µg/L  | 25 mL       | 0.00020 mg/L U | 1   | 0.000090 | 0.00020 |       |       | 11/3/17 13:16    | N   | IV   |
| R1710266-011 | Mercury, Total     | N/A |               | Water  | 0.00 µg/L  | 25 mL       | 0.00020 mg/L U | 1   | 0.000090 | 0.00020 |       |       | 11/3/17 13:17    | N   | IV   |
| R1710266-017 | Mercury, Total     | N/A |               | Water  | 0.00 µg/L  | 25 mL       | 0.00020 mg/L U | 1   | 0.000090 | 0.00020 |       |       | 11/3/17 13:19    | N   | IV   |
| R1710113-006 | Mercury, Total     | N/A |               | Water  | 2.89 µg/L  | 25 mL       | 14.5 µg/L      | 5   | 0.5      | 1.0     |       |       | 11/3/17 13:20    | N   | IV   |
| R1710266-018 | Mercury, Total     | N/A |               | Water  | 0.00 µg/L  | 25 mL       | 0.00020 mg/L U | 1   | 0.000090 | 0.00020 |       |       | 11/3/17 13:22    | N   | IV   |
| R1710266-019 | Mercury, Total     | N/A |               | Water  | -0.01 µg/L | 25 mL       | 0.00020 mg/L U | 1   | 0.000090 | 0.00020 |       |       | 11/3/17 13:29    | N   | IV   |
| R1710304-002 | Mercury, Total     | N/A |               | Water  | 0.00 µg/L  | 25 mL       | 0.20 µg/L U    | 1   | 0.09     | 0.20    |       |       | 11/3/17 13:30    | N   | II   |
| R1710312-001 | Mercury, Total     | N/A |               | Water  | 0.00 µg/L  | 25 mL       | 0.20 µg/L U    | 1   | 0.09     | 0.20    |       |       | 11/3/17 13:32    | N   | II   |
| R1710312-002 | Mercury, Total     | N/A |               | Water  | 0.00 µg/L  | 25 mL       | 0.20 µg/L U    | 1   | 0.09     | 0.20    |       |       | 11/3/17 13:34    | N   | II   |

† indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

**METALS**  
-2A-  
**INITIAL AND CONTINUING CALIBRATION VERIFICATION**

Contract: R1710113

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: MW-7

Initial Calibration Source: PERKIN ELMER

Continuing Calibration Source: PERKIN ELMER

Concentration Units: ug/L

| Analyte   | Initial Calibration |       |       | Continuing Calibration |       |       |       |       | M  |
|-----------|---------------------|-------|-------|------------------------|-------|-------|-------|-------|----|
|           | True                | Found | %R(1) | True                   | Found | %R(1) | Found | %R(1) |    |
| Aluminum  | 10000               | 9420  | 94    | 10000                  | 9220  | 92    | 9260  | 93    | P  |
| Antimony  | 5000                | 4870  | 97    | 5000                   | 4800  | 96    | 4770  | 95    | P  |
| Arsenic   | 1000                | 962   | 96    | 1000                   | 945   | 94    | 947   | 95    | P  |
| Barium    | 10000               | 10200 | 102   | 10000                  | 10100 | 101   | 10100 | 101   | P  |
| Beryllium | 250                 | 251   | 100   | 250                    | 248   | 99    | 247   | 99    | P  |
| Cadmium   | 500                 | 498   | 100   | 500                    | 494   | 99    | 494   | 99    | P  |
| Mercury   | 3.00                | 3.04  | 101   | 3.00                   | 3.03  | 101   | 3.02  | 101   | CV |
| Chromium  | 500                 | 500   | 100   | 500                    | 498   | 100   | 497   | 99    | P  |
| Cobalt    | 2500                | 2570  | 103   | 2500                   | 2550  | 102   | 2540  | 102   | P  |
| Copper    | 1250                | 1200  | 96    | 1250                   | 1160  | 93    | 1150  | 92    | P  |
| Iron      | 5000                | 4810  | 96    | 5000                   | 4750  | 95    | 4790  | 96    | P  |
| Lead      | 500                 | 498   | 100   | 500                    | 493   | 99    | 490   | 98    | P  |
| Magnesium | 25000               | 24900 | 100   | 25000                  | 24700 | 99    | 24800 | 99    | P  |
| Nickel    | 2000                | 2030  | 102   | 2000                   | 2000  | 100   | 1990  | 100   | P  |
| Potassium | 25000               | 24500 | 98    | 25000                  | 23900 | 96    | 23700 | 95    | P  |
| Selenium  | 500                 | 479   | 96    | 500                    | 485   | 97    | 479   | 96    | P  |
| Silver    | 500                 | 486   | 97    | 500                    | 479   | 96    | 477   | 95    | P  |
| Sodium    | 25000               | 24500 | 98    | 25000                  | 24000 | 96    | 23700 | 95    | P  |
| Thallium  | 1000                | 978   | 98    | 1000                   | 960   | 96    | 954   | 95    | P  |
| Vanadium  | 2500                | 2500  | 100   | 2500                   | 2460  | 98    | 2450  | 98    | P  |
| Zinc      | 1000                | 997   | 100   | 1000                   | 991   | 99    | 989   | 99    | P  |

Comments:

**METALS**  
-2A-  
**INITIAL AND CONTINUING CALIBRATION VERIFICATION**

Contract: R1710113

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: MW-7

Initial Calibration Source: PERKIN ELMER

Continuing Calibration Source: PERKIN ELMER

Concentration Units: ug/L

| Analyte   | Initial Calibration |       |       | Continuing Calibration |       |       |       |       | M  |
|-----------|---------------------|-------|-------|------------------------|-------|-------|-------|-------|----|
|           | True                | Found | %R(1) | True                   | Found | %R(1) | Found | %R(1) |    |
| Aluminum  |                     |       |       | 10000                  | 9530  | 95    | 9670  | 97    | P  |
| Antimony  |                     |       |       | 5000                   | 4940  | 99    | 5020  | 100   | P  |
| Arsenic   |                     |       |       | 1000                   | 974   | 97    | 1000  | 100   | P  |
| Barium    |                     |       |       | 10000                  | 10500 | 105   | 10700 | 107   | P  |
| Beryllium |                     |       |       | 250                    | 256   | 102   | 260   | 104   | P  |
| Cadmium   |                     |       |       | 500                    | 512   | 102   | 524   | 105   | P  |
| Mercury   |                     |       |       | 3.00                   | 3.04  | 101   | 3.05  | 102   | CV |
| Chromium  |                     |       |       | 500                    | 516   | 103   | 527   | 105   | P  |
| Cobalt    |                     |       |       | 2500                   | 2640  | 106   | 2690  | 108   | P  |
| Copper    |                     |       |       | 1250                   | 1190  | 95    | 1210  | 97    | P  |
| Iron      |                     |       |       | 5000                   | 4930  | 99    | 5350  | 107   | P  |
| Lead      |                     |       |       | 500                    | 507   | 101   | 525   | 105   | P  |
| Magnesium |                     |       |       | 25000                  | 25600 | 102   | 26300 | 105   | P  |
| Nickel    |                     |       |       | 2000                   | 2070  | 104   | 2110  | 106   | P  |
| Potassium |                     |       |       | 25000                  | 24600 | 98    | 24600 | 98    | P  |
| Selenium  |                     |       |       | 500                    | 503   | 101   | 512   | 102   | P  |
| Silver    |                     |       |       | 500                    | 494   | 99    | 501   | 100   | P  |
| Sodium    |                     |       |       | 25000                  | 24600 | 98    | 24700 | 99    | P  |
| Thallium  |                     |       |       | 1000                   | 989   | 99    | 997   | 100   | P  |
| Vanadium  |                     |       |       | 2500                   | 2550  | 102   | 2590  | 104   | P  |
| Zinc      |                     |       |       | 1000                   | 1030  | 103   | 1050  | 105   | P  |

