February 20, 2018 Reference No. 11137154-100

Mr. Dale W. Marshall, P.E.
City Engineer
North Tonawanda Engineering Department
City Hall, 216 Payne Avenue
North Tonawanda, New York 14120-5493

Dear Mr. Marshall:

**Re: Investigation Results Summary Letter**
**North Tonawanda Botanical Gardens Site #932068**

GHD Consulting Services Inc. (GHD) is pleased to submit this Investigation Results Summary Letter (Letter) for the Botanical Gardens Investigation to the City of North Tonawanda (City). The work summarized in this Letter was conducted in general accordance with the North Tonawanda Botanical Gardens Investigation Work Plan (Work Plan) by GHD dated February 13, 2017 and approved by the New York State Department of Environmental Conservation (NYSDEC) on February 27, 2017.

## 1. Introduction

The Botanical Gardens Site (Site) is a municipal park located in a residential area in the eastern part of the City. The Site is approximately 11 acres in size and is located in the northeast corner of the intersection of Sweeney Street and East Robinson Street. In July 2015, a "tar like" material was observed by an unidentified person seeping from the ground in the southern portion of the Site. An investigation into the seep was completed by the NYSDEC which recommended further investigation. This Letter presents the results of the further investigation work completed in response to the NYSDEC investigation.

## 2. Site History and Background

During the 1950s, the City of North Tonawanda Department of Public Works (DPW) was granted permission by the NYS Canal Commission to fill a low area along the canal with municipal refuse. Based on historical information, dumping operations were limited to the southern portion of the Site.

In 1964, the NYS Department of Health (NYSDOH) reported violations at the Site, including the disposal of putrescible material and the use of inadequate amounts of material to cover the refuse. The City disposed of refuse at this location until approximately 1965, when dumping was discontinued at the Site.

In 1983, concerns over the past dumping at and near the Site prompted the site to be listed to the Registry of Inactive Hazardous Waste Sites (the Registry), which is maintained by the NYSDEC (NYSDEC, 1983). Subsequent investigations completed at the site during the 1980s and 1990s did not document the disposal of hazardous waste at the Site, and it was delisted from the Registry in 2002.

GHD
2055 Niagara Falls Boulevard Niagara Falls New York 14304 USA
**T** 716 297 6150 **F** 716 297 2265 **W** www.ghd.com

In July 2015, a "tar like" material was observed by an unidentified person seeping from the ground in the southern portion of the Site. The NYSDEC was informed by the City of North Tonawanda Parks Department of this seep and collected a soil sample for chemical analysis. The results indicated that the "tar like" material contained several hazardous compounds resulting in the site being reclassified as a 'potential-site' to be listed on the Registry for tracking purposes. As a result of the discovery of this material, the NYSDEC conducted an investigation in 2015 to better characterize the nature and extent of the unknown "tar like" material. The results of this investigation is presented in the Tar Seep Investigation Report (Report) by NYSDEC dated November 30, 2015.

### 2.1 Tar Seep Investigation Report

The NYSDEC investigation concluded that there is a suspect unregistered underground storage tank (UST) located to the west of the existing shed. An electromagnetic survey indicated that there were several other suspect metal objects buried at the Site. A black, odiferous, refuse material was observed in the subsurface soil borings that had a distinct strong sewage smell. The investigation was able to locate the seep, but was unable to identify a source. A sample of the tar was collected for laboratory analysis. No other environmental samples were collected. Analytical test results from the tar sample indicated that the tar contained nine compounds in concentrations above the NYSDEC Part 375 Soil Cleanup Objectives (SCOs) – Unrestricted Use Criteria and four of those nine compounds were detected in concentrations above the SCOs – Restricted Residential Criteria[1]. The compounds were mainly metals (five compounds), volatile organic compounds (VOCs) (two compounds), pesticides (one compound) and polychlorinated biphenyls (PCBs). Additionally, the analytical test results did not identify compounds that would be indicative of petroleum being present. The NYSDEC classified the Site as a 'potential-site' to be listed on the Registry for tracking purposes, Site #932068.

As identified in the Tar Seep Investigation Report, Borings B-2, B-3, B-4, B-9, and B-10 contained subsurface soils characterized with septic type materials and odors. Borings B-10 and to a lesser extent B-9 exhibited "tar like" materials similar to the identified surficial seep. Soils also exhibited elevated photoionization detector (PID) readings.

## 3. Completed Scope of Work

The proposed scope of work presented in the Work Plan consisted of the following:

- Installation of two test pits and one excavation to investigate the potential UST
- Collection of soil samples if field screening (i.e., elevated PID readings, observed staining or tar) indicates the potential for impacts in the excavated soil

[1] It should be noted that based on NYSDEC Part 375 subdivision 1.8(g), the applicable criteria for the Site would be the Protection of Pubic Heath – Commercial. When the tar data is compared to this criteria only barium, lead, and total PCBs are found in concentrations above criteria.

### 3.1 Test Pit Installation Summary and Observations

On June 21, 2017, two tests pits and one excavation were completed to further investigate the NYSDEC findings identified in their Report. Excavations were completed by Nature's Way Environmental, Inc. under GHD oversight. Test pit and excavation locations are presented on Figure 1. A photographic log of the investigation is presented in Attachment A.

#### 3.1.1 Test Pit 1

Test Pit 1 was excavated to investigate the area where the "tar seep" was reportedly located. Test Pit 1 was approximately 12 feet long by 3 feet wide by 5 feet deep and orientated approximately north to south along the long axis. The depth was terminated at 5 feet due to perched water located in the waste material encountered in the test pit. The material encountered during test pit installation consisted of topsoil over a clay fill to a depth of approximately 3 feet below ground surface (ft bgs) overlying waste material. The thickness of the waste material was not determined during the test pit installation because the excavation activities were terminated prior to fully penetrating the waste.

The waste material observed consisted of typical municipal landfill waste. Materials observed consisted of a large amount of thin wood slats, glass jars and bottles, and paper. Screening of the excavated waste with a PID did not indicate any readings above background values. The excavated material had a decay odor consistent with what would be generated by organic material (wood, paper, etc.) in a landfill. Observations of a "grease-like" material was found intermixed with the excavated waste, including a small glass jar filled with this material. The properties of the tar material encountered during the NYSDEC investigation were described in the Report as "highly viscous, almost dense, but did become less viscous after sitting in the sun for several minutes". The grease-like material encountered in the test pit during this investigation did not change viscosity upon exposure to the atmospheric conditions. Soil falling off the west sidewall of the excavation revealed a "vein" of discolored soil (see Photograph 1). This observation is consistent to what was described by the NYSDEC in their Report and appears to be the likely pathway for the tar to reach the ground surface.

The soils and waste material excavated from Test Pit 1 were placed on plastic sheeting and covered because of the potential impacts observed (i.e., the "grease-like" material intermixed with the excavated waste). A composite sample of the staged soils and waste was collected for submittal to ESC Lab Sciences of Mount Juliet, Tennessee for target compound list (TCL) volatile organic compound (VOC), TCL semi- volatile organic compound (SVOC), target analyte list (TAL) metals, PCB, and toxicity characteristic leaching procedure (TCLP) parameters analysis. The results of the analysis are presented and discussed in Section 4.

Test Pit 1 was backfilled by the City using fill from off-Site City sources. The staged soils and wastes will be appropriately disposed of by the City based on the analytical results of the collected sample.

The staged soil and waste from Test Pit 1 was disposed of by Nature's Way Environmental, Inc. on February 16, 2018. A total of 13.21 tons of soil and waste (Profile Number 118670NY) was loaded and shipped to Waste Management's Chaffee Landfill. The signed waste profile is included as Attachment B.

### 3.1.2 Test Pit 2

Test Pit 2 was excavated to investigate the area where the magnetic anomalies were reported by the NYSDEC. Test Pit 2 was approximately 10 feet long by 2 feet wide by 3 feet deep and orientated approximately north to south along the long axis. The depth was terminated at 3 feet due to the absence of significant metal objects and perched water located in the waste material infilling the test pit. The material encountered during test pit installation consisted of topsoil to a depth of approximately 0.5 ft bgs overlying the waste material. The thickness of the waste material was not determined during the test pit installation because the excavation activities were terminated prior to fully penetrating the waste.

The waste material observed consisted of typical municipal landfill waste. Materials observed consisted of a large amount of wood, glass jars and bottles, pieces of metal in various sizes, and paper. Screening of the excavated waste with a PID did not indicate any readings above background values. The excavated material had a decay odor consistent with what would be generated by organic material (wood, paper, etc.) in a landfill. No large metal objects, i.e., drums, tanks, were encountered; therefore, the magnetic anomalies were likely caused by the buried metal pieces. No observations of potential impacts were observed in the excavated material and the test pit was backfilled with the material removed from the excavation.

### 3.1.3 Excavation for the Potential UST

The excavation was installed to investigate the area where the "hollow metal object", assumed to be an UST, was located as reported by the NYSDEC. The excavation was installed approximately 6 feet long by 4 feet wide by 1 to 3 feet deep and orientated approximately east to west along the long axis. The depth was terminated at 1 foot due to encountering the "hollow metal object" (found to be a home heating oil tank) and extended to 3 feet deep at the east end of the excavation to determine if any evidence of leakage could be observed near the tank bottom. The material encountered during the excavation installation consisted of topsoil. No landfill waste material, aside from the disposed heating oil tank, or potential environmental impacts was encountered or observed in this excavation.

Observations indicate the tank encountered is a home heating oil tank configured to set horizontally in a crawl space. Based on the tank being positioned upside down, depth of the tank, and no evidence of it containing/leaking material, it can be concluded that the tank was not placed in the subsurface to store material. The tank was likely disposed of as landfill waste and is not an unregistered UST as reported by the NYSDEC. The tank was not penetrated during this investigation; however, appeared to be empty based on field observations (i.e., tapping on the side of the tank).

A soil sample was collected from beneath the home heating oil tank near the location of the fill port to assess whether or not the home heating oil tank could have leaked material. The soil sample was submitted to ESC Lab Sciences of Mount Juliet, Tennessee for TCL VOC, TCL SVOC, TAL metals, and PCB analysis. The results of the analysis are presented and discussed in Section 4.

No observations of potential impacts were observed in the excavated material and the excavation was backfilled with the removed material. The tank was not removed from the excavation.

## 4. Results

Table 1 presents the analytical results for the two samples collected. Based on the Site usage classifications presented in NYSDEC Part 375 subdivision 1.8(g), the applicable criteria for the Site would be the Protection of Pubic Heath - Commercial (Criteria). The commercial use category includes passive recreational use where the public has limited potential for soil contact. No compounds were detected in concentrations above the Criteria. The analytical results from the sample collected near the home heating oil fuel tank did not contain significant detections of compounds indicative of a release of petroleum products.

The laboratory analytical data package is presented in Attachment C.

## 5. Conclusions and Recommendations

Based on the results of this investigation, the following conclusions and recommendations have been developed.

- The analytical results collected do not identify any significant impacts to the Site soil. No evidence of buried drums or unregistered USTs were observed in any of the excavated test pits.
- The UST identified by the NYSDEC is likely to be a small tank that was disposed of in the landfill as waste and not an unregistered UST. Therefore, it can be concluded that the NYSDEC UST closure regulations are not applicable to this tank. However, it may be in the City's best interest to periodically monitor the area near this tank for subsidence due to the potential for the tank to oxidize and collapse creating a safety hazard.
- Based on observations from Test Pit 1, tar was not observed. Analytical data collected from the waste does not have detections of any compounds in concentrations above the Criteria, indicating that no additional work is warranted regarding the "grease-like" material observed.
- The NYSDEC theorized in the Report that the tar seep was caused by *"tar migrating to the ground surface through a thin vein in the soil. Based on the observed hydrogeology surrounding the seep area it is likely that the tar had accumulated on top of the clay and till layer and was transported to the ground surface on top of rain water that had pooled on the low permeability clay."*

  Based on the precipitation data provided in the NYSDEC Report, it was concluded that late spring/early summer of 2015 was unusually wet, supporting the NYSDEC theory of tar transport. Observations made during the installation of Test Pit 1 support the NYSDEC theory that the tar migrated to the surface via a thin vein in the soil. Additionally, precipitation data from the spring of 2017 indicate that it was the second wettest spring on record. Therefore, it can be concluded that if heavy precipitation causes the tar to migrate through a soil vein to the ground surface, it is likely that tar should have been observed at the ground surface in 2017 if there was a remaining source in place. No tar was observed on the ground surface in 2017 and no tar or compounds exhibiting similar

chemical composition were observed in Test Pit 1, so it is likely that the tar seep observed in 2015 was an isolated occurrence and will not likely occur again.

- Based on the results of this investigation, no further work is necessary at the Site.

If you have any questions regarding the content of this Investigation Results Summary Letter, please contact the undersigned directly at 716-865-2142 or david.rowlinson@ghd.com.

Sincerely,

GHD

David Rowlinson

DR/eew/2

Encl.


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GHD

CITY OF NORTH TONAWANDA
NIAGARA COUNTY, NEW YORK

11137154

Aug 18, 2017

BOTANICAL GARDENS INVESTIGATION

FIGURE 1

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**Table 1**

**Analytical Results Summary**
**North Tonawanda Botanical Gardens Site**
**North Tonawanda, New York**

| Sample Location: / Sample Identification: | | NYSDEC [1] Restricted Use Soil Cleanup Objectives Protection of Public Health-Commercial | Excavation S-062117-SR-001 | Test Pit 1 Waste S-062117-SR-002 |
|---|---|---|---|---|
| **Parameters** | **Units** | | | |
| **Metals** | | | | |
| Antimony | mg/kg | | 2.00 U | 2.00 U |
| Arsenic | mg/kg | 16 | 3.73 | 2.58 |
| Barium | mg/kg | 400 | 72.5 | 233 |
| Beryllium | mg/kg | 590 | 0.435 | 0.297 |
| Cadmium | mg/kg | 9.3 | 1.57 | 1.06 |
| Chromium | mg/kg | | 19.3 | 10.9 |
| Cobalt | mg/kg | | 8.34 | 4.93 |
| Copper | mg/kg | 270 | 82.8 | 14.7 |
| Lead | mg/kg | 1000 | 65.6 | 470 |
| Mercury | mg/kg | 2.8 | 0.0541 | 0.0413 |
| Molybdenum | mg/kg | | 2.44 | 0.553 |
| Nickel | mg/kg | 310 | 26.2 | 11.1 |
| Selenium | mg/kg | 1500 | 2.00 U | 2.00 U |
| Silver | mg/kg | 1500 | 1.00 U | 1.00 U |
| Thallium | mg/kg | | 2.00 U | 2.00 U |
| Vanadium | mg/kg | | 15.2 | 11.1 |
| Zinc | mg/kg | 10000 | 139 | 124 |
| **PCBs** | | | | |
| Aroclor-1016 (PCB-1016) | mg/kg | | 0.0170 U | 0.0170 U |
| Aroclor-1221 (PCB-1221) | mg/kg | | 0.0170 U | 0.0170 U |
| Aroclor-1232 (PCB-1232) | mg/kg | | 0.0170 U | 0.0170 U |
| Aroclor-1242 (PCB-1242) | mg/kg | | 0.0170 U | 0.377 |
| Aroclor-1248 (PCB-1248) | mg/kg | | 0.0170 U | 0.0170 U |
| Aroclor-1254 (PCB-1254) | mg/kg | | 0.0170 U | 0.0170 U |
| Aroclor-1260 (PCB-1260) | mg/kg | | 0.0170 U | 0.107 |
| Total PCBs | mg/kg | 1 | ND | 0.484 |
| **SVOCs** | | | | |
| 1,2,4,5-Tetrachlorobenzene | mg/kg | | 0.666 U | 3.33 U |
| 2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether) | mg/kg | | 0.666 U | 3.33 U |
| 2,4,5-Trichlorophenol | mg/kg | | 0.666 U | 3.33 U |
| 2,4,6-Trichlorophenol | mg/kg | | 0.666 U | 3.33 U |
| 2,4-Dichlorophenol | mg/kg | | 0.666 U | 3.33 U |
| 2,4-Dimethylphenol | mg/kg | | 0.666 U | 3.33 U |
| 2,4-Dinitrophenol | mg/kg | | 0.666 U | 3.33 U |
| 2,4-Dinitrotoluene | mg/kg | | 0.666 U | 3.33 U |
| 2,6-Dinitrotoluene | mg/kg | | 0.666 U | 3.33 U |
| 2-Chloronaphthalene | mg/kg | | 0.0660 U | 0.330 U |
| 2-Chlorophenol | mg/kg | | 0.666 U | 3.33 U |
| 2-Methylnaphthalene | mg/kg | | 0.0660 U | 0.330 U |
| 2-Methylphenol | mg/kg | 500 | 0.666 U | 3.33 U |
| 2-Nitroaniline | mg/kg | | 0.666 U | 3.33 U |
| 2-Nitrophenol | mg/kg | | 0.666 U | 3.33 U |
| 3&4-Methylphenol | mg/kg | | 0.666 U | 3.33 U |
| 3,3'-Dichlorobenzidine | mg/kg | | 0.666 U | 3.33 U |
| 3-Nitroaniline | mg/kg | | 0.666 U | 3.33 U |
| 4,6-Dinitro-2-methylphenol | mg/kg | | 0.666 U | 3.33 U |
| 4-Bromophenyl phenyl ether | mg/kg | | 0.666 U | 3.33 U |
| 4-Chloro-3-methylphenol | mg/kg | | 0.666 U | 3.33 U |
| 4-Chloroaniline | mg/kg | | 0.666 U | 3.33 U |
| 4-Chlorophenyl phenyl ether | mg/kg | | 0.666 U | 3.33 U |
| 4-Nitroaniline | mg/kg | | 0.666 U | 3.33 U |
| 4-Nitrophenol | mg/kg | | 0.666 U | 3.33 U |
| Acenaphthene | mg/kg | 500 | 0.0660 U | 0.330 U |
| Acenaphthylene | mg/kg | 500 | 0.0660 U | 0.330 U |
| Acetophenone | mg/kg | | 0.666 U | 3.33 U |
| Anthracene | mg/kg | 500 | 0.0660 U | 0.330 U |
| Atrazine | mg/kg | | 0.666 U | 3.33 U |
| Benzaldehyde | mg/kg | | 0.666 U | 3.33 U |

**Table 1**

**Analytical Results Summary**
**North Tonawanda Botanical Gardens Site**
**North Tonawanda, New York**

| Sample Location: | | NYSDEC [1] | Excavation | Test Pit 1 Waste |
|---|---|---|---|---|
| Sample Identification: | | Restricted Use Soil Cleanup Objectives Protection of Public Health-Commercial | S-062117-SR-001 | S-062117-SR-002 |
| **Parameters** | **Units** | | | |
| **SVOCs-Continued** | | | | |
| Benzo(a)anthracene | mg/kg | 5.6 | 0.0660 U | 0.330 U |
| Benzo(a)pyrene | mg/kg | 1 | 0.0660 U | 0.330 U |
| Benzo(b)fluoranthene | mg/kg | 5.6 | 0.0660 U | 0.330 U |
| Benzo(g,h,i)perylene | mg/kg | 500 | 0.0660 U | 0.330 U |
| Benzo(k)fluoranthene | mg/kg | 56 | 0.0660 U | 0.330 U |
| Biphenyl (1,1-Biphenyl) | mg/kg | | 0.666 U | 3.33 U |
| bis(2-Chloroethoxy)methane | mg/kg | | 0.666 U | 3.33 U |
| bis(2-Chloroethyl)ether | mg/kg | | 0.666 U | 3.33 U |
| bis(2-Ethylhexyl)phthalate (DEHP) | mg/kg | | 0.666 U | 3.33 U |
| Butyl benzylphthalate (BBP) | mg/kg | | 0.666 U | 3.33 U |
| Caprolactam | mg/kg | | 0.666 U | 3.33 U |
| Carbazole | mg/kg | | 0.666 U | 3.33 U |
| Chrysene | mg/kg | 56 | 0.0660 U | 0.330 U |
| Dibenz(a,h)anthracene | mg/kg | 0.56 | 0.0660 U | 0.330 U |
| Dibenzofuran | mg/kg | 350 | 0.666 U | 3.33 U |
| Diethyl phthalate | mg/kg | | 0.666 U | 3.33 U |
| Dimethyl phthalate | mg/kg | | 0.666 U | 3.33 U |
| Di-n-butylphthalate (DBP) | mg/kg | | 0.666 U | 3.33 U |
| Di-n-octyl phthalate (DnOP) | mg/kg | | 0.666 U | 3.33 U |
| Fluoranthene | mg/kg | 500 | 0.0660 U | 0.330 U |
| Fluorene | mg/kg | 500 | 0.0660 U | 0.330 U |
| Hexachlorobenzene | mg/kg | 6 | 0.666 U | 3.33 U |
| Hexachlorobutadiene | mg/kg | | 0.666 U | 3.33 U |
| Hexachlorocyclopentadiene | mg/kg | | 0.666 U | 3.33 U |
| Hexachloroethane | mg/kg | | 0.666 U | 3.33 U |
| Indeno(1,2,3-cd)pyrene | mg/kg | 5.6 | 0.0660 U | 0.330 U |
| Isophorone | mg/kg | | 0.666 U | 3.33 U |
| Naphthalene | mg/kg | 500 | 0.0660 U | 0.330 U |
| Nitrobenzene | mg/kg | 69 | 0.666 U | 3.33 U |
| N-Nitrosodi-n-propylamine | mg/kg | | 0.666 U | 3.33 U |
| N-Nitrosodiphenylamine | mg/kg | | 0.666 U | 3.33 U |
| Pentachlorophenol | mg/kg | 6.7 | 0.666 U | 3.33 U |
| Phenanthrene | mg/kg | 500 | 0.0660 U | 0.378 |
| Phenol | mg/kg | 500 | 0.666 U | 3.33 U |
| Pyrene | mg/kg | 500 | 0.0660 U | 0.330 U |
| **VOCs** | | | | |
| 1,1,1-Trichloroethane | mg/kg | 500 | 0.00100 U | 0.00100 U |
| 1,1,2,2-Tetrachloroethane | mg/kg | | 0.00100 U | 0.00100 U |
| 1,1,2-Trichloroethane | mg/kg | | 0.00100 U | 0.00100 U |
| 1,1-Dichloroethane | mg/kg | 240 | 0.00100 U | 0.00100 U |
| 1,1-Dichloroethene | mg/kg | 500 | 0.00100 U | 0.00100 U |
| 1,2,3-Trichlorobenzene | mg/kg | | 0.00100 U | 0.00100 U |
| 1,2,4-Trichlorobenzene | mg/kg | | 0.00100 U | 0.00100 U |
| 1,2-Dibromo-3-chloropropane (DBCP) | mg/kg | | 0.00500 U | 0.00500 U |
| 1,2-Dibromoethane (Ethylene dibromide) | mg/kg | | 0.00100 U | 0.00100 U |
| 1,2-Dichlorobenzene | mg/kg | 500 | 0.00100 U | 0.00100 U |
| 1,2-Dichloroethane | mg/kg | 30 | 0.00100 U | 0.00100 U |
| 1,2-Dichloropropane | mg/kg | | 0.00100 U | 0.00100 U |
| 1,3-Dichlorobenzene | mg/kg | 280 | 0.00100 U | 0.00100 U |
| 1,4-Dichlorobenzene | mg/kg | 130 | 0.00100 U | 0.00100 U |
| 2-Butanone (Methyl ethyl ketone) (MEK) | mg/kg | 500 | 0.0100 U | 0.0214 |
| 2-Hexanone | mg/kg | | 0.0100 U | 0.0100 U |
| 4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK) | mg/kg | | 0.0100 U | 0.0100 U |
| Acetone | mg/kg | 500 | 0.0500 U | 1.04 U |
| Benzene | mg/kg | 44 | 0.00106 | 0.00205 |
| Bromodichloromethane | mg/kg | | 0.00100 U | 0.00100 U |
| Bromoform | mg/kg | | 0.00100 U | 0.00100 U |
| Bromomethane (Methyl bromide) | mg/kg | | 0.00500 U | 0.00500 U |
| Carbon disulfide | mg/kg | | 0.00153 | 0.0544 |