Comments:



**METALS**  
-2A-  
**INITIAL AND CONTINUING CALIBRATION VERIFICATION**

Contract: R1710113

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: MW-7

Initial Calibration Source: PERKIN ELMER

Continuing Calibration Source: PERKIN ELMER

Concentration Units: ug/L

| Analyte   | Initial Calibration |       |       | Continuing Calibration |       |       |       |       | M  |
|-----------|---------------------|-------|-------|------------------------|-------|-------|-------|-------|----|
|           | True                | Found | %R(1) | True                   | Found | %R(1) | Found | %R(1) |    |
| Aluminum  |                     |       |       | 10000                  | 9490  | 95    | 9660  | 97    | P  |
| Antimony  |                     |       |       | 5000                   | 4960  | 99    | 5000  | 100   | P  |
| Arsenic   |                     |       |       | 1000                   | 984   | 98    | 991   | 99    | P  |
| Barium    |                     |       |       | 10000                  | 10500 | 105   | 10600 | 106   | P  |
| Beryllium |                     |       |       | 250                    | 257   | 103   | 259   | 104   | P  |
| Cadmium   |                     |       |       | 500                    | 519   | 104   | 522   | 104   | P  |
| Mercury   |                     |       |       | 3.00                   | 3.02  | 101   | 3.04  | 101   | CV |
| Chromium  |                     |       |       | 500                    | 520   | 104   | 526   | 105   | P  |
| Cobalt    |                     |       |       | 2500                   | 2660  | 106   | 2680  | 107   | P  |
| Copper    |                     |       |       | 1250                   | 1190  | 95    | 1200  | 96    | P  |
| Iron      |                     |       |       | 5000                   | 4980  | 100   | 5060  | 101   | P  |
| Lead      |                     |       |       | 500                    | 517   | 103   | 517   | 103   | P  |
| Magnesium |                     |       |       | 25000                  | 25800 | 103   | 26100 | 104   | P  |
| Nickel    |                     |       |       | 2000                   | 2090  | 104   | 2100  | 105   | P  |
| Potassium |                     |       |       | 25000                  | 24200 | 97    | 24300 | 97    | P  |
| Selenium  |                     |       |       | 500                    | 503   | 101   | 508   | 102   | P  |
| Silver    |                     |       |       | 500                    | 497   | 99    | 499   | 100   | P  |
| Sodium    |                     |       |       | 25000                  | 24300 | 97    | 24500 | 98    | P  |
| Thallium  |                     |       |       | 1000                   | 989   | 99    | 997   | 100   | P  |
| Vanadium  |                     |       |       | 2500                   | 2560  | 102   | 2580  | 103   | P  |
| Zinc      |                     |       |       | 1000                   | 1040  | 104   | 1040  | 104   | P  |

Comments:

**METALS**  
-2A-  
**INITIAL AND CONTINUING CALIBRATION VERIFICATION**

Contract: R1710113

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: MW-7

Initial Calibration Source: PERKIN ELMER

Continuing Calibration Source: PERKIN ELMER

Concentration Units: ug/L

| Analyte   | Initial Calibration |       |       | Continuing Calibration |       |       |       |       | M |
|-----------|---------------------|-------|-------|------------------------|-------|-------|-------|-------|---|
|           | True                | Found | %R(1) | True                   | Found | %R(1) | Found | %R(1) |   |
| Calcium   | 25000               | 24200 | 97    | 25000                  | 24300 | 97    | 24300 | 97    | P |
| Iron      | 5000                | 4860  | 97    | 5000                   | 4880  | 98    | 4860  | 97    | P |
| Lead      | 500                 | 500   | 100   | 500                    | 499   | 100   | 499   | 100   | P |
| Magnesium | 25000               | 25000 | 100   | 25000                  | 25000 | 100   | 25000 | 100   | P |
| Manganese | 750                 | 753   | 100   | 750                    | 753   | 100   | 755   | 101   | P |
| Selenium  | 500                 | 485   | 97    | 500                    | 480   | 96    | 485   | 97    | P |
| Thallium  | 1000                | 987   | 99    | 1000                   | 990   | 99    | 991   | 99    | P |

Comments:

METALS  
-2A-  
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Contract: R1710113  
Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: MW-7  
Initial Calibration Source: PERKIN ELMER  
Continuing Calibration Source: PERKIN ELMER

Concentration Units: ug/L

| Analyte   | Initial Calibration |       |       | Continuing Calibration |       |       |       |       | M |
|-----------|---------------------|-------|-------|------------------------|-------|-------|-------|-------|---|
|           | True                | Found | %R(1) | True                   | Found | %R(1) | Found | %R(1) |   |
| Calcium   |                     |       |       | 25000                  | 24400 | 98    | 24400 | 98    | P |
| Iron      |                     |       |       | 5000                   | 4890  | 98    | 4930  | 99    | P |
| Lead      |                     |       |       | 500                    | 503   | 101   | 504   | 101   | P |
| Magnesium |                     |       |       | 25000                  | 25200 | 101   | 25300 | 101   | P |
| Manganese |                     |       |       | 750                    | 760   | 101   | 765   | 102   | P |
| Selenium  |                     |       |       | 500                    | 485   | 97    | 488   | 98    | P |
| Thallium  |                     |       |       | 1000                   | 996   | 100   | 999   | 100   | P |

Comments:

METALS  
-2A-  
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Contract: R1710113

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: MW-7

Initial Calibration Source: PERKIN ELMER

Continuing Calibration Source: PERKIN ELMER

Concentration Units: ug/L

| Analyte   | Initial Calibration |       |       | Continuing Calibration |       |       |       |       | M |
|-----------|---------------------|-------|-------|------------------------|-------|-------|-------|-------|---|
|           | True                | Found | %R(1) | True                   | Found | %R(1) | Found | %R(1) |   |
| Calcium   |                     |       |       | 25000                  | 24600 | 98    | 24500 | 98    | P |
| Iron      |                     |       |       | 5000                   | 4910  | 98    | 4900  | 98    | P |
| Lead      |                     |       |       | 500                    | 503   | 101   | 500   | 100   | P |
| Magnesium |                     |       |       | 25000                  | 25100 | 100   | 25200 | 101   | P |
| Manganese |                     |       |       | 750                    | 761   | 101   | 761   | 101   | P |
| Selenium  |                     |       |       | 500                    | 482   | 96    | 484   | 97    | P |
| Thallium  |                     |       |       | 1000                   | 999   | 100   | 1000  | 100   | P |

Comments:

METALS  
-2A-  
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Contract: R1710113

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: MW-7

Initial Calibration Source: PERKIN ELMER

Continuing Calibration Source: PERKIN ELMER

Concentration Units: ug/L

| Analyte   | Initial Calibration |       |       | Continuing Calibration |       |       |       |       | M |
|-----------|---------------------|-------|-------|------------------------|-------|-------|-------|-------|---|
|           | True                | Found | %R(1) | True                   | Found | %R(1) | Found | %R(1) |   |
| Calcium   |                     |       |       | 25000                  | 24500 | 98    |       |       | P |
| Iron      |                     |       |       | 5000                   | 4930  | 99    |       |       | P |
| Lead      |                     |       |       | 500                    | 506   | 101   |       |       | P |
| Magnesium |                     |       |       | 25000                  | 25300 | 101   |       |       | P |
| Manganese |                     |       |       | 750                    | 766   | 102   |       |       | P |
| Selenium  |                     |       |       | 500                    | 489   | 98    |       |       | P |
| Thallium  |                     |       |       | 1000                   | 1000  | 100   |       |       | P |