**Table 1**

**Analytical Results Summary**
**North Tonawanda Botanical Gardens Site**
**North Tonawanda, New York**

| Sample Location: / Sample Identification: | | NYSDEC [1] Restricted Use Soil Cleanup Objectives Protection of Public Health-Commercial | Excavation S-062117-SR-001 | Test Pit 1 Waste S-062117-SR-002 |
|---|---|---|---|---|
| **Parameters** | **Units** | | | |
| **VOCs-Continued** | | | | |
| Carbon tetrachloride | mg/kg | 22 | 0.00100 U | 0.00100 U |
| Chlorobenzene | mg/kg | 500 | 0.00100 U | 0.00100 U |
| Chlorobromomethane | mg/kg | | 0.00100 U | 0.00100 U |
| Chloroethane | mg/kg | | 0.00500 U | 0.00500 U |
| Chloroform (Trichloromethane) | mg/kg | 350 | 0.00500 U | 0.00500 U |
| Chloromethane (Methyl chloride) | mg/kg | | 0.00250 U | 0.00250 U |
| cis-1,2-Dichloroethene | mg/kg | 500 | 0.00100 U | 0.00100 U |
| cis-1,3-Dichloropropene | mg/kg | | 0.00100 U | 0.00100 U |
| Cyclohexane | mg/kg | | 0.00281 | 0.00126 |
| Dibromochloromethane | mg/kg | | 0.00100 U | 0.00100 U |
| Dichlorodifluoromethane (CFC-12) | mg/kg | | 0.00500 U | 0.00500 U |
| Ethylbenzene | mg/kg | 390 | 0.00100 U | 0.00128 |
| Isopropyl benzene | mg/kg | | 0.0100 U | 0.0100 U |
| Methyl acetate | mg/kg | | 0.0200 U | 0.0200 U |
| Methyl cyclohexane | mg/kg | | 0.00563 | 0.00289 |
| Methyl tert butyl ether (MTBE) | mg/kg | 500 | 0.00100 U | 0.00100 U |
| Methylene chloride | mg/kg | 500 | 0.00500 U | 0.00500 U |
| Styrene | mg/kg | | 0.00100 U | 0.00100 U |
| Tetrachloroethene | mg/kg | 150 | 0.00227 | 0.0319 |
| Toluene | mg/kg | 500 | 0.00500 U | 0.00500 U |
| trans-1,2-Dichloroethene | mg/kg | 500 | 0.00100 U | 0.00100 U |
| trans-1,3-Dichloropropene | mg/kg | | 0.00100 U | 0.00100 U |
| Trichloroethene | mg/kg | 200 | 0.00100 U | 0.00243 |
| Trichlorofluoromethane (CFC-11) | mg/kg | | 0.00500 U | 0.00500 U |
| Trifluorotrichloroethane (CFC-113) | mg/kg | | 0.00100 U | 0.00100 U |
| Vinyl chloride | mg/kg | 13 | 0.00100 U | 0.00100 U |
| Xylenes (total) | mg/kg | 500 | 0.00300 U | 0.00556 |
| **TCLP-Metals** | | | | |
| Antimony | mg/L | | - | 0.100 U |
| Arsenic | mg/L | | - | 0.100 U |
| Barium | mg/L | | - | 0.321 |
| Beryllium | mg/L | | - | 0.0200 U |
| Cadmium | mg/L | | - | 0.100 U |
| Chromium | mg/L | | - | 0.100 U |
| Cobalt | mg/L | | - | 0.100 U |
| Copper | mg/L | | - | 0.100 U |
| Lead | mg/L | | - | 2.64 |
| Mercury | mg/L | | - | 0.0100 U |
| Molybdenum | mg/L | | - | 0.100 U |
| Nickel | mg/L | | - | 0.100 U |
| Selenium | mg/L | | - | 0.100 U |
| Silver | mg/L | | - | 0.100 U |
| Thallium | mg/L | | - | 0.100 U |
| Vanadium | mg/L | | - | 0.200 U |
| Zinc | mg/L | | - | 1.12 |
| **TCLP-PCBs** | | | | |
| Aroclor-1016 (PCB-1016) | mg/L | | - | 0.0100 U |
| Aroclor-1221 (PCB-1221) | mg/L | | - | 0.0100 U |
| Aroclor-1232 (PCB-1232) | mg/L | | - | 0.0100 U |
| Aroclor-1242 (PCB-1242) | mg/L | | - | 0.0100 U |
| Aroclor-1248 (PCB-1248) | mg/L | | - | 0.0100 U |
| Aroclor-1254 (PCB-1254) | mg/L | | - | 0.0100 U |
| Aroclor-1260 (PCB-1260) | mg/L | | - | 0.0100 U |
| **TCLP-SVOCs** | | | | |
| 1,4-Dichlorobenzene | mg/L | | - | 0.100 U |
| 2,4,5-Trichlorophenol | mg/L | | - | 0.100 U |
| 2,4,6-Trichlorophenol | mg/L | | - | 0.100 U |

**Table 1**

**Analytical Results Summary**
**North Tonawanda Botanical Gardens Site**
**North Tonawanda, New York**

| Sample Location: / Sample Identification: | | NYSDEC [1] Restricted Use Soil Cleanup Objectives Protection of Public Health-Commercial | Excavation S-062117-SR-001 | Test Pit 1 Waste S-062117-SR-002 |
|---|---|---|---|---|
| **Parameters** | **Units** | | | |
| **TCLP-SVOCs-Continued** | | | | |
| 2,4-Dinitrotoluene | mg/L | | - | 0.100 U |
| 2-Methylphenol | mg/L | | - | 0.100 U |
| 3&4-Methylphenol | mg/L | | - | 0.100 U |
| Hexachlorobenzene | mg/L | | - | 0.100 U |
| Hexachlorobutadiene | mg/L | | - | 0.100 U |
| Hexachloroethane | mg/L | | - | 0.100 U |
| Nitrobenzene | mg/L | | - | 0.100 U |
| Pentachlorophenol | mg/L | | - | 0.100 U |
| Pyridine | mg/L | | - | 0.100 U |
| **TCLP-VOCs** | | | | |
| 1,1-Dichloroethene | mg/L | | - | 0.0500 U |
| 1,2-Dichloroethane | mg/L | | - | 0.0500 U |
| 2-Butanone (Methyl ethyl ketone) (MEK) | mg/L | | - | 0.500 U |
| Benzene | mg/L | | - | 0.0500 U |
| Carbon tetrachloride | mg/L | | - | 0.0500 U |
| Chlorobenzene | mg/L | | - | 0.0500 U |
| Chloroform (Trichloromethane) | mg/L | | - | 0.250 U |
| Tetrachloroethene | mg/L | | - | 0.0500 U |
| Trichloroethene | mg/L | | - | 0.0500 U |
| Vinyl chloride | mg/L | | - | 0.0500 U |
| **General Chemistry** | | | | |
| Total solids | % | | 82.5 | 80.6 |

Notes:

U - Not detected at the associated reporting limit
TCLP - Toxicity Characteristic Leaching Procedure
VOCs - Volatile Organic Compounds
SVOCs - Semi-volatile Organic Compounds
PCBs - Polychlorinated Biphenyl
ND - Non-detect
\- - Not applicable

[1] - Table 375.6.8 - New York State Department of Environmental Conservation (NYSDEC) Restricted use soil cleanup objectives, Protection of Public Health - Effective December 14, 2006

# Attachment A
# Site Photo Log

Photo 1 - Test Pit 1, note vein with potential tar.

Photo 2 - Test Pit 1 waste.

# Site Photographs

Photo 3 - Test Pit 2 metal waste.

Photo 4 - Test Pit 2 waste stockpile.

Photo 5 - Test Pit 2 metal waste.

Photo 6 - Home heating oil tank in Excavation.

Photo 7 - Tank in Excavation.

# Attachment B
# Completed Disposal Manifests and Weight Tickets

**NON-HAZARDOUS WASTE MANIFEST**

| 1. Generator ID Number | 2. Page 1 of | 3. Emergency Response Phone | 4. Waste Tracking Number |
|---|---|---|---|
| | | 1 (716) 937-6527 | 17-125 |

**GENERATOR**

5. Generator's Name and Mailing Address
City of North Tonawanda
216 Payne Avenue
North Tonawanda, NY 14120
Generator's Phone: 716-652-9300

Generator's Site Address (if different than mailing address)
City of North Tonawanda Botanical Gardens
1825 Sweeney Street
North Tonawanda, NY 14120
NYSDEC SPILL 15-03836

6. Transporter 1 Company Name: Nature's Way Environmental Consultants and Contractors, Inc.
U.S. EPA ID Number: 9A-516

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address
Waste Management Chaffee Landfill
10860 Olean Road
Chaffee, NY 14030
Facility's Phone: (716) 496-5192
U.S. EPA ID Number

| | 9. Waste Shipping Name and Description | 10. Containers No. | 10. Containers Type | 11. Total Quantity | 12. Unit Wt./Vol. | |
|---|---|---|---|---|---|---|
| 1. | Non-RCRA, Non-DOT Regulated Material n.o.s, (Non-Hazardous Contaminated Soil) | | 1 | ≈9 | EST T | |
| 2. | | | | | | |
| 3. | | | | | | |
| 4. | | | | | | |

13. Special Handling Instructions and Additional Information
Profile #118670NY
Normal Landfill PPE
Tarp Load

14. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: DAVID ROWLINSON, GHD Agent of City of No Ton
Signature
Month 02 Day 16 Year 18

**INT'L**

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

**TRANSPORTER**

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: RICHARD BROWN / NWEC HC INC.
Signature
Month 02 Day 16 Year 18

Transporter 2 Printed/Typed Name
Signature
Month Day Year

**DESIGNATED FACILITY**

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

17c. Signature of Alternate Facility (or Generator)
Month Day Year

545225

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Chupma
Signature
Month 2/16/18

169-BLS-C 5 11979 (Rev. 9/09)

**DESIGNATED FACILITY'S COPY**

Waste Management Chaffee LF
10860 Olean Rd
Chaffee, NY, 14030

Original
Ticket# 545225

Ph: (716) 496-5000

| | | | |
|---|---|---|---|
| Customer Name | NATURESWAYENVIRONMENTAL- | Carrier | NWAY NATURES WAY |
| Ticket Date | 02/16/2018 | Vehicle# | 1 |
| Payment Type | Credit Account | Container | |
| Manual Ticket# | | Driver | |
| Route | | Check# | |
| Hauling Ticket# | | Billing# | 0004034 |
| Destination | | Grid | 1G7-1510 |
| Manifest | 17-125 | | |
| Profile | 118670NY (NH SOIL) | | |
| Generator | 190-NORTHTONAWANDA216PAYNE CITY OF NORTH TONAWANDA | | |
| PO# | 1) 17-125 2) 17-125 3) 17-125 4) 17-125 | | |

| | Time | Scale | Operator | Inbound | | |
|---|---|---|---|---|---|---|
| In | 02/16/2018 09:48:27 | INBOUND | JChapma7 | | Gross | 27840 lb |
| Out | 02/16/2018 10:05:17 | OUTBOUND | JChapma7 | | Tare | 14880 lb |
| | | | | | Net | 12960 lb |
| | | | | | Tons | 6.48 |

Comments

| | Product | LD% | Qty | UOM | Rate | Tax/Fee Amount | Origin |
|---|---|---|---|---|---|---|---|
| 1 | Cont Soil Pet-RGC-Tons-C | 100 | 6.48 | Tons | | | NIA |
| 2 | RCR-P-Regulatory Cost Re | 100 | | % | | | NIA |
| 3 | EVF-P10-Environmental Fe | 100 | | % | | | NIA |
| 4 | LFS4-LANDFILL FIXED DISP | 100 | | % | | | NIA |

Total Tax/Fees
Total Ticket

Driver's Signature

(2)

**NON-HAZARDOUS WASTE MANIFEST**

| 1. Generator ID Number | 2. Page 1 of | 3. Emergency Response Phone | 4. Waste Tracking Number |
|---|---|---|---|
| | | 1 (716) 937-6527 | 17-125 |

**GENERATOR**

5. Generator's Name and Mailing Address
City of North Tonawanda
216 Payne Avenue
North Tonawanda, NY 14120
Generator's Phone: 716-652-9300

Generator's Site Address (if different than mailing address)
City of North Tonawanda Botanical Gardens
1825 Sweeney Street
North Tonawanda, NY 14120
NYSDEC Spill 15-03830

6. Transporter 1 Company Name: Nature's Way Environmental Consultants and Contractors, Inc.
U.S. EPA ID Number: 9A-516

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address
Waste Management Chaffee Landfill
10860 Olean Road
Chaffee, NY 14030
Facility's Phone: (716) 496-5192
U.S. EPA ID Number

| | 9. Waste Shipping Name and Description | 10. Containers No. | 10. Containers Type | 11. Total Quantity | 12. Unit Wt./Vol. | |
|---|---|---|---|---|---|---|
| 1. | Non-RCRA, Non-DOT Regulated Material, n.o.s, (Non-Hazardous Contaminated Soil) | 1 | DT | ≈8 EST | T | |
| 2. | | | | | | |
| 3. | | | | | | |
| 4. | | | | | | |

13. Special Handling Instructions and Additional Information
Profile #118670NY
Normal Landfill PPE
Tarp Load

**14. GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: DAVID ROWLINSON, GHD AGENT OF City of North Tonawanda
Signature: David Rowlinson
Month: 02 Day: 16 Year: 18

**INT'L**

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

**TRANSPORTER**

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: RICHARD BROWN / NWEC&C
Signature: RCB
Month: 02 Day: 16 Year: 18

Transporter 2 Printed/Typed Name
Signature
Month: Day: Year:

**DESIGNATED FACILITY**

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

17c. Signature of Alternate Facility (or Generator)
Month: Day: Year:

WM Chaffee CF #545288

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: M Daley
Signature: M. Daley
Month: 2 Day: 16 Year: 18



DESIGNATED FACILITY'S COPY

Waste Management Chaffee LF
10860 Olean Rd
Chaffee, NY, 14030

Ph: (716) 496-5000

Original
Ticket# 545288

| | | | |
|---|---|---|---|
| Customer Name | NATURESWAYENVIRONMENTAL- | Carrier | NWAY NATURES WAY |
| Ticket Date | 02/16/2018 | Vehicle# | 1 |
| Payment Type | Credit Account | Container | |
| Manual Ticket# | | Driver | |
| Route | | Check# | |
| Hauling Ticket# | | Billing# | 0004034 |
| Destination | | Grid | 1G7-1510 |
| Manifest | 17-125 | | |
| Profile | 118670NY (NH SOIL) | | |
| Generator | 190-NORTHTONAWANDA216PAYNE CITY OF NORTH TONAWANDA | | |
| PO# | 1) 17-125 2) 17-125 3) 17-125 4) 17-125 | | |

| | Time | Scale | Operator | Inbound | | |
|---|---|---|---|---|---|---|
| In | 02/16/2018 13:45:36 | INBOUND | mbaker13 | | Gross | 28340 lb |
| Out | 02/16/2018 13:59:17 | OUTBOUND | mbaker13 | | Tare | 14880 lb |
| | | | | | Net | 13460 lb |
| | | | | | Tons | 6.73 |

Comments

| | Product | LD% | Qty | UOM | Rate | Tax/Fee Amount | Origin |
|---|---|---|---|---|---|---|---|
| 1 | Cont Soil Pet-RGC-Tons-C | 100 | 6.73 | Tons | | | NIA |
| 2 | RCR-P-Regulatory Cost Re | 100 | | % | | | NIA |
| 3 | EVF-P10-Environmental Fe | 100 | | % | | | NIA |
| 4 | LFS4-LANDFILL FIXED DISP | 100 | | % | | | NIA |

Total Tax/Fees
Total Ticket

Driver's Signature

# Attachment C
# Laboratory Analytical Report

# ANALYTICAL REPORT

July 05, 2017

## GHD

| | |
|---|---|
| Sample Delivery Group: | L918279 |
| Samples Received: | 06/23/2017 |
| Project Number: | 1137154-100 |
| Description: | Botantical Gardens Investigation |

Report To:

Mr. Dave Rowlinson
285 Delaware Ave.
Suite 500
Buffalo, NY 14202

Entire Report Reviewed By:

T. Alan Harvill
Technical Service Representative



# TABLE OF CONTENTS

## S-062117-SR-001 L918279-01 Solid

Collected by: John R.
Collected date/time: 06/21/17 14:05
Received date/time: 06/23/17 08:45

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst |
|---|---|---|---|---|---|
| Total Solids by Method 2540 G-2011 | WG993505 | 1 | 06/28/17 10:12 | 06/28/17 10:34 | MLW |
| Mercury by Method 7471B | WG992556 | 1 | 06/24/17 07:30 | 06/28/17 12:45 | EL |
| Metals (ICP) by Method 6010C | WG993008 | 1 | 06/26/17 22:14 | 06/27/17 11:05 | CCE |
| Volatile Organic Compounds (GC/MS) by Method 8260C | WG994394 | 1 | 06/21/17 14:05 | 06/30/17 02:05 | JHH |
| Volatile Organic Compounds (GC/MS) by Method 8260C | WG994394 | 1 | 06/21/17 14:05 | 06/30/17 16:55 | LRL |
| Polychlorinated Biphenyls (GC) by Method 8082 A | WG993252 | 1 | 06/27/17 11:36 | 06/27/17 16:11 | JNS |
| Semi Volatile Organic Compounds (GC/MS) by Method 8270D | WG992787 | 2 | 06/27/17 22:16 | 06/28/17 13:49 | KMP |

## S-062117-SR-002 L918279-02 Solid

Collected by: John R.
Collected date/time: 06/21/17 14:30
Received date/time: 06/23/17 08:45

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst |
|---|---|---|---|---|---|
| Total Solids by Method 2540 G-2011 | WG993505 | 1 | 06/28/17 10:12 | 06/28/17 10:34 | MLW |
| Mercury by Method 7471B | WG992556 | 1 | 06/24/17 07:30 | 06/28/17 12:48 | EL |
| Metals (ICP) by Method 6010C | WG993008 | 1 | 06/26/17 22:14 | 06/27/17 10:34 | CCE |
| Volatile Organic Compounds (GC/MS) by Method 8260C | WG994394 | 1 | 06/21/17 14:30 | 06/30/17 02:23 | JHH |
| Volatile Organic Compounds (GC/MS) by Method 8260C | WG994394 | 20.75 | 06/21/17 14:30 | 06/30/17 17:18 | LRL |
| Polychlorinated Biphenyls (GC) by Method 8082 A | WG993252 | 1 | 06/27/17 11:36 | 06/28/17 16:17 | JNS |
| Semi Volatile Organic Compounds (GC/MS) by Method 8270D | WG992787 | 10 | 06/27/17 22:16 | 06/28/17 18:40 | KMP |

## S-062117-SR-002 L918279-03 Waste

Collected by: John R.
Collected date/time: 06/21/17 14:30
Received date/time: 06/23/17 08:45

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst |
|---|---|---|---|---|---|
| Preparation by Method 1311 | WG993182 | 1 | 06/27/17 09:19 | 06/27/17 09:19 | BG |
| Preparation by Method 1311 | WG993359 | 1 | 06/27/17 13:13 | 06/27/17 13:13 | KK |
| Mercury by Method 7470A | WG993801 | 1 | 06/28/17 12:38 | 06/29/17 06:13 | EL |
| Metals (ICP) by Method 6010C | WG993776 | 1 | 06/29/17 09:11 | 06/29/17 13:13 | CCE |
| Volatile Organic Compounds (GC/MS) by Method 8260C | WG993725 | 1 | 06/28/17 19:15 | 06/28/17 19:15 | JHH |
| Polychlorinated Biphenyls (GC) by Method 8082 A | WG993949 | 1 | 06/28/17 21:48 | 06/29/17 20:11 | JNS |
| Semi Volatile Organic Compounds (GC/MS) by Method 8270D | WG993945 | 1 | 06/29/17 08:55 | 06/30/17 05:53 | JF |

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times. All MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

T. Alan Harvill
Technical Service Representative

## Total Solids by Method 2540 G-2011

| Analyte | Result | Qualifier | Dilution | Analysis | Batch |
|---|---|---|---|---|---|
| | % | | | date / time | |
| Total Solids | 82.5 | | 1 | 06/28/2017 10:34 | WG993505 |

## Mercury by Method 7471B

| Analyte | Result (dry) | Qualifier | MDL (dry) | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | mg/kg | | date / time | |
| Mercury | 0.0656 | | 0.00340 | 0.0243 | 1 | 06/28/2017 12:45 | WG992556 |

## Metals (ICP) by Method 6010C

| Analyte | Result (dry) | Qualifier | MDL (dry) | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | mg/kg | | date / time | |
| Antimony | U | | 0.909 | 2.43 | 1 | 06/27/2017 11:05 | WG993008 |
| Arsenic | 4.52 | | 0.788 | 2.43 | 1 | 06/27/2017 11:05 | WG993008 |
| Barium | 87.9 | | 0.206 | 0.606 | 1 | 06/27/2017 11:05 | WG993008 |
| Beryllium | 0.527 | | 0.0849 | 0.243 | 1 | 06/27/2017 11:05 | WG993008 |
| Cadmium | 1.91 | | 0.0849 | 0.606 | 1 | 06/27/2017 11:05 | WG993008 |
| Chromium | 23.4 | | 0.170 | 1.21 | 1 | 06/27/2017 11:05 | WG993008 |
| Cobalt | 10.1 | | 0.279 | 1.21 | 1 | 06/27/2017 11:05 | WG993008 |
| Copper | 100 | | 0.643 | 2.43 | 1 | 06/27/2017 11:05 | WG993008 |
| Lead | 79.6 | | 0.230 | 0.606 | 1 | 06/27/2017 11:05 | WG993008 |
| Molybdenum | 2.96 | | 0.194 | 0.606 | 1 | 06/27/2017 11:05 | WG993008 |
| Nickel | 31.8 | | 0.594 | 2.43 | 1 | 06/27/2017 11:05 | WG993008 |
| Selenium | U | | 0.897 | 2.43 | 1 | 06/27/2017 11:05 | WG993008 |
| Silver | U | | 0.340 | 1.21 | 1 | 06/27/2017 11:05 | WG993008 |
| Thallium | U | | 0.788 | 2.43 | 1 | 06/27/2017 11:05 | WG993008 |
| Vanadium | 18.4 | | 0.291 | 2.43 | 1 | 06/27/2017 11:05 | WG993008 |
| Zinc | 168 | | 0.715 | 6.06 | 1 | 06/27/2017 11:05 | WG993008 |

## Volatile Organic Compounds (GC/MS) by Method 8260C

| Analyte | Result (dry) | Qualifier | MDL (dry) | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | mg/kg | | date / time | |
| Acetone | 0.0190 | J | 0.0121 | 0.0606 | 1 | 06/30/2017 16:55 | WG994394 |
| Benzene | 0.00129 | | 0.000327 | 0.00121 | 1 | 06/30/2017 02:05 | WG994394 |
| Bromochloromethane | U | | 0.000473 | 0.00121 | 1 | 06/30/2017 02:05 | WG994394 |
| Bromodichloromethane | U | | 0.000308 | 0.00121 | 1 | 06/30/2017 02:05 | WG994394 |
| Bromoform | U | | 0.000514 | 0.00121 | 1 | 06/30/2017 02:05 | WG994394 |
| Bromomethane | U | | 0.00162 | 0.00606 | 1 | 06/30/2017 02:05 | WG994394 |
| Carbon disulfide | 0.00186 | | 0.000268 | 0.00121 | 1 | 06/30/2017 02:05 | WG994394 |
| Carbon tetrachloride | U | | 0.000398 | 0.00121 | 1 | 06/30/2017 02:05 | WG994394 |
| Chlorobenzene | U | | 0.000257 | 0.00121 | 1 | 06/30/2017 02:05 | WG994394 |
| Chlorodibromomethane | U | | 0.000452 | 0.00121 | 1 | 06/30/2017 02:05 | WG994394 |
| Chloroethane | U | | 0.00115 | 0.00606 | 1 | 06/30/2017 02:05 | WG994394 |
| Chloroform | U | | 0.000278 | 0.00606 | 1 | 06/30/2017 02:05 | WG994394 |
| Chloromethane | U | J0 | 0.000455 | 0.00303 | 1 | 06/30/2017 02:05 | WG994394 |
| Cyclohexane | 0.00340 | | 0.000424 | 0.00121 | 1 | 06/30/2017 02:05 | WG994394 |
| 1,2-Dibromo-3-Chloropropane | U | J0 | 0.00127 | 0.00606 | 1 | 06/30/2017 02:05 | WG994394 |
| 1,2-Dibromoethane | U | | 0.000416 | 0.00121 | 1 | 06/30/2017 02:05 | WG994394 |
| Dichlorodifluoromethane | U | | 0.000865 | 0.00606 | 1 | 06/30/2017 02:05 | WG994394 |
| 1,1-Dichloroethane | U | | 0.000241 | 0.00121 | 1 | 06/30/2017 02:05 | WG994394 |
| 1,2-Dichloroethane | U | | 0.000321 | 0.00121 | 1 | 06/30/2017 02:05 | WG994394 |
| 1,2-Dichlorobenzene | U | | 0.000370 | 0.00121 | 1 | 06/30/2017 02:05 | WG994394 |
| 1,3-Dichlorobenzene | U | | 0.000290 | 0.00121 | 1 | 06/30/2017 02:05 | WG994394 |
| 1,4-Dichlorobenzene | U | | 0.000274 | 0.00121 | 1 | 06/30/2017 02:05 | WG994394 |
| 1,1-Dichloroethene | U | | 0.000367 | 0.00121 | 1 | 06/30/2017 02:05 | WG994394 |
| cis-1,2-Dichloroethene | U | | 0.000285 | 0.00121 | 1 | 06/30/2017 02:05 | WG994394 |