Comments:

METALS

-3-

BLANKS

Contract: R1710113

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: MW-7

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L, ppt, or mg/kg): UG/L

| Analyte   | Initial Calib. Blank ug/L |   | Continuing Calibration Blank ug/L |   |         |   |         |   | Preparation Blank |   | M  |
|-----------|---------------------------|---|-----------------------------------|---|---------|---|---------|---|-------------------|---|----|
|           | C                         |   | 1                                 | C | 2       | C | 3       | C | C                 |   |    |
| Aluminum  | 100.00                    | U | 100.00                            | U | 100.00  | U | 100.00  | U | 100.000           | U | P  |
| Antimony  | 60.00                     | U | 60.00                             | U | 60.00   | U | 60.00   | U | 60.000            | U | P  |
| Arsenic   | 10.00                     | U | 10.00                             | U | 10.00   | U | 10.00   | U | 10.000            | U | P  |
| Barium    | 20.00                     | U | 20.00                             | U | 20.00   | U | 20.00   | U | 20.000            | U | P  |
| Beryllium | 3.00                      | U | 3.00                              | U | 3.00    | U | 3.00    | U | 3.000             | U | P  |
| Cadmium   | 5.00                      | U | 5.00                              | U | 5.00    | U | 5.00    | U | 5.000             | U | P  |
| Mercury   | 0.200                     | U | 0.200                             | U | 0.200   | U | 0.200   | U | 0.200             | U | CV |
| Chromium  | 10.00                     | U | 10.00                             | U | 10.00   | U | 10.00   | U | 10.000            | U | P  |
| Cobalt    | 50.00                     | U | 50.00                             | U | 50.00   | U | 50.00   | U | 50.000            | U | P  |
| Copper    | 20.00                     | U | 20.00                             | U | 20.00   | U | 20.00   | U | 20.000            | U | P  |
| Iron      | 100.00                    | U | 100.00                            | U | 100.00  | U | 100.00  | U | 100.000           | U | P  |
| Lead      | 50.00                     | U | 50.00                             | U | 50.00   | U | 50.00   | U | 50.000            | U | P  |
| Magnesium | 1000.00                   | U | 1000.00                           | U | 1000.00 | U | 1000.00 | U | 1000.000          | U | P  |
| Nickel    | 40.00                     | U | 40.00                             | U | 40.00   | U | 40.00   | U | 40.000            | U | P  |
| Potassium | 2000.00                   | U | 2000.00                           | U | 2000.00 | U | 2000.00 | U | 2000.000          | U | P  |
| Selenium  | 10.00                     | U | 10.00                             | U | 10.00   | U | 10.00   | U | 10.000            | U | P  |
| Silver    | 10.00                     | U | 10.00                             | U | 10.00   | U | 10.00   | U | 10.000            | U | P  |
| Sodium    | 1000.00                   | U | 1000.00                           | U | 1000.00 | U | 1000.00 | U | 1000.000          | U | P  |
| Thallium  | 10.00                     | U | 10.00                             | U | 10.00   | U | 10.00   | U | 10.000            | U | P  |
| Vanadium  | 50.00                     | U | 50.00                             | U | 50.00   | U | 50.00   | U | 50.000            | U | P  |
| Zinc      | 20.00                     | U | 20.00                             | U | 20.00   | U | 20.00   | U | 20.000            | U | P  |

Comments:

METALS

-3-

BLANKS

Contract: R1710113

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: MW-7

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L, ppt, or mg/kg): UG/L

| Analyte   | Initial Calib. Blank ug/L | Continuing Calibration Blank ug/L |   |         |   |         |   | Preparation Blank | C | M  |
|-----------|---------------------------|-----------------------------------|---|---------|---|---------|---|-------------------|---|----|
|           |                           | 1                                 | C | 2       | C | 3       | C |                   |   |    |
| Aluminum  |                           | 100.00                            | U | 100.00  | U | 100.00  | U |                   |   | P  |
| Antimony  |                           | 60.00                             | U | 60.00   | U | 60.00   | U |                   |   | P  |
| Arsenic   |                           | 10.00                             | U | 10.00   | U | 10.00   | U |                   |   | P  |
| Barium    |                           | 20.00                             | U | 20.00   | U | 20.00   | U |                   |   | P  |
| Beryllium |                           | 3.00                              | U | 3.00    | U | 3.00    | U |                   |   | P  |
| Cadmium   |                           | 5.00                              | U | 5.00    | U | 5.00    | U |                   |   | P  |
| Mercury   |                           | 0.200                             | U | 0.200   | U | 0.200   | U |                   |   | CV |
| Chromium  |                           | 10.00                             | U | 10.00   | U | 10.00   | U |                   |   | P  |
| Cobalt    |                           | 50.00                             | U | 50.00   | U | 50.00   | U |                   |   | P  |
| Copper    |                           | 20.00                             | U | 20.00   | U | 20.00   | U |                   |   | P  |
| Iron      |                           | 100.00                            | U | 100.00  | U | 100.00  | U |                   |   | P  |
| Lead      |                           | 50.00                             | U | 50.00   | U | 50.00   | U |                   |   | P  |
| Magnesium |                           | 1000.00                           | U | 1000.00 | U | 1000.00 | U |                   |   | P  |
| Nickel    |                           | 40.00                             | U | 40.00   | U | 40.00   | U |                   |   | P  |
| Potassium |                           | 2000.00                           | U | 2000.00 | U | 2000.00 | U |                   |   | P  |
| Selenium  |                           | 10.00                             | U | 10.00   | U | 10.00   | U |                   |   | P  |
| Silver    |                           | 10.00                             | U | 10.00   | U | 10.00   | U |                   |   | P  |
| Sodium    |                           | 1000.00                           | U | 1000.00 | U | 1000.00 | U |                   |   | P  |
| Thallium  |                           | 10.00                             | U | 10.00   | U | 10.00   | U |                   |   | P  |
| Vanadium  |                           | 50.00                             | U | 50.00   | U | 50.00   | U |                   |   | P  |
| Zinc      |                           | 20.00                             | U | 20.00   | U | 20.00   | U |                   |   | P  |

Comments:

**METALS**

-3-

**BLANKS**

Contract: R1710113

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: MW-7

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L, ppt, or mg/kg): UG/L

| Analyte   | Initial Calib. Blank ug/L | Continuing Calibration Blank ug/L |   |         |   |         |   | Preparation Blank |   | M |
|-----------|---------------------------|-----------------------------------|---|---------|---|---------|---|-------------------|---|---|
|           |                           | 1                                 | C | 2       | C | 3       | C | C                 |   |   |
| Calcium   | 1000.00 U                 | 1000.00                           | U | 1000.00 | U | 1000.00 | U | 1000.00           | U | P |
| Iron      | 100.00 U                  | 100.00                            | U | 100.00  | U | 100.00  | U |                   |   | P |
| Lead      | 50.00 U                   | 50.00                             | U | 50.00   | U | 50.00   | U |                   |   | P |
| Magnesium | 1000.00 U                 | 1000.00                           | U | 1000.00 | U | 1000.00 | U |                   |   | P |
| Manganese | 10.00 U                   | 10.00                             | U | 10.00   | U | 10.00   | U | 10.000            | U | P |
| Selenium  | 10.00 U                   | 10.00                             | U | 10.00   | U | 10.00   | U |                   |   | P |
| Thallium  | 10.00 U                   | 10.00                             | U | 10.00   | U | 10.00   | U |                   |   | P |