## Volatile Organic Compounds (GC/MS) by Method 8260C

| Analyte | Result (dry) mg/kg | Qualifier | MDL (dry) mg/kg | RDL (dry) mg/kg | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| trans-1,2-Dichloroethene | U | | 0.000320 | 0.00121 | 1 | 06/30/2017 02:05 | WG994394 |
| 1,2-Dichloropropane | U | | 0.000434 | 0.00121 | 1 | 06/30/2017 02:05 | WG994394 |
| cis-1,3-Dichloropropene | U | | 0.000318 | 0.00121 | 1 | 06/30/2017 02:05 | WG994394 |
| trans-1,3-Dichloropropene | U | | 0.000324 | 0.00121 | 1 | 06/30/2017 02:05 | WG994394 |
| Ethylbenzene | U | | 0.000360 | 0.00121 | 1 | 06/30/2017 02:05 | WG994394 |
| 2-Hexanone | U | J0 | 0.00166 | 0.0121 | 1 | 06/30/2017 02:05 | WG994394 |
| Isopropylbenzene | U | | 0.000295 | 0.0121 | 1 | 06/30/2017 02:05 | WG994394 |
| 2-Butanone (MEK) | U | J0 | 0.00567 | 0.0121 | 1 | 06/30/2017 02:05 | WG994394 |
| Methyl Acetate | U | | 0.00740 | 0.0243 | 1 | 06/30/2017 02:05 | WG994394 |
| Methyl Cyclohexane | 0.00683 | | 0.000461 | 0.00121 | 1 | 06/30/2017 02:05 | WG994394 |
| Methylene Chloride | U | | 0.00121 | 0.00606 | 1 | 06/30/2017 02:05 | WG994394 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.00228 | 0.0121 | 1 | 06/30/2017 02:05 | WG994394 |
| Methyl tert-butyl ether | U | | 0.000257 | 0.00121 | 1 | 06/30/2017 02:05 | WG994394 |
| Styrene | U | | 0.000284 | 0.00121 | 1 | 06/30/2017 02:05 | WG994394 |
| 1,1,2,2-Tetrachloroethane | U | | 0.000443 | 0.00121 | 1 | 06/30/2017 02:05 | WG994394 |
| Tetrachloroethene | 0.00275 | | 0.000335 | 0.00121 | 1 | 06/30/2017 02:05 | WG994394 |
| Toluene | 0.00199 | J | 0.000526 | 0.00606 | 1 | 06/30/2017 02:05 | WG994394 |
| 1,2,3-Trichlorobenzene | U | | 0.000371 | 0.00121 | 1 | 06/30/2017 02:05 | WG994394 |
| 1,2,4-Trichlorobenzene | U | | 0.000470 | 0.00121 | 1 | 06/30/2017 02:05 | WG994394 |
| 1,1,1-Trichloroethane | U | | 0.000347 | 0.00121 | 1 | 06/30/2017 02:05 | WG994394 |
| 1,1,2-Trichloroethane | U | | 0.000336 | 0.00121 | 1 | 06/30/2017 02:05 | WG994394 |
| Trichloroethene | 0.000812 | J | 0.000338 | 0.00121 | 1 | 06/30/2017 02:05 | WG994394 |
| Trichlorofluoromethane | U | J4 | 0.000463 | 0.00606 | 1 | 06/30/2017 02:05 | WG994394 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.000443 | 0.00121 | 1 | 06/30/2017 02:05 | WG994394 |
| Vinyl chloride | U | | 0.000353 | 0.00121 | 1 | 06/30/2017 02:05 | WG994394 |
| Xylenes, Total | 0.00120 | J | 0.000846 | 0.00364 | 1 | 06/30/2017 02:05 | WG994394 |
| *(S) Toluene-d8* | *92.6* | | | *80.0-120* | | *06/30/2017 16:55* | WG994394 |
| *(S) Toluene-d8* | *103* | | | *80.0-120* | | *06/30/2017 02:05* | WG994394 |
| *(S) Dibromofluoromethane* | *98.3* | | | *74.0-131* | | *06/30/2017 16:55* | WG994394 |
| *(S) Dibromofluoromethane* | *98.9* | | | *74.0-131* | | *06/30/2017 02:05* | WG994394 |
| *(S) a,a,a-Trifluorotoluene* | *101* | | | *80.0-120* | | *06/30/2017 16:55* | WG994394 |
| *(S) a,a,a-Trifluorotoluene* | *101* | | | *80.0-120* | | *06/30/2017 02:05* | WG994394 |
| *(S) 4-Bromofluorobenzene* | *103* | | | *64.0-132* | | *06/30/2017 16:55* | WG994394 |
| *(S) 4-Bromofluorobenzene* | *97.4* | | | *64.0-132* | | *06/30/2017 02:05* | WG994394 |

## Polychlorinated Biphenyls (GC) by Method 8082 A

| Analyte | Result (dry) mg/kg | Qualifier | MDL (dry) mg/kg | RDL (dry) mg/kg | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| PCB 1016 | U | | 0.00424 | 0.0206 | 1 | 06/27/2017 16:11 | WG993252 |
| PCB 1221 | U | | 0.00651 | 0.0206 | 1 | 06/27/2017 16:11 | WG993252 |
| PCB 1232 | U | | 0.00506 | 0.0206 | 1 | 06/27/2017 16:11 | WG993252 |
| PCB 1242 | U | | 0.00386 | 0.0206 | 1 | 06/27/2017 16:11 | WG993252 |
| PCB 1248 | U | | 0.00382 | 0.0206 | 1 | 06/27/2017 16:11 | WG993252 |
| PCB 1254 | U | | 0.00572 | 0.0206 | 1 | 06/27/2017 16:11 | WG993252 |
| PCB 1260 | U | | 0.00599 | 0.0206 | 1 | 06/27/2017 16:11 | WG993252 |
| *(S) Decachlorobiphenyl* | *85.5* | | | *10.0-148* | | *06/27/2017 16:11* | WG993252 |
| *(S) Tetrachloro-m-xylene* | *81.4* | | | *21.0-146* | | *06/27/2017 16:11* | WG993252 |

## Semi Volatile Organic Compounds (GC/MS) by Method 8270D

| Analyte | Result (dry) mg/kg | Qualifier | MDL (dry) mg/kg | RDL (dry) mg/kg | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acenaphthene | U | | 0.0155 | 0.0800 | 2 | 06/28/2017 13:49 | WG992787 |
| Acenaphthylene | U | | 0.0162 | 0.0800 | 2 | 06/28/2017 13:49 | WG992787 |
| Acetophenone | U | | 0.182 | 0.808 | 2 | 06/28/2017 13:49 | WG992787 |
| Anthracene | U | | 0.0153 | 0.0800 | 2 | 06/28/2017 13:49 | WG992787 |

## Semi Volatile Organic Compounds (GC/MS) by Method 8270D

| Analyte | Result (dry) mg/kg | Qualifier | MDL (dry) mg/kg | RDL (dry) mg/kg | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Atrazine | U | | 0.228 | 0.808 | 2 | 06/28/2017 13:49 | WG992787 |
| Benzaldehyde | U | | 0.129 | 0.808 | 2 | 06/28/2017 13:49 | WG992787 |
| Benzo(a)anthracene | 0.0229 | J | 0.0104 | 0.0800 | 2 | 06/28/2017 13:49 | WG992787 |
| Benzo(b)fluoranthene | 0.0431 | J | 0.0169 | 0.0800 | 2 | 06/28/2017 13:49 | WG992787 |
| Benzo(k)fluoranthene | 0.0175 | J | 0.0141 | 0.0800 | 2 | 06/28/2017 13:49 | WG992787 |
| Benzo(g,h,i)perylene | U | | 0.0175 | 0.0800 | 2 | 06/28/2017 13:49 | WG992787 |
| Benzo(a)pyrene | 0.0273 | J | 0.0133 | 0.0800 | 2 | 06/28/2017 13:49 | WG992787 |
| Biphenyl | U | | 0.0143 | 0.808 | 2 | 06/28/2017 13:49 | WG992787 |
| Bis(2-chlorethoxy)methane | U | | 0.0187 | 0.808 | 2 | 06/28/2017 13:49 | WG992787 |
| Bis(2-chloroethyl)ether | U | | 0.0217 | 0.808 | 2 | 06/28/2017 13:49 | WG992787 |
| Bis(2-chloroisopropyl)ether | U | | 0.0184 | 0.808 | 2 | 06/28/2017 13:49 | WG992787 |
| 4-Bromophenyl-phenylether | U | | 0.0276 | 0.808 | 2 | 06/28/2017 13:49 | WG992787 |
| Caprolactam | U | | 0.252 | 0.808 | 2 | 06/28/2017 13:49 | WG992787 |
| Carbazole | U | | 0.0127 | 0.808 | 2 | 06/28/2017 13:49 | WG992787 |
| 4-Chloroaniline | U | | 0.0854 | 0.808 | 2 | 06/28/2017 13:49 | WG992787 |
| 2-Chloronaphthalene | U | | 0.0155 | 0.0800 | 2 | 06/28/2017 13:49 | WG992787 |
| 4-Chlorophenyl-phenylether | U | | 0.0152 | 0.808 | 2 | 06/28/2017 13:49 | WG992787 |
| Chrysene | 0.0287 | J | 0.0135 | 0.0800 | 2 | 06/28/2017 13:49 | WG992787 |
| Dibenz(a,h)anthracene | U | J3 | 0.0199 | 0.0800 | 2 | 06/28/2017 13:49 | WG992787 |
| Dibenzofuran | U | | 0.0126 | 0.808 | 2 | 06/28/2017 13:49 | WG992787 |
| 3,3-Dichlorobenzidine | U | J4 | 0.193 | 0.808 | 2 | 06/28/2017 13:49 | WG992787 |
| 2,4-Dinitrotoluene | U | | 0.0147 | 0.808 | 2 | 06/28/2017 13:49 | WG992787 |
| 2,6-Dinitrotoluene | U | | 0.0178 | 0.808 | 2 | 06/28/2017 13:49 | WG992787 |
| Fluoranthene | 0.0504 | J | 0.0120 | 0.0800 | 2 | 06/28/2017 13:49 | WG992787 |
| Fluorene | U | | 0.0165 | 0.0800 | 2 | 06/28/2017 13:49 | WG992787 |
| Hexachlorobenzene | U | | 0.0207 | 0.808 | 2 | 06/28/2017 13:49 | WG992787 |
| Hexachloro-1,3-butadiene | U | | 0.0243 | 0.808 | 2 | 06/28/2017 13:49 | WG992787 |
| Hexachlorocyclopentadiene | U | | 0.142 | 0.808 | 2 | 06/28/2017 13:49 | WG992787 |
| Hexachloroethane | U | | 0.0325 | 0.808 | 2 | 06/28/2017 13:49 | WG992787 |
| Indeno(1,2,3-cd)pyrene | U | J3 | 0.0187 | 0.0800 | 2 | 06/28/2017 13:49 | WG992787 |
| Isophorone | U | | 0.0126 | 0.808 | 2 | 06/28/2017 13:49 | WG992787 |
| 2-Methylnaphthalene | U | | 0.0209 | 0.0800 | 2 | 06/28/2017 13:49 | WG992787 |
| Naphthalene | U | | 0.0216 | 0.0800 | 2 | 06/28/2017 13:49 | WG992787 |
| 2-Nitroaniline | U | | 0.0183 | 0.808 | 2 | 06/28/2017 13:49 | WG992787 |
| 3-Nitroaniline | U | | 0.0206 | 0.808 | 2 | 06/28/2017 13:49 | WG992787 |
| 4-Nitroaniline | U | | 0.0155 | 0.808 | 2 | 06/28/2017 13:49 | WG992787 |
| Nitrobenzene | U | | 0.0169 | 0.808 | 2 | 06/28/2017 13:49 | WG992787 |
| n-Nitrosodiphenylamine | U | | 0.0144 | 0.808 | 2 | 06/28/2017 13:49 | WG992787 |
| n-Nitrosodi-n-propylamine | U | | 0.0219 | 0.808 | 2 | 06/28/2017 13:49 | WG992787 |
| Phenanthrene | 0.0172 | J | 0.0129 | 0.0800 | 2 | 06/28/2017 13:49 | WG992787 |
| Benzylbutyl phthalate | U | | 0.0250 | 0.808 | 2 | 06/28/2017 13:49 | WG992787 |
| Bis(2-ethylhexyl)phthalate | U | | 0.0291 | 0.808 | 2 | 06/28/2017 13:49 | WG992787 |
| Di-n-butyl phthalate | U | | 0.0264 | 0.808 | 2 | 06/28/2017 13:49 | WG992787 |
| Diethyl phthalate | U | | 0.0167 | 0.808 | 2 | 06/28/2017 13:49 | WG992787 |
| Dimethyl phthalate | U | | 0.0131 | 0.808 | 2 | 06/28/2017 13:49 | WG992787 |
| Di-n-octyl phthalate | U | | 0.0219 | 0.808 | 2 | 06/28/2017 13:49 | WG992787 |
| Pyrene | 0.0375 | J | 0.0298 | 0.0800 | 2 | 06/28/2017 13:49 | WG992787 |
| 1,2,4,5-Tetrachlorobenzene | U | | 0.184 | 0.808 | 2 | 06/28/2017 13:49 | WG992787 |
| 4-Chloro-3-methylphenol | U | | 0.0116 | 0.808 | 2 | 06/28/2017 13:49 | WG992787 |
| 2-Chlorophenol | U | | 0.0201 | 0.808 | 2 | 06/28/2017 13:49 | WG992787 |
| 2-Methylphenol | U | | 0.0239 | 0.808 | 2 | 06/28/2017 13:49 | WG992787 |
| 3&4-Methyl Phenol | U | | 0.0190 | 0.808 | 2 | 06/28/2017 13:49 | WG992787 |
| 2,4-Dichlorophenol | U | | 0.0181 | 0.808 | 2 | 06/28/2017 13:49 | WG992787 |
| 2,4-Dimethylphenol | U | | 0.114 | 0.808 | 2 | 06/28/2017 13:49 | WG992787 |
| 4,6-Dinitro-2-methylphenol | U | | 0.301 | 0.808 | 2 | 06/28/2017 13:49 | WG992787 |
| 2,4-Dinitrophenol | U | | 0.238 | 0.808 | 2 | 06/28/2017 13:49 | WG992787 |

## Semi Volatile Organic Compounds (GC/MS) by Method 8270D

| Analyte | Result (dry) mg/kg | Qualifier | MDL (dry) mg/kg | RDL (dry) mg/kg | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| 2-Nitrophenol | U | | 0.0315 | 0.808 | 2 | 06/28/2017 13:49 | WG992787 |
| 4-Nitrophenol | U | | 0.127 | 0.808 | 2 | 06/28/2017 13:49 | WG992787 |
| Pentachlorophenol | U | | 0.116 | 0.808 | 2 | 06/28/2017 13:49 | WG992787 |
| Phenol | U | | 0.0169 | 0.808 | 2 | 06/28/2017 13:49 | WG992787 |
| 2,4,5-Trichlorophenol | U | | 0.0252 | 0.808 | 2 | 06/28/2017 13:49 | WG992787 |
| 2,4,6-Trichlorophenol | U | | 0.0189 | 0.808 | 2 | 06/28/2017 13:49 | WG992787 |
| *(S) 2-Fluorophenol* | *72.7* | | | *20.0-120* | | *06/28/2017 13:49* | WG992787 |
| *(S) Phenol-d5* | *68.9* | | | *20.0-120* | | *06/28/2017 13:49* | WG992787 |
| *(S) Nitrobenzene-d5* | *55.9* | | | *18.0-125* | | *06/28/2017 13:49* | WG992787 |
| *(S) 2-Fluorobiphenyl* | *64.3* | | | *28.0-120* | | *06/28/2017 13:49* | WG992787 |
| *(S) 2,4,6-Tribromophenol* | *69.4* | | | *17.0-137* | | *06/28/2017 13:49* | WG992787 |
| *(S) p-Terphenyl-d14* | *71.2* | | | *13.0-131* | | *06/28/2017 13:49* | WG992787 |

Sample Narrative:

L918279-01 WG992787: Dilution due to matrix impact during extract concentration procedure

## Total Solids by Method 2540 G-2011

| Analyte | Result | Qualifier | Dilution | Analysis | Batch |
|---|---|---|---|---|---|
| | % | | | date / time | |
| Total Solids | 80.6 | | 1 | 06/28/2017 10:34 | WG993505 |

## Mercury by Method 7471B

| Analyte | Result (dry) | Qualifier | MDL (dry) | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | mg/kg | | date / time | |
| Mercury | 0.0512 | | 0.00348 | 0.0248 | 1 | 06/28/2017 12:48 | WG992556 |

## Metals (ICP) by Method 6010C

| Analyte | Result (dry) | Qualifier | MDL (dry) | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | mg/kg | | date / time | |
| Antimony | U | J6 | 0.931 | 2.48 | 1 | 06/27/2017 10:34 | WG993008 |
| Arsenic | 3.20 | | 0.807 | 2.48 | 1 | 06/27/2017 10:34 | WG993008 |
| Barium | 289 | J3 J5 | 0.211 | 0.621 | 1 | 06/27/2017 10:34 | WG993008 |
| Beryllium | 0.368 | | 0.0869 | 0.248 | 1 | 06/27/2017 10:34 | WG993008 |
| Cadmium | 1.32 | | 0.0869 | 0.621 | 1 | 06/27/2017 10:34 | WG993008 |
| Chromium | 13.5 | O1 | 0.174 | 1.24 | 1 | 06/27/2017 10:34 | WG993008 |
| Cobalt | 6.12 | | 0.285 | 1.24 | 1 | 06/27/2017 10:34 | WG993008 |
| Copper | 18.2 | | 0.658 | 2.48 | 1 | 06/27/2017 10:34 | WG993008 |
| Lead | 583 | J3 V | 0.236 | 0.621 | 1 | 06/27/2017 10:34 | WG993008 |
| Molybdenum | 0.687 | | 0.199 | 0.621 | 1 | 06/27/2017 10:34 | WG993008 |
| Nickel | 13.8 | | 0.608 | 2.48 | 1 | 06/27/2017 10:34 | WG993008 |
| Selenium | U | | 0.918 | 2.48 | 1 | 06/27/2017 10:34 | WG993008 |
| Silver | U | | 0.348 | 1.24 | 1 | 06/27/2017 10:34 | WG993008 |
| Thallium | U | | 0.807 | 2.48 | 1 | 06/27/2017 10:34 | WG993008 |
| Vanadium | 13.8 | | 0.298 | 2.48 | 1 | 06/27/2017 10:34 | WG993008 |
| Zinc | 154 | J3 J5 J6 O1 | 0.732 | 6.21 | 1 | 06/27/2017 10:34 | WG993008 |

## Volatile Organic Compounds (GC/MS) by Method 8260C

| Analyte | Result (dry) | Qualifier | MDL (dry) | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | mg/kg | | date / time | |
| Acetone | U | | 0.258 | 1.29 | 20.75 | 06/30/2017 17:18 | WG994394 |
| Benzene | 0.00254 | | 0.000335 | 0.00124 | 1 | 06/30/2017 02:23 | WG994394 |
| Bromochloromethane | U | | 0.000484 | 0.00124 | 1 | 06/30/2017 02:23 | WG994394 |
| Bromodichloromethane | U | | 0.000315 | 0.00124 | 1 | 06/30/2017 02:23 | WG994394 |
| Bromoform | U | | 0.000526 | 0.00124 | 1 | 06/30/2017 02:23 | WG994394 |
| Bromomethane | U | | 0.00166 | 0.00621 | 1 | 06/30/2017 02:23 | WG994394 |
| Carbon disulfide | 0.0675 | | 0.000274 | 0.00124 | 1 | 06/30/2017 02:23 | WG994394 |
| Carbon tetrachloride | U | | 0.000407 | 0.00124 | 1 | 06/30/2017 02:23 | WG994394 |
| Chlorobenzene | U | | 0.000263 | 0.00124 | 1 | 06/30/2017 02:23 | WG994394 |
| Chlorodibromomethane | U | | 0.000463 | 0.00124 | 1 | 06/30/2017 02:23 | WG994394 |
| Chloroethane | U | | 0.00117 | 0.00621 | 1 | 06/30/2017 02:23 | WG994394 |
| Chloroform | U | | 0.000284 | 0.00621 | 1 | 06/30/2017 02:23 | WG994394 |
| Chloromethane | U | J0 | 0.000465 | 0.00310 | 1 | 06/30/2017 02:23 | WG994394 |
| Cyclohexane | 0.00156 | | 0.000434 | 0.00124 | 1 | 06/30/2017 02:23 | WG994394 |
| 1,2-Dibromo-3-Chloropropane | U | J0 | 0.00130 | 0.00621 | 1 | 06/30/2017 02:23 | WG994394 |
| 1,2-Dibromoethane | U | | 0.000426 | 0.00124 | 1 | 06/30/2017 02:23 | WG994394 |
| Dichlorodifluoromethane | U | | 0.000885 | 0.00621 | 1 | 06/30/2017 02:23 | WG994394 |
| 1,1-Dichloroethane | U | | 0.000247 | 0.00124 | 1 | 06/30/2017 02:23 | WG994394 |
| 1,2-Dichloroethane | U | | 0.000329 | 0.00124 | 1 | 06/30/2017 02:23 | WG994394 |
| 1,2-Dichlorobenzene | U | | 0.000379 | 0.00124 | 1 | 06/30/2017 02:23 | WG994394 |
| 1,3-Dichlorobenzene | U | | 0.000297 | 0.00124 | 1 | 06/30/2017 02:23 | WG994394 |
| 1,4-Dichlorobenzene | U | | 0.000280 | 0.00124 | 1 | 06/30/2017 02:23 | WG994394 |
| 1,1-Dichloroethene | U | | 0.000376 | 0.00124 | 1 | 06/30/2017 02:23 | WG994394 |
| cis-1,2-Dichloroethene | 0.00117 | J | 0.000292 | 0.00124 | 1 | 06/30/2017 02:23 | WG994394 |

## Volatile Organic Compounds (GC/MS) by Method 8260C

| Analyte | Result (dry) mg/kg | Qualifier | MDL (dry) mg/kg | RDL (dry) mg/kg | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| trans-1,2-Dichloroethene | U | | 0.000328 | 0.00124 | 1 | 06/30/2017 02:23 | WG994394 |
| 1,2-Dichloropropane | U | | 0.000444 | 0.00124 | 1 | 06/30/2017 02:23 | WG994394 |
| cis-1,3-Dichloropropene | U | | 0.000325 | 0.00124 | 1 | 06/30/2017 02:23 | WG994394 |
| trans-1,3-Dichloropropene | U | | 0.000331 | 0.00124 | 1 | 06/30/2017 02:23 | WG994394 |
| Ethylbenzene | 0.00159 | | 0.000369 | 0.00124 | 1 | 06/30/2017 02:23 | WG994394 |
| 2-Hexanone | U | J0 | 0.00170 | 0.0124 | 1 | 06/30/2017 02:23 | WG994394 |
| Isopropylbenzene | U | | 0.000302 | 0.0124 | 1 | 06/30/2017 02:23 | WG994394 |
| 2-Butanone (MEK) | 0.0265 | J0 | 0.00581 | 0.0124 | 1 | 06/30/2017 02:23 | WG994394 |
| Methyl Acetate | U | | 0.00757 | 0.0248 | 1 | 06/30/2017 02:23 | WG994394 |
| Methyl Cyclohexane | 0.00358 | | 0.000472 | 0.00124 | 1 | 06/30/2017 02:23 | WG994394 |
| Methylene Chloride | U | | 0.00124 | 0.00621 | 1 | 06/30/2017 02:23 | WG994394 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.00233 | 0.0124 | 1 | 06/30/2017 02:23 | WG994394 |
| Methyl tert-butyl ether | U | | 0.000263 | 0.00124 | 1 | 06/30/2017 02:23 | WG994394 |
| Styrene | U | | 0.000290 | 0.00124 | 1 | 06/30/2017 02:23 | WG994394 |
| 1,1,2,2-Tetrachloroethane | U | | 0.000453 | 0.00124 | 1 | 06/30/2017 02:23 | WG994394 |
| Tetrachloroethene | 0.0396 | | 0.000343 | 0.00124 | 1 | 06/30/2017 02:23 | WG994394 |
| Toluene | 0.00568 | J | 0.000539 | 0.00621 | 1 | 06/30/2017 02:23 | WG994394 |
| 1,2,3-Trichlorobenzene | U | | 0.000380 | 0.00124 | 1 | 06/30/2017 02:23 | WG994394 |
| 1,2,4-Trichlorobenzene | U | | 0.000482 | 0.00124 | 1 | 06/30/2017 02:23 | WG994394 |
| 1,1,1-Trichloroethane | U | | 0.000355 | 0.00124 | 1 | 06/30/2017 02:23 | WG994394 |
| 1,1,2-Trichloroethane | U | | 0.000344 | 0.00124 | 1 | 06/30/2017 02:23 | WG994394 |
| Trichloroethene | 0.00301 | | 0.000346 | 0.00124 | 1 | 06/30/2017 02:23 | WG994394 |
| Trichlorofluoromethane | 0.00389 | J J4 | 0.000474 | 0.00621 | 1 | 06/30/2017 02:23 | WG994394 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.000453 | 0.00124 | 1 | 06/30/2017 02:23 | WG994394 |
| Vinyl chloride | U | | 0.000361 | 0.00124 | 1 | 06/30/2017 02:23 | WG994394 |
| Xylenes, Total | 0.00690 | | 0.000866 | 0.00372 | 1 | 06/30/2017 02:23 | WG994394 |
| *(S) Toluene-d8* | *102* | | | *80.0-120* | | *06/30/2017 02:23* | WG994394 |
| *(S) Toluene-d8* | *109* | | | *80.0-120* | | *06/30/2017 17:18* | WG994394 |
| *(S) Dibromofluoromethane* | *101* | | | *74.0-131* | | *06/30/2017 02:23* | WG994394 |
| *(S) Dibromofluoromethane* | *89.6* | | | *74.0-131* | | *06/30/2017 17:18* | WG994394 |
| *(S) a,a,a-Trifluorotoluene* | *103* | | | *80.0-120* | | *06/30/2017 17:18* | WG994394 |
| *(S) a,a,a-Trifluorotoluene* | *101* | | | *80.0-120* | | *06/30/2017 02:23* | WG994394 |
| *(S) 4-Bromofluorobenzene* | *98.0* | | | *64.0-132* | | *06/30/2017 17:18* | WG994394 |
| *(S) 4-Bromofluorobenzene* | *96.2* | | | *64.0-132* | | *06/30/2017 02:23* | WG994394 |

Sample Narrative:

L918279-02 WG994394: No stir bars remain for analysis.

## Polychlorinated Biphenyls (GC) by Method 8082 A

| Analyte | Result (dry) mg/kg | Qualifier | MDL (dry) mg/kg | RDL (dry) mg/kg | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| PCB 1016 | U | | 0.00434 | 0.0211 | 1 | 06/28/2017 16:17 | WG993252 |
| PCB 1221 | U | | 0.00666 | 0.0211 | 1 | 06/28/2017 16:17 | WG993252 |
| PCB 1232 | U | | 0.00518 | 0.0211 | 1 | 06/28/2017 16:17 | WG993252 |
| PCB 1242 | 0.468 | | 0.00395 | 0.0211 | 1 | 06/28/2017 16:17 | WG993252 |
| PCB 1248 | U | | 0.00391 | 0.0211 | 1 | 06/28/2017 16:17 | WG993252 |
| PCB 1254 | U | | 0.00586 | 0.0211 | 1 | 06/28/2017 16:17 | WG993252 |
| PCB 1260 | 0.133 | | 0.00613 | 0.0211 | 1 | 06/28/2017 16:17 | WG993252 |
| *(S) Decachlorobiphenyl* | *54.4* | | | *10.0-148* | | *06/28/2017 16:17* | WG993252 |
| *(S) Tetrachloro-m-xylene* | *55.4* | | | *21.0-146* | | *06/28/2017 16:17* | WG993252 |

## Semi Volatile Organic Compounds (GC/MS) by Method 8270D

| Analyte | Result (dry) mg/kg | Qualifier | MDL (dry) mg/kg | RDL (dry) mg/kg | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acenaphthene | U | | 0.0797 | 0.410 | 10 | 06/28/2017 18:40 | WG992787 |
| Acenaphthylene | U | | 0.0833 | 0.410 | 10 | 06/28/2017 18:40 | WG992787 |
| Acetophenone | U | | 0.933 | 4.13 | 10 | 06/28/2017 18:40 | WG992787 |
| Anthracene | U | | 0.0784 | 0.410 | 10 | 06/28/2017 18:40 | WG992787 |
| Atrazine | U | | 1.16 | 4.13 | 10 | 06/28/2017 18:40 | WG992787 |
| Benzaldehyde | U | | 0.660 | 4.13 | 10 | 06/28/2017 18:40 | WG992787 |
| Benzo(a)anthracene | 0.134 | J | 0.0531 | 0.410 | 10 | 06/28/2017 18:40 | WG992787 |
| Benzo(b)fluoranthene | 0.213 | J | 0.0863 | 0.410 | 10 | 06/28/2017 18:40 | WG992787 |
| Benzo(k)fluoranthene | U | | 0.0722 | 0.410 | 10 | 06/28/2017 18:40 | WG992787 |
| Benzo(g,h,i)perylene | U | | 0.0895 | 0.410 | 10 | 06/28/2017 18:40 | WG992787 |
| Benzo(a)pyrene | U | | 0.0680 | 0.410 | 10 | 06/28/2017 18:40 | WG992787 |
| Biphenyl | U | | 0.0730 | 4.13 | 10 | 06/28/2017 18:40 | WG992787 |
| Bis(2-chlorethoxy)methane | U | | 0.0956 | 4.13 | 10 | 06/28/2017 18:40 | WG992787 |
| Bis(2-chloroethyl)ether | U | | 0.111 | 4.13 | 10 | 06/28/2017 18:40 | WG992787 |
| Bis(2-chloroisopropyl)ether | U | | 0.0943 | 4.13 | 10 | 06/28/2017 18:40 | WG992787 |
| 4-Bromophenyl-phenylether | U | | 0.141 | 4.13 | 10 | 06/28/2017 18:40 | WG992787 |
| Caprolactam | U | | 1.29 | 4.13 | 10 | 06/28/2017 18:40 | WG992787 |
| Carbazole | U | | 0.0650 | 4.13 | 10 | 06/28/2017 18:40 | WG992787 |
| 4-Chloroaniline | U | | 0.437 | 4.13 | 10 | 06/28/2017 18:40 | WG992787 |
| 2-Chloronaphthalene | U | | 0.0793 | 0.410 | 10 | 06/28/2017 18:40 | WG992787 |
| 4-Chlorophenyl-phenylether | U | | 0.0778 | 4.13 | 10 | 06/28/2017 18:40 | WG992787 |
| Chrysene | 0.139 | J | 0.0689 | 0.410 | 10 | 06/28/2017 18:40 | WG992787 |
| Dibenz(a,h)anthracene | U | J3 | 0.102 | 0.410 | 10 | 06/28/2017 18:40 | WG992787 |
| Dibenzofuran | U | | 0.0643 | 4.13 | 10 | 06/28/2017 18:40 | WG992787 |
| 3,3-Dichlorobenzidine | U | J4 | 0.985 | 4.13 | 10 | 06/28/2017 18:40 | WG992787 |
| 2,4-Dinitrotoluene | U | | 0.0753 | 4.13 | 10 | 06/28/2017 18:40 | WG992787 |
| 2,6-Dinitrotoluene | U | | 0.0915 | 4.13 | 10 | 06/28/2017 18:40 | WG992787 |
| Fluoranthene | 0.224 | J | 0.0616 | 0.410 | 10 | 06/28/2017 18:40 | WG992787 |
| Fluorene | U | | 0.0846 | 0.410 | 10 | 06/28/2017 18:40 | WG992787 |
| Hexachlorobenzene | U | | 0.106 | 4.13 | 10 | 06/28/2017 18:40 | WG992787 |
| Hexachloro-1,3-butadiene | U | | 0.124 | 4.13 | 10 | 06/28/2017 18:40 | WG992787 |
| Hexachlorocyclopentadiene | U | | 0.729 | 4.13 | 10 | 06/28/2017 18:40 | WG992787 |
| Hexachloroethane | U | | 0.166 | 4.13 | 10 | 06/28/2017 18:40 | WG992787 |
| Indeno(1,2,3-cd)pyrene | U | J3 | 0.0958 | 0.410 | 10 | 06/28/2017 18:40 | WG992787 |
| Isophorone | U | | 0.0648 | 4.13 | 10 | 06/28/2017 18:40 | WG992787 |
| 2-Methylnaphthalene | 0.211 | J | 0.107 | 0.410 | 10 | 06/28/2017 18:40 | WG992787 |
| Naphthalene | 0.111 | J | 0.110 | 0.410 | 10 | 06/28/2017 18:40 | WG992787 |
| 2-Nitroaniline | U | | 0.0937 | 4.13 | 10 | 06/28/2017 18:40 | WG992787 |
| 3-Nitroaniline | U | | 0.105 | 4.13 | 10 | 06/28/2017 18:40 | WG992787 |
| 4-Nitroaniline | U | | 0.0793 | 4.13 | 10 | 06/28/2017 18:40 | WG992787 |
| Nitrobenzene | U | | 0.0863 | 4.13 | 10 | 06/28/2017 18:40 | WG992787 |
| n-Nitrosodiphenylamine | U | | 0.0737 | 4.13 | 10 | 06/28/2017 18:40 | WG992787 |
| n-Nitrosodi-n-propylamine | U | | 0.112 | 4.13 | 10 | 06/28/2017 18:40 | WG992787 |
| Phenanthrene | 0.470 | | 0.0655 | 0.410 | 10 | 06/28/2017 18:40 | WG992787 |
| Benzylbutyl phthalate | U | | 0.128 | 4.13 | 10 | 06/28/2017 18:40 | WG992787 |
| Bis(2-ethylhexyl)phthalate | 2.28 | J | 0.149 | 4.13 | 10 | 06/28/2017 18:40 | WG992787 |
| Di-n-butyl phthalate | 0.143 | J | 0.135 | 4.13 | 10 | 06/28/2017 18:40 | WG992787 |
| Diethyl phthalate | 0.0937 | J | 0.0858 | 4.13 | 10 | 06/28/2017 18:40 | WG992787 |
| Dimethyl phthalate | U | | 0.0670 | 4.13 | 10 | 06/28/2017 18:40 | WG992787 |
| Di-n-octyl phthalate | U | | 0.113 | 4.13 | 10 | 06/28/2017 18:40 | WG992787 |
| Pyrene | U | | 0.153 | 0.410 | 10 | 06/28/2017 18:40 | WG992787 |
| 1,2,4,5-Tetrachlorobenzene | U | | 0.946 | 4.13 | 10 | 06/28/2017 18:40 | WG992787 |
| 4-Chloro-3-methylphenol | U | | 0.0592 | 4.13 | 10 | 06/28/2017 18:40 | WG992787 |
| 2-Chlorophenol | U | | 0.103 | 4.13 | 10 | 06/28/2017 18:40 | WG992787 |
| 2-Methylphenol | U | | 0.122 | 4.13 | 10 | 06/28/2017 18:40 | WG992787 |
| 3&4-Methyl Phenol | 0.152 | J | 0.0972 | 4.13 | 10 | 06/28/2017 18:40 | WG992787 |

## Semi Volatile Organic Compounds (GC/MS) by Method 8270D

| Analyte | Result (dry) mg/kg | Qualifier | MDL (dry) mg/kg | RDL (dry) mg/kg | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| 2,4-Dichlorophenol | U | | 0.0926 | 4.13 | 10 | 06/28/2017 18:40 | WG992787 |
| 2,4-Dimethylphenol | U | | 0.585 | 4.13 | 10 | 06/28/2017 18:40 | WG992787 |
| 4,6-Dinitro-2-methylphenol | U | | 1.54 | 4.13 | 10 | 06/28/2017 18:40 | WG992787 |
| 2,4-Dinitrophenol | U | | 1.22 | 4.13 | 10 | 06/28/2017 18:40 | WG992787 |
| 2-Nitrophenol | U | | 0.161 | 4.13 | 10 | 06/28/2017 18:40 | WG992787 |
| 4-Nitrophenol | U | | 0.652 | 4.13 | 10 | 06/28/2017 18:40 | WG992787 |
| Pentachlorophenol | U | | 0.596 | 4.13 | 10 | 06/28/2017 18:40 | WG992787 |
| Phenol | 0.175 | J | 0.0863 | 4.13 | 10 | 06/28/2017 18:40 | WG992787 |
| 2,4,5-Trichlorophenol | U | | 0.129 | 4.13 | 10 | 06/28/2017 18:40 | WG992787 |
| 2,4,6-Trichlorophenol | U | | 0.0967 | 4.13 | 10 | 06/28/2017 18:40 | WG992787 |
| *(S) 2-Fluorophenol* | *34.1* | | | *20.0-120* | | *06/28/2017 18:40* | WG992787 |
| *(S) Phenol-d5* | *34.8* | | | *20.0-120* | | *06/28/2017 18:40* | WG992787 |
| *(S) Nitrobenzene-d5* | *36.0* | | | *18.0-125* | | *06/28/2017 18:40* | WG992787 |
| *(S) 2-Fluorobiphenyl* | *33.9* | | | *28.0-120* | | *06/28/2017 18:40* | WG992787 |
| *(S) 2,4,6-Tribromophenol* | *31.1* | | | *17.0-137* | | *06/28/2017 18:40* | WG992787 |
| *(S) p-Terphenyl-d14* | *35.1* | | | *13.0-131* | | *06/28/2017 18:40* | WG992787 |

Sample Narrative:

L918279-02 WG992787: Dilution due to matrix impact during extract concentration procedure

## Preparation by Method 1311

| Analyte | Result | Qualifier | Prep date / time | Batch |
|---|---|---|---|---|
| TCLP Extraction | - | | 6/27/2017 1:13:22 PM | WG993359 |
| TCLP ZHE Extraction | - | | 6/27/2017 9:19:27 AM | WG993182 |
| Fluid | 1 | | 6/27/2017 1:13:22 PM | WG993359 |
| Initial pH | 4.66 | | 6/27/2017 1:13:22 PM | WG993359 |
| Final pH | 4.89 | | 6/27/2017 1:13:22 PM | WG993359 |

## Mercury by Method 7470A

| Analyte | Result mg/l | Qualifier | RDL mg/l | Limit mg/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Mercury | ND | | 0.0100 | 0.20 | 1 | 06/29/2017 06:13 | WG993801 |

## Metals (ICP) by Method 6010C

| Analyte | Result mg/l | Qualifier | RDL mg/l | Limit mg/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Antimony | ND | | 0.100 | | 1 | 06/29/2017 13:13 | WG993776 |
| Arsenic | ND | | 0.100 | 5 | 1 | 06/29/2017 13:13 | WG993776 |
| Barium | 0.321 | | 0.100 | 100 | 1 | 06/29/2017 13:13 | WG993776 |
| Beryllium | ND | | 0.0200 | | 1 | 06/29/2017 13:13 | WG993776 |
| Cadmium | ND | | 0.100 | 1 | 1 | 06/29/2017 13:13 | WG993776 |
| Chromium | ND | | 0.100 | 5 | 1 | 06/29/2017 13:13 | WG993776 |
| Cobalt | ND | | 0.100 | 5 | 1 | 06/29/2017 13:13 | WG993776 |
| Copper | ND | | 0.100 | | 1 | 06/29/2017 13:13 | WG993776 |
| Lead | 2.64 | | 0.100 | 5 | 1 | 06/29/2017 13:13 | WG993776 |
| Molybdenum | ND | | 0.100 | | 1 | 06/29/2017 13:13 | WG993776 |
| Nickel | ND | | 0.100 | | 1 | 06/29/2017 13:13 | WG993776 |
| Selenium | ND | | 0.100 | 1 | 1 | 06/29/2017 13:13 | WG993776 |
| Silver | ND | | 0.100 | 5 | 1 | 06/29/2017 13:13 | WG993776 |
| Thallium | ND | | 0.100 | | 1 | 06/29/2017 13:13 | WG993776 |
| Vanadium | ND | | 0.200 | | 1 | 06/29/2017 13:13 | WG993776 |
| Zinc | 1.12 | | 0.500 | | 1 | 06/29/2017 13:13 | WG993776 |

## Volatile Organic Compounds (GC/MS) by Method 8260C

| Analyte | Result mg/l | Qualifier | RDL mg/l | Limit mg/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Benzene | ND | | 0.0500 | 0.50 | 1 | 06/28/2017 19:15 | WG993725 |
| Carbon tetrachloride | ND | | 0.0500 | 0.50 | 1 | 06/28/2017 19:15 | WG993725 |
| Chlorobenzene | ND | | 0.0500 | 100 | 1 | 06/28/2017 19:15 | WG993725 |
| Chloroform | ND | | 0.250 | 6 | 1 | 06/28/2017 19:15 | WG993725 |
| 1,2-Dichloroethane | ND | | 0.0500 | 0.50 | 1 | 06/28/2017 19:15 | WG993725 |
| 1,1-Dichloroethene | ND | | 0.0500 | 0.70 | 1 | 06/28/2017 19:15 | WG993725 |
| 2-Butanone (MEK) | ND | | 0.500 | 200 | 1 | 06/28/2017 19:15 | WG993725 |
| Tetrachloroethene | ND | | 0.0500 | 0.70 | 1 | 06/28/2017 19:15 | WG993725 |
| Trichloroethene | ND | | 0.0500 | 0.50 | 1 | 06/28/2017 19:15 | WG993725 |
| Vinyl chloride | ND | | 0.0500 | 0.20 | 1 | 06/28/2017 19:15 | WG993725 |
| *(S) Toluene-d8* | *101* | | *80.0-120* | *120* | | *06/28/2017 19:15* | WG993725 |
| *(S) Dibromofluoromethane* | *90.9* | | *76.0-123* | *123* | | *06/28/2017 19:15* | WG993725 |
| *(S) a,a,a-Trifluorotoluene* | *94.7* | | *80.0-120* | *120* | | *06/28/2017 19:15* | WG993725 |
| *(S) 4-Bromofluorobenzene* | *108* | | *80.0-120* | *120* | | *06/28/2017 19:15* | WG993725 |

## Polychlorinated Biphenyls (GC) by Method 8082 A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| PCB 1016 | U | | 3.30 | 10.0 | 1 | 06/29/2017 20:11 | WG993949 |
| PCB 1221 | U | | 3.30 | 10.0 | 1 | 06/29/2017 20:11 | WG993949 |
| PCB 1232 | U | | 3.30 | 10.0 | 1 | 06/29/2017 20:11 | WG993949 |
| PCB 1242 | U | | 3.30 | 10.0 | 1 | 06/29/2017 20:11 | WG993949 |
| PCB 1248 | U | | 3.30 | 10.0 | 1 | 06/29/2017 20:11 | WG993949 |
| PCB 1254 | U | | 3.30 | 10.0 | 1 | 06/29/2017 20:11 | WG993949 |
| PCB 1260 | U | | 3.30 | 10.0 | 1 | 06/29/2017 20:11 | WG993949 |
| *(S) Decachlorobiphenyl* | *56.3* | | | *10.0-144* | | *06/29/2017 20:11* | WG993949 |
| *(S) Tetrachloro-m-xylene* | *40.3* | | | *10.0-135* | | *06/29/2017 20:11* | WG993949 |

## Semi Volatile Organic Compounds (GC/MS) by Method 8270D

| Analyte | Result | Qualifier | RDL | Limit | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | mg/l | | mg/l | mg/l | | date / time | |
| 1,4-Dichlorobenzene | ND | | 0.100 | 7.50 | 1 | 06/30/2017 05:53 | WG993945 |
| 2,4-Dinitrotoluene | ND | J3 | 0.100 | 0.13 | 1 | 06/30/2017 05:53 | WG993945 |
| Hexachlorobenzene | ND | J3 | 0.100 | 0.13 | 1 | 06/30/2017 05:53 | WG993945 |
| Hexachloro-1,3-butadiene | ND | | 0.100 | 0.50 | 1 | 06/30/2017 05:53 | WG993945 |
| Hexachloroethane | ND | | 0.100 | 3 | 1 | 06/30/2017 05:53 | WG993945 |
| Nitrobenzene | ND | | 0.100 | 2 | 1 | 06/30/2017 05:53 | WG993945 |
| Pyridine | ND | | 0.100 | 5 | 1 | 06/30/2017 05:53 | WG993945 |
| 3&4-Methyl Phenol | ND | | 0.100 | 400 | 1 | 06/30/2017 05:53 | WG993945 |
| 2-Methylphenol | ND | | 0.100 | 200 | 1 | 06/30/2017 05:53 | WG993945 |
| Pentachlorophenol | ND | J3 | 0.100 | 100 | 1 | 06/30/2017 05:53 | WG993945 |
| 2,4,5-Trichlorophenol | ND | J3 | 0.100 | 400 | 1 | 06/30/2017 05:53 | WG993945 |
| 2,4,6-Trichlorophenol | ND | J3 | 0.100 | 2 | 1 | 06/30/2017 05:53 | WG993945 |
| *(S) 2-Fluorophenol* | *28.7* | | *10.0-120* | *120* | | *06/30/2017 05:53* | WG993945 |
| *(S) Phenol-d5* | *18.9* | | *10.0-120* | *120* | | *06/30/2017 05:53* | WG993945 |
| *(S) Nitrobenzene-d5* | *48.8* | | *10.0-126* | *126* | | *06/30/2017 05:53* | WG993945 |
| *(S) 2-Fluorobiphenyl* | *57.6* | | *22.0-127* | *127* | | *06/30/2017 05:53* | WG993945 |
| *(S) 2,4,6-Tribromophenol* | *88.9* | | *10.0-153* | *153* | | *06/30/2017 05:53* | WG993945 |
| *(S) p-Terphenyl-d14* | *102* | | *29.0-141* | *141* | | *06/30/2017 05:53* | WG993945 |

## Method Blank (MB)

(MB) R3229708-1 06/28/17 10:34

| Analyte | MB Result % | MB Qualifier | MB MDL % | MB RDL % |
|---|---|---|---|---|
| Total Solids | 0.000500 | | | |

## L918279-01 Original Sample (OS) • Duplicate (DUP)

(OS) L918279-01 06/28/17 10:34 • (DUP) R3229708-3 06/28/17 10:34

| Analyte | Original Result % | DUP Result % | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Total Solids | 82.5 | 82.3 | 1 | 0.219 | | 5 |

## Laboratory Control Sample (LCS)

(LCS) R3229708-2 06/28/17 10:34

| Analyte | Spike Amount % | LCS Result % | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Total Solids | 50.0 | 50.0 | 100 | 85.0-115 | |

## Method Blank (MB)

(MB) R3229678-1 06/29/17 05:44

| Analyte | MB Result | MB Qualifier | MB MDL | MB RDL |
|---|---|---|---|---|
| | mg/l | | mg/l | mg/l |
| Mercury | U | | 0.00333 | 0.0100 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3229678-2 06/29/17 05:46 • (LCSD) R3229678-3 06/29/17 05:48

| Analyte | Spike Amount | LCS Result | LCSD Result | LCS Rec. | LCSD Rec. | Rec. Limits | LCS Qualifier | LCSD Qualifier | RPD | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| | mg/l | mg/l | mg/l | % | % | % | | | % | % |
| Mercury | 0.0300 | 0.0260 | 0.0248 | 87 | 83 | 80-120 | | | 5 | 20 |

## L918254-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L918254-01 06/29/17 05:51 • (MS) R3229678-4 06/29/17 05:53 • (MSD) R3229678-5 06/29/17 05:55

| Analyte | Spike Amount | Original Result | MS Result | MSD Result | MS Rec. | MSD Rec. | Dilution | Rec. Limits | MS Qualifier | MSD Qualifier | RPD | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | mg/l | mg/l | mg/l | mg/l | % | % | | % | | | % | % |
| Mercury | 0.0300 | ND | 0.0257 | 0.0258 | 86 | 86 | 1 | 75-125 | | | 0 | 20 |

## Method Blank (MB)

(MB) R3229546-1 06/28/17 12:22

| Analyte | MB Result | MB Qualifier | MB MDL | MB RDL |
|---|---|---|---|---|
| | mg/kg | | mg/kg | mg/kg |
| Mercury | U | | 0.0028 | 0.0200 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3229546-2 06/28/17 12:24 • (LCSD) R3229546-3 06/28/17 12:26

| Analyte | Spike Amount | LCS Result | LCSD Result | LCS Rec. | LCSD Rec. | Rec. Limits | LCS Qualifier | LCSD Qualifier | RPD | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| | mg/kg | mg/kg | mg/kg | % | % | % | | | % | % |
| Mercury | 0.300 | 0.279 | 0.281 | 93 | 94 | 80-120 | | | 1 | 20 |

## L918359-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L918359-04 06/28/17 12:29 • (MS) R3229546-4 06/28/17 12:31 • (MSD) R3229546-5 06/28/17 12:41

| Analyte | Spike Amount | Original Result | MS Result | MSD Result | MS Rec. | MSD Rec. | Dilution | Rec. Limits | MS Qualifier | MSD Qualifier | RPD | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | mg/kg | mg/kg | mg/kg | mg/kg | % | % | | % | | | % | % |
| Mercury | 0.300 | ND | 0.290 | 0.279 | 97 | 93 | 1 | 75-125 | | | 4 | 20 |

## Method Blank (MB)

(MB) R3229007-1 06/27/17 10:26

| Analyte | MB Result mg/kg | MB Qualifier | MB MDL mg/kg | MB RDL mg/kg |
|---|---|---|---