Comments:



**METALS**

-3-

**BLANKS**

Contract: R1710113

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: MW-7

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L, ppt, or mg/kg): UG/L

| Analyte   | Initial Calib. Blank ug/L | Continuing Calibration Blank ug/L |   |         |   |         |   | Preparation Blank | C | M |
|-----------|---------------------------|-----------------------------------|---|---------|---|---------|---|-------------------|---|---|
|           |                           | 1                                 | C | 2       | C | 3       | C |                   |   |   |
| Calcium   |                           | 1000.00                           | U | 1000.00 | U | 1000.00 | U |                   |   | P |
| Iron      |                           | 100.00                            | U | 100.00  | U | 100.00  | U |                   |   | P |
| Lead      |                           | 50.00                             | U | 50.00   | U | 50.00   | U |                   |   | P |
| Magnesium |                           | 1000.00                           | U | 1000.00 | U | 1000.00 | U |                   |   | P |
| Manganese |                           | 10.00                             | U | 10.00   | U | 10.00   | U |                   |   | P |
| Selenium  |                           | 10.00                             | U | 10.00   | U | 10.00   | U |                   |   | P |
| Thallium  |                           | 10.00                             | U | 10.00   | U | 10.00   | U |                   |   | P |

Comments:

**METALS**

-3-

**BLANKS**

Contract: R1710113

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: MW-7

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L, ppt, or mg/kg): UG/L

| Analyte   | Initial Calib. Blank ug/L | Continuing Calibration Blank ug/L |   |   |   |   |   | Preparation Blank | C | M |
|-----------|---------------------------|-----------------------------------|---|---|---|---|---|-------------------|---|---|
|           |                           | 1                                 | C | 2 | C | 3 | C |                   |   |   |
| Calcium   |                           | 1000.00                           | U |   |   |   |   |                   |   | P |
| Iron      |                           | 100.00                            | U |   |   |   |   |                   |   | P |
| Lead      |                           | 50.00                             | U |   |   |   |   |                   |   | P |
| Magnesium |                           | 1000.00                           | U |   |   |   |   |                   |   | P |
| Manganese |                           | 10.00                             | U |   |   |   |   |                   |   | P |
| Selenium  |                           | 10.00                             | U |   |   |   |   |                   |   | P |
| Thallium  |                           | 10.00                             | U |   |   |   |   |                   |   | P |

Comments:

METALS  
-14-

ANALYSIS RUN LOG

Contract: R1710113  
 Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG No.: MW-7  
 Instrument ID Number: Agilent ICP Method: P  
 Start Date: 11/1/2017 End Date: 11/1/2017

| Sample ID. | D/F   | Time  | % R | Analytes |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |
|------------|-------|-------|-----|----------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---|--------|--------|--------|--------|---|
|            |       |       |     | A<br>L   | S<br>B | A<br>S | B<br>A | B<br>E | C<br>D | C<br>A | C<br>R | C<br>O | C<br>U | F<br>E | P<br>B | M<br>G | M<br>N | H<br>G | N<br>I | K | S<br>E | A<br>G | N<br>A | T<br>L | V |
| BLANK      | 1.00  | 17:20 |     |          |        |        |        |        | X      |        |        | X      | X      | X      | X      |        |        |        | X      |   |        | X      |        |        |   |
| STANDARD 1 | 1.00  | 17:24 |     |          |        |        |        | X      |        |        | X      | X      | X      | X      |        |        |        |        | X      |   |        | X      |        |        |   |
| STANDARD 2 | 1.00  | 17:27 |     |          |        |        |        | X      |        |        | X      | X      | X      | X      |        |        |        |        | X      |   |        | X      |        |        |   |
| STANDARD 3 | 1.00  | 17:30 |     |          |        |        |        | X      |        |        | X      | X      | X      | X      |        |        |        |        | X      |   |        | X      |        |        |   |
| STANDARD 4 | 1.00  | 17:34 |     |          |        |        |        | X      |        |        | X      | X      | X      | X      |        |        |        |        | X      |   |        | X      |        |        |   |
| STANDARD 5 | 1.00  | 17:37 |     |          |        |        |        | X      |        |        | X      | X      | X      | X      |        |        |        |        | X      |   |        | X      |        |        |   |
| ICV2       | 1.00  | 17:40 |     |          |        |        |        | X      |        |        | X      | X      | X      | X      |        |        |        |        | X      |   |        | X      |        |        |   |
| ICB2       | 1.00  | 17:44 |     |          |        |        |        | X      |        |        | X      | X      | X      | X      |        |        |        |        | X      |   |        | X      |        |        |   |
| CRDL1      | 1.00  | 17:47 |     |          |        |        |        | X      |        |        | X      | X      | X      | X      |        |        |        |        | X      |   |        | X      |        |        |   |
| ICS-A1     | 1.00  | 17:50 |     |          |        |        |        | X      |        |        | X      | X      | X      | X      |        |        |        |        | X      |   |        | X      |        |        |   |
| ICS-AB1    | 1.00  | 17:54 |     |          |        |        |        | X      |        |        | X      | X      | X      | X      |        |        |        |        | X      |   |        | X      |        |        |   |
| CCV1       | 1.00  | 17:57 |     |          |        |        |        | X      |        |        | X      | X      | X      | X      |        |        |        |        | X      |   |        | X      |        |        |   |
| CCB1       | 1.00  | 18:00 |     |          |        |        |        | X      |        |        | X      | X      | X      | X      |        |        |        |        | X      |   |        | X      |        |        |   |
| ZZZZZZ     | 1.00  | 18:04 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |
| ZZZZZZ     | 1.00  | 18:07 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |
| ZZZZZZ     | 10.00 | 18:10 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |
| ZZZZZZ     | 10.00 | 18:13 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |
| ZZZZZZ     | 1.00  | 18:17 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |
| ZZZZZZ     | 1.00  | 18:20 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |
| ZZZZZZ     | 1.00  | 18:23 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |
| ZZZZZZ     | 5.00  | 18:27 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |
| PBW        | 1.00  | 18:30 |     |          |        |        |        | X      |        |        |        |        |        |        |        |        | X      |        |        |   |        |        |        |        |   |
| LCSW       | 1.00  | 18:33 |     |          |        |        |        | X      |        |        |        |        |        |        |        |        | X      |        |        |   |        |        |        |        |   |
| CCV2       | 1.00  | 18:37 |     |          |        |        |        | X      |        |        | X      | X      | X      | X      |        |        |        |        | X      |   |        | X      |        |        |   |
| CCB2       | 1.00  | 18:40 |     |          |        |        |        | X      |        |        | X      | X      | X      | X      |        |        |        |        | X      |   |        | X      |        |        |   |
| ZZZZZZ     | 1.00  | 18:43 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |
| ZZZZZZ     | 1.00  | 18:47 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |
| ZZZZZZ     | 1.00  | 18:50 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |
| ZZZZZZ     | 1.00  | 18:53 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |
| ZZZZZZ     | 5.00  | 18:57 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |
| ZZZZZZ     | 1.00  | 19:00 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |
| ZZZZZZ     | 1.00  | 19:03 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |
| ZZZZZZ     | 1.00  | 19:07 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |

\* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

METALS

-14-

ANALYSIS RUN LOG

Contract: R1710113

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG No.: MW-7

Instrument ID Number: Agilent ICP Method: P

Start Date: 11/1/2017 End Date: 11/1/2017

| Sample ID. | D/F    | Time  | % R | Analytes |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
|------------|--------|-------|-----|----------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---|--------|
|            |        |       |     | A<br>L   | S<br>B | A<br>S | B<br>A | B<br>E | C<br>D | C<br>A | C<br>R | C<br>O | C<br>U | F<br>E | P<br>B | M<br>G | M<br>N | H<br>G | N<br>I | K<br>E | S<br>G | A<br>G | N<br>A | T<br>L | V | Z<br>N |
| ZZZZZZ     | 10.00  | 19:10 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| ZZZZZZ     | 1.00   | 19:13 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| CCV3       | 1.00   | 19:17 |     |          |        |        |        |        | X      |        |        | X      | X      | X      | X      |        |        |        | X      |        |        |        | X      |        |   |        |
| CCB3       | 1.00   | 19:20 |     |          |        |        |        |        | X      |        |        | X      | X      | X      | X      |        |        |        | X      |        |        |        | X      |        |   |        |
| ZZZZZZ     | 1.00   | 19:23 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| ZZZZZZ     | 10.00  | 19:27 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| ZZZZZZ     | 1.00   | 19:30 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| MW-7       | 10.00  | 19:33 |     |          |        |        |        |        | X      |        |        |        |        |        |        | X      |        |        |        |        |        |        |        | X      |   |        |
| MW-7       | 1.00   | 19:36 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| MW-3 Diss  | 100.00 | 19:40 |     |          |        |        |        |        |        |        |        | X      |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| MW-3 Diss  | 10.00  | 19:43 |     |          |        |        |        |        | X      |        |        |        |        | X      | X      |        |        | X      |        |        |        |        | X      |        |   |        |
| MW-3 Diss  | 2.00   | 19:46 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| MW-3 Diss  | 1.00   | 19:50 |     |          |        |        |        |        |        |        |        |        | X      |        |        |        |        |        |        |        |        |        |        |        |   |        |
| MW-3       | 100.00 | 19:53 |     |          |        |        |        |        |        |        |        | X      |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| CCV4       | 1.00   | 19:56 |     |          |        |        |        |        | X      |        |        | X      | X      | X      | X      |        |        |        | X      |        |        |        | X      |        |   |        |
| CCB4       | 1.00   | 20:00 |     |          |        |        |        |        | X      |        |        | X      | X      | X      | X      |        |        |        | X      |        |        |        | X      |        |   |        |
| MW-3       | 10.00  | 20:03 |     |          |        |        |        |        | X      |        |        |        |        |        |        | X      |        |        | X      |        |        |        | X      |        |   |        |
| MW-3       | 2.00   | 20:06 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        | X      |        |        |        |        |        |   |        |
| MW-3       | 1.00   | 20:10 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| MW-D       | 100.00 | 20:13 |     |          |        |        |        |        |        |        |        | X      |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| MW-D       | 10.00  | 20:16 |     |          |        |        |        |        | X      |        |        |        |        |        |        | X      |        |        | X      |        |        |        | X      |        |   |        |
| MW-D       | 2.00   | 20:20 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| MW-D Diss  | 100.00 | 20:23 |     |          |        |        |        |        |        |        |        | X      |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| MW-D Diss  | 10.00  | 20:26 |     |          |        |        |        |        | X      |        |        |        |        |        |        | X      |        |        | X      |        |        |        |        |        |   |        |
| CCV5       | 1.00   | 20:30 |     |          |        |        |        |        | X      |        |        | X      | X      | X      | X      |        |        |        | X      |        |        |        | X      |        |   |        |
| CCB5       | 1.00   | 20:33 |     |          |        |        |        |        | X      |        |        | X      | X      | X      | X      |        |        |        | X      |        |        |        | X      |        |   |        |
| MW-D Diss  | 2.00   | 20:36 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        | X      |        |   |        |
| MW-D Diss  | 1.00   | 20:40 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        | X      |        |        |        |        |        |   |        |
| MW-8       | 10.00  | 20:43 |     |          |        |        |        |        | X      |        |        | X      | X      | X      | X      |        |        |        | X      |        |        |        |        |        |   |        |
| MW-8 Diss  | 10.00  | 20:46 |     |          |        |        |        |        | X      |        |        | X      | X      | X      | X      |        |        |        |        |        |        |        |        |        |   |        |
| MW-8 Diss  | 1.00   | 20:49 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        | X      |        |        |        |        |        |   |        |
| ZZZZZZ     | 10.00  | 20:53 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| ZZZZZZ     | 1.00   | 20:56 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |

\* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

METALS

-14-

ANALYSIS RUN LOG

Contract: R1710113

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG No.: MW-7

Instrument ID Number: Agilent ICP Method: P

Start Date: 11/1/2017 End Date: 11/1/2017

| Sample ID. | D/F  | Time  | % R | Analytes |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |
|------------|------|-------|-----|----------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---|--------|--------|--------|--------|---|--------|
|            |      |       |     | A<br>L   | S<br>B | A<br>S | B<br>A | B<br>E | C<br>D | C<br>A | C<br>R | C<br>O | C<br>U | F<br>E | P<br>B | M<br>G | M<br>N | H<br>G | N<br>I | K | S<br>E | A<br>G | N<br>A | T<br>L | V | Z<br>N |
| ZZZZZZ     | 1.00 | 20:59 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |
| ZZZZZZ     | 1.00 | 21:03 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |
| CCV6       | 1.00 | 21:06 |     |          |        |        |        |        | X      |        |        |        | X      | X      | X      | X      |        |        | X      |   |        |        | X      |        |   |        |
| CCB6       | 1.00 | 21:09 |     |          |        |        |        |        | X      |        |        |        | X      | X      | X      | X      |        |        | X      |   |        |        | X      |        |   |        |
| CRDL2      | 1.00 | 21:13 |     |          |        |        |        |        | X      |        |        |        | X      | X      | X      | X      |        |        | X      |   |        |        | X      |        |   |        |
| ICS-A2     | 1.00 | 21:16 |     |          |        |        |        |        | X      |        |        |        | X      | X      | X      | X      |        |        | X      |   |        |        | X      |        |   |        |
| ICS-AB2    | 1.00 | 21:19 |     |          |        |        |        |        | X      |        |        |        | X      | X      | X      | X      |        |        | X      |   |        |        | X      |        |   |        |
| ZZZZZZ     | 1.00 | 21:23 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |
| ZZZZZZ     | 1.00 | 21:26 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |
| ZZZZZZ     | 1.00 | 21:29 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |
| CCV7       | 1.00 | 21:33 |     |          |        |        |        |        | X      |        |        |        | X      | X      | X      | X      |        |        | X      |   |        |        | X      |        |   |        |
| CCB7       | 1.00 | 21:36 |     |          |        |        |        |        | X      |        |        |        | X      | X      | X      | X      |        |        | X      |   |        |        | X      |        |   |        |

\* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

METALS  
-14-

ANALYSIS RUN LOG

Contract: R1710113  
 Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG No.: MW-7  
 Instrument ID Number: Agilent ICP Method: P  
 Start Date: 10/31/2017 End Date: 11/1/2017

| Sample ID. | D/F    | Time  | % R | Analytes |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        |
|------------|--------|-------|-----|----------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---|--------|--------|--------|--------|---|--------|--------|
|            |        |       |     | A<br>L   | S<br>B | A<br>S | B<br>A | B<br>E | C<br>D | C<br>A | C<br>R | C<br>O | C<br>U | F<br>E | P<br>B | M<br>G | M<br>N | H<br>G | N<br>I | K | S<br>E | A<br>G | N<br>A | T<br>L | V | Z<br>N | C<br>N |
| BLANK      | 1.00   | 18:19 |     | X        | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      |        |        | X      | X      | X | X      | X      | X      | X      | X | X      |        |
| STANDARD 1 | 1.00   | 18:22 |     | X        | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      |        |        | X      | X      | X | X      | X      | X      | X      | X | X      |        |
| STANDARD 2 | 1.00   | 18:25 |     | X        | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      |        |        | X      | X      | X | X      | X      | X      | X      | X | X      |        |
| STANDARD 3 | 1.00   | 18:29 |     | X        | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      |        |        | X      | X      | X | X      | X      | X      | X      | X | X      |        |
| STANDARD 4 | 1.00   | 18:32 |     | X        | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      |        |        | X      | X      | X | X      | X      | X      | X      | X | X      |        |
| STANDARD 5 | 1.00   | 18:35 |     | X        | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      |        |        | X      | X      | X | X      | X      | X      | X      | X | X      |        |
| ICV1       | 1.00   | 18:39 |     | X        | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      |        |        | X      | X      | X | X      | X      | X      | X      | X | X      |        |
| ICB1       | 1.00   | 18:42 |     | X        | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      |        |        | X      | X      | X | X      | X      | X      | X      | X | X      |        |
| ZZZZZZ     | 1.00   | 18:45 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        |
| ZZZZZZ     | 1.00   | 18:49 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        |
| ZZZZZZ     | 1.00   | 18:52 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        |
| ZZZZZZ     | 1.00   | 18:55 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        |
| ZZZZZZ     | 1.00   | 18:59 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        |
| ZZZZZZ     | 1.00   | 19:02 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        |
| ZZZZZZ     | 1.00   | 19:05 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        |
| ZZZZZZ     | 1.00   | 19:09 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        |
| ZZZZZZ     | 1.00   | 19:12 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        |
| ZZZZZZ     | 100.00 | 19:15 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        |
| ZZZZZZ     | 1.00   | 19:19 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        |
| ZZZZZZ     | 1.00   | 19:22 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        |
| ZZZZZZ     | 1.00   | 19:25 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        |
| ZZZZZZ     | 1.00   | 19:29 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        |
| ZZZZZZ     | 1.00   | 19:32 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        |
| ZZZZZZ     | 1.00   | 19:35 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        |
| ZZZZZZ     | 1.00   | 19:39 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        |
| ZZZZZZ     | 5.00   | 19:42 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        |
| ZZZZZZ     | 1.00   | 19:45 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        |
| ZZZZZZ     | 10.00  | 19:48 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        |
| ZZZZZZ     | 1.00   | 19:52 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        |
| ZZZZZZ     | 1.00   | 19:55 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        |
| ZZZZZZ     | 100.00 | 19:58 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        |
| ZZZZZZ     | 1.00   | 20:02 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        |
| ZZZZZZ     | 1.00   | 20:05 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        |

\* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

METALS  
-14-

ANALYSIS RUN LOG

Contract: R1710113

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG No.: MW-7

Instrument ID Number: Agilent ICP Method: P

Start Date: 10/31/2017 End Date: 11/1/2017

| Sample ID. | D/F   | Time  | % R | Analytes |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
|------------|-------|-------|-----|----------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---|--------|
|            |       |       |     | A<br>L   | S<br>B | A<br>S | B<br>A | B<br>E | C<br>D | C<br>A | C<br>R | C<br>O | C<br>U | F<br>E | P<br>B | M<br>G | M<br>N | H<br>G | N<br>I | K<br>E | S<br>G | A<br>A | N<br>A | T<br>L | V | Z<br>N |
| ZZZZZZ     | 10.00 | 20:08 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| ZZZZZZ     | 1.00  | 20:12 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| ZZZZZZ     | 1.00  | 20:15 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| ZZZZZZ     | 1.00  | 20:18 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| ZZZZZZ     | 1.00  | 20:22 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| ZZZZZZ     | 1.00  | 20:25 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| ZZZZZZ     | 1.00  | 20:28 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| ZZZZZZ     | 1.00  | 20:32 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| ZZZZZZ     | 1.00  | 20:35 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| ZZZZZZ     | 1.00  | 20:38 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| ZZZZZZ     | 1.00  | 20:42 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| ZZZZZZ     | 1.00  | 20:45 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| ZZZZZZ     | 1.00  | 20:48 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| ZZZZZZ     | 1.00  | 20:52 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| ZZZZZZ     | 1.00  | 20:55 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| ZZZZZZ     | 1.00  | 20:58 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| ZZZZZZ     | 1.00  | 21:02 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| ZZZZZZ     | 1.00  | 21:05 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| ZZZZZZ     | 1.00  | 21:08 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| ZZZZZZ     | 1.00  | 21:11 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| ZZZZZZ     | 1.00  | 21:15 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| ZZZZZZ     | 1.00  | 21:18 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| ZZZZZZ     | 1.00  | 21:21 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| ZZZZZZ     | 1.00  | 21:25 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| ZZZZZZ     | 5.00  | 21:28 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| ZZZZZZ     | 1.00  | 21:31 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| ZZZZZZ     | 1.00  | 21:35 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| ZZZZZZ     | 1.00  | 21:38 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| ZZZZZZ     | 1.00  | 21:41 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| ZZZZZZ     | 1.00  | 21:45 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| ZZZZZZ     | 1.00  | 21:48 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| ZZZZZZ     | 1.00  | 21:51 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |
| ZZZZZZ     | 1.00  | 21:55 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |

\* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

METALS

-14-

ANALYSIS RUN LOG

Contract: R1710113

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG No.: MW-7

Instrument ID Number: Agilent ICP Method: P

Start Date: 10/31/2017 End Date: 11/1/2017

| Sample ID. | D/F  | Time  | % R | Analytes |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |   |   |  |  |
|------------|------|-------|-----|----------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---|--------|--------|---|---|--|--|
|            |      |       |     | A<br>L   | S<br>B | A<br>S | B<br>A | B<br>E | C<br>D | C<br>A | C<br>R | C<br>O | C<br>U | F<br>E | P<br>B | M<br>G | M<br>N | H<br>G | N<br>I | K<br>E | S<br>G | A<br>A | N<br>A | T<br>L | V | Z<br>N | C<br>N |   |   |  |  |
| ZZZZZZ     | 1.00 | 21:58 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |   |   |  |  |
| ZZZZZZ     | 1.00 | 22:01 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |   |   |  |  |
| ZZZZZZ     | 1.00 | 22:05 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |   |   |  |  |
| ZZZZZZ     | 5.00 | 22:08 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |   |   |  |  |
| ZZZZZZ     | 1.00 | 22:11 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |   |   |  |  |
| ZZZZZZ     | 1.00 | 22:14 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |   |   |  |  |
| ZZZZZZ     | 1.00 | 22:18 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |   |   |  |  |
| ZZZZZZ     | 1.00 | 22:21 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |   |   |  |  |
| ZZZZZZ     | 1.00 | 22:24 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |   |   |  |  |
| ZZZZZZ     | 1.00 | 22:28 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |   |   |  |  |
| ZZZZZZ     | 1.00 | 22:31 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |   |   |  |  |
| ZZZZZZ     | 1.00 | 22:34 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |   |   |  |  |
| ZZZZZZ     | 1.00 | 22:38 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |   |   |  |  |
| ZZZZZZ     | 1.00 | 22:41 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |   |   |  |  |
| ZZZZZZ     | 1.00 | 22:44 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |   |   |  |  |
| ZZZZZZ     | 1.00 | 22:48 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |   |   |  |  |
| ZZZZZZ     | 1.00 | 22:51 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |   |   |  |  |
| ZZZZZZ     | 1.00 | 22:54 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |   |   |  |  |
| CCV1       | 1.00 | 22:58 |     | X        | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      |        |        |        | X      | X      | X      | X      | X      | X | X      | X      | X | X |  |  |
| CCB1       | 1.00 | 23:01 |     | X        | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      |        |        |        | X      | X      | X      | X      | X      | X      | X | X      | X      | X | X |  |  |
| CRDL1      | 1.00 | 23:04 |     | X        | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      |        |        |        | X      | X      | X      | X      | X      | X      | X | X      | X      | X | X |  |  |
| ICS-A1     | 1.00 | 23:08 |     | X        | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      |        |        |        | X      | X      | X      | X      | X      | X      | X | X      | X      | X | X |  |  |
| ICS-AB1    | 1.00 | 23:11 |     | X        | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      |        |        |        | X      | X      | X      | X      | X      | X      | X | X      | X      | X | X |  |  |
| CCV2       | 1.00 | 23:14 |     | X        | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      |        |        |        | X      | X      | X      | X      | X      | X      | X | X      | X      | X | X |  |  |
| CCB2       | 1.00 | 23:18 |     | X        | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      |        |        |        | X      | X      | X      | X      | X      | X      | X | X      | X      | X | X |  |  |
| PBW        | 1.00 | 23:21 |     | X        | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      |        |        |        | X      | X      | X      | X      | X      | X      | X | X      | X      | X | X |  |  |
| LCSW       | 1.00 | 23:24 |     | X        | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      |        |        |        | X      | X      | X      | X      | X      | X      | X | X      | X      | X | X |  |  |
| ZZZZZZ     | 1.00 | 23:28 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |   |   |  |  |
| ZZZZZZ     | 1.00 | 23:31 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |   |   |  |  |
| ZZZZZZ     | 1.00 | 23:34 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |   |   |  |  |
| ZZZZZZ     | 1.00 | 23:37 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |   |   |  |  |
| ZZZZZZ     | 5.00 | 23:41 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |   |   |  |  |
| ZZZZZZ     | 1.00 | 23:44 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |   |   |  |  |

\* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14



METALS  
-14-

ANALYSIS RUN LOG

Contract: R1710113

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG No.: MW-7

Instrument ID Number: Agilent ICP Method: P

Start Date: 10/31/2017 End Date: 11/1/2017

| Sample ID. | D/F  | Time  | % R | Analytes |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        |   |  |  |  |
|------------|------|-------|-----|----------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---|--------|--------|--------|--------|---|--------|--------|---|--|--|--|
|            |      |       |     | A<br>L   | S<br>B | A<br>S | B<br>A | B<br>E | C<br>D | C<br>A | C<br>R | C<br>O | C<br>U | F<br>E | P<br>B | M<br>G | M<br>N | H<br>G | N<br>I | K | S<br>E | A<br>G | N<br>A | T<br>L | V | Z<br>N | C<br>N |   |  |  |  |
| ZZZZZZ     | 1.00 | 23:47 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        |   |  |  |  |
| ZZZZZZ     | 1.00 | 23:51 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        |   |  |  |  |
| CCV3       | 1.00 | 23:54 |     | X        | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      |        |        |        | X      | X | X      | X      | X      | X      | X | X      | X      | X |  |  |  |
| CCB3       | 1.00 | 23:57 |     | X        | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      |        |        |        | X      | X      | X | X      | X      | X      | X      | X | X      | X      | X |  |  |  |
| ZZZZZZ     | 1.00 | 00:01 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        |   |  |  |  |
| ZZZZZZ     | 1.00 | 00:04 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        |   |  |  |  |
| ZZZZZZ     | 1.00 | 00:07 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        |   |  |  |  |
| ZZZZZZ     | 1.00 | 00:11 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        |   |  |  |  |
| MW-7       | 1.00 | 00:14 |     | X        | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      |        |        |        | X      | X      | X | X      | X      | X      | X      | X | X      | X      | X |  |  |  |
| MW-3 Diss  | 1.00 | 00:17 |     | X        | X      | X      | X      | X      | X      | X      | X      |        |        |        |        |        |        | X      | X      | X | X      | X      | X      | X      | X | X      | X      | X |  |  |  |
| MW-3       | 1.00 | 00:21 |     | X        | X      | X      | X      | X      | X      | X      | X      |        |        | X      | X      |        |        | X      |        |   | X      | X      | X      | X      | X | X      | X      | X |  |  |  |
| MW-D       | 1.00 | 00:24 |     | X        | X      | X      | X      | X      | X      | X      | X      |        |        | X      | X      |        |        | X      |        |   | X      | X      | X      | X      | X | X      | X      | X |  |  |  |
| MW-D Diss  | 1.00 | 00:27 |     | X        | X      | X      | X      | X      | X      | X      | X      |        |        | X      | X      |        |        | X      |        |   | X      | X      | X      | X      | X | X      | X      | X |  |  |  |
| MW-8       | 1.00 | 00:30 |     | X        | X      | X      | X      | X      | X      | X      | X      |        |        | X      |        |        |        | X      |        |   | X      | X      | X      | X      | X | X      | X      | X |  |  |  |
| CCV4       | 1.00 | 00:34 |     | X        | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      |        |        |        | X      | X      | X | X      | X      | X      | X      | X | X      | X      | X |  |  |  |
| CCB4       | 1.00 | 00:37 |     | X        | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      |        |        |        | X      | X      | X | X      | X      | X      | X      | X | X      | X      | X |  |  |  |
| MW-8 Diss  | 1.00 | 00:40 |     | X        | X      | X      | X      | X      | X      | X      | X      |        |        | X      |        |        |        | X      | X      |   | X      | X      | X      | X      | X | X      | X      | X |  |  |  |
| MW-8 DissL | 5.00 | 00:44 |     | X        | X      | X      | X      | X      | X      | X      | X      |        |        | X      |        |        |        | X      | X      |   | X      | X      | X      | X      | X | X      | X      | X |  |  |  |
| ZZZZZZ     | 1.00 | 00:47 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        |   |  |  |  |
| ZZZZZZ     | 1.00 | 00:50 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        |   |  |  |  |
| CCV5       | 1.00 | 00:54 |     | X        | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      |        |        |        | X      | X      | X | X      | X      | X      | X      | X | X      | X      | X |  |  |  |
| CCB5       | 1.00 | 00:57 |     | X        | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      |        |        |        | X      | X      | X | X      | X      | X      | X      | X | X      | X      | X |  |  |  |
| CRDL2      | 1.00 | 01:00 |     | X        | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      |        |        |        | X      | X      | X | X      | X      | X      | X      | X | X      | X      | X |  |  |  |
| ICS-A2     | 1.00 | 01:04 |     | X        | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      |        |        |        | X      | X      | X | X      | X      | X      | X      | X | X      | X      | X |  |  |  |
| ICS-AB2    | 1.00 | 01:07 |     | X        | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      |        |        |        | X      | X      | X | X      | X      | X      | X      | X | X      | X      | X |  |  |  |
| CCV6       | 1.00 | 01:10 |     | X        | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      |        |        |        | X      | X      | X | X      | X      | X      | X      | X | X      | X      | X |  |  |  |
| CCB6       | 1.00 | 01:14 |     | X        | X      | X      | X      | X      | X      | X      | X      | X      | X      | X      |        |        |        | X      | X      | X | X      | X      | X      | X      | X | X      | X      | X |  |  |  |

\* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

METALS

-14-

ANALYSIS RUN LOG

Contract: R1710113

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG No.: MW-7

Instrument ID Number: PE FAA/CVAA Method: CV

Start Date: 11/3/2017 End Date: 11/3/2017

| Sample ID.  | D/F  | Time  | % R | Analytes |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        |   |  |  |  |
|-------------|------|-------|-----|----------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---|--------|--------|--------|--------|---|--------|--------|---|--|--|--|
|             |      |       |     | A<br>L   | S<br>B | A<br>S | B<br>A | B<br>E | C<br>D | C<br>A | C<br>R | C<br>O | C<br>U | F<br>E | P<br>B | M<br>G | M<br>N | H<br>G | N<br>I | K | S<br>E | A<br>G | N<br>A | T<br>L | V | Z<br>N | C<br>N |   |  |  |  |
| Calib Blank | 1.00 | 12:20 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        | X |  |  |  |
| 0.2ppb std  | 1.00 | 12:22 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        | X |  |  |  |
| 0.5ppb std  | 1.00 | 12:23 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        | X |  |  |  |
| 1.0ppb std  | 1.00 | 12:25 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        | X |  |  |  |
| 2.0ppb std  | 1.00 | 12:27 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        | X |  |  |  |
| 5.0ppb std  | 1.00 | 12:28 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        | X |  |  |  |
| 10.0ppb std | 1.00 | 12:30 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        | X |  |  |  |
| ICV1        | 1.00 | 12:31 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        | X |  |  |  |
| ICB1        | 1.00 | 12:33 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        | X |  |  |  |
| CRDL1       | 1.00 | 12:35 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        | X |  |  |  |
| CCV1        | 1.00 | 12:36 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        | X |  |  |  |
| CCB1        | 1.00 | 12:38 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        | X |  |  |  |
| PBW         | 1.00 | 12:40 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        | X |  |  |  |
| LCSW        | 1.00 | 12:41 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        | X |  |  |  |
| ZZZZZZ      | 1.00 | 12:43 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        |   |  |  |  |
| ZZZZZZ      | 1.00 | 12:44 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        |   |  |  |  |
| ZZZZZZ      | 1.00 | 12:46 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        |   |  |  |  |
| CCV2        | 1.00 | 12:48 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        | X |  |  |  |
| CCB2        | 1.00 | 12:49 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        | X |  |  |  |
| ZZZZZZ      | 1.00 | 12:51 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        |   |  |  |  |
| ZZZZZZ      | 1.00 | 12:53 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        |   |  |  |  |
| ZZZZZZ      | 1.00 | 12:54 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        |   |  |  |  |
| MW-7        | 1.00 | 12:56 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        | X |  |  |  |
| MW-3 Diss   | 1.00 | 12:58 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        | X |  |  |  |
| CCV3        | 1.00 | 12:59 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        | X |  |  |  |
| CCB3        | 1.00 | 13:01 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        | X |  |  |  |
| MW-3        | 1.00 | 13:02 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        | X |  |  |  |
| MW-D        | 1.00 | 13:04 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        | X |  |  |  |
| MW-D Diss   | 1.00 | 13:06 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        | X |  |  |  |
| MW-8        | 1.00 | 13:07 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        |   |  |  |  |
| MW-8 Diss   | 1.00 | 13:09 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        | X |  |  |  |
| CCV4        | 1.00 | 13:11 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        | X |  |  |  |
| CCB4        | 1.00 | 13:12 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |   |        |        |        |        |   |        |        | X |  |  |  |

\* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

METALS

-14-

ANALYSIS RUN LOG

Contract: R1710113

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG No.: MW-7

Instrument ID Number: PE FAA/CVAA Method: CV

Start Date: 11/3/2017 End Date: 11/3/2017

| Sample ID. | D/F  | Time  | % R | Analytes |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |  |  |
|------------|------|-------|-----|----------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--|--|--|--|
|            |      |       |     | A<br>L   | S<br>B | A<br>S | B<br>A | B<br>E | C<br>D | C<br>A | C<br>R | C<br>O | C<br>U | F<br>E | P<br>B | M<br>G | M<br>N | H<br>G | N<br>I | K<br>E | S<br>E | A<br>G | N<br>A | T<br>A | V<br>L | Z<br>N | C<br>N |  |  |  |  |
| ZZZZZZ     | 1.00 | 13:14 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |  |  |
| ZZZZZZ     | 1.00 | 13:16 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |  |  |
| ZZZZZZ     | 1.00 | 13:17 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |  |  |
| ZZZZZZ     | 1.00 | 13:19 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |  |  |
| MW-8       | 5.00 | 13:20 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        | X      |        |        |        |        |        |        |        |        |        |  |  |  |  |
| ZZZZZZ     | 1.00 | 13:22 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |  |  |
| CCV5       | 1.00 | 13:24 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        | X      |        |        |        |        |        |        |        |        |        |  |  |  |  |
| CCB5       | 1.00 | 13:25 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        | X      |        |        |        |        |        |        |        |        |        |  |  |  |  |
| ZZZZZZ     | 1.00 | 13:27 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |  |  |
| ZZZZZZ     | 1.00 | 13:29 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |  |  |
| ZZZZZZ     | 1.00 | 13:30 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |  |  |
| ZZZZZZ     | 1.00 | 13:32 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |  |  |
| ZZZZZZ     | 1.00 | 13:34 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |  |  |  |
| CRDL2      | 1.00 | 13:35 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        | X      |        |        |        |        |        |        |        |        |        |  |  |  |  |
| CCV6       | 1.00 | 13:37 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        | X      |        |        |        |        |        |        |        |        |        |  |  |  |  |
| CCB6       | 1.00 | 13:39 |     |          |        |        |        |        |        |        |        |        |        |        |        |        |        | X      |        |        |        |        |        |        |        |        |        |  |  |  |  |

\* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

METALS

-13-

PREPARATION LOG

Contract: R1710113

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: MW-7

Method: P

| Sample ID | Preparation Date | Initial Volume | Final Volume (mL) |
|-----------|------------------|----------------|-------------------|
| LCSW      | 10/30/2017       | 50.0           | 50.0              |
| PBW       | 10/30/2017       | 50.0           | 50.0              |
| MW-7      | 10/30/2017       | 50.0           | 50.0              |
| MW-3      | 10/30/2017       | 50.0           | 50.0              |
| MW-3 Diss | 10/30/2017       | 50.0           | 50.0              |
| MW-D      | 10/30/2017       | 50.0           | 50.0              |
| MW-D Diss | 10/30/2017       | 50.0           | 50.0              |
| MW-8      | 10/30/2017       | 50.0           | 50.0              |
| MW-8 Diss | 10/30/2017       | 50.0           | 50.0              |

Comments:

METALS

-13-

PREPARATION LOG

Contract: R1710113

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: MW-7

Method: CV

| Sample ID | Preparation Date | Initial Volume | Final Volume (mL) |
|-----------|------------------|----------------|-------------------|
| LCSW      | 11/2/2017        | 25.0           | 25.0              |
| PBW       | 11/2/2017        | 25.0           | 25.0              |
| MW-7      | 11/2/2017        | 25.0           | 25.0              |
| MW-3      | 11/2/2017        | 25.0           | 25.0              |
| MW-3 Diss | 11/2/2017        | 25.0           | 25.0              |
| MW-D      | 11/2/2017        | 25.0           | 25.0              |
| MW-D Diss | 11/2/2017        | 25.0           | 25.0              |
| MW-8      | 11/2/2017        | 25.0           | 25.0              |
| MW-8 Diss | 11/2/2017        | 25.0           | 25.0              |

Comments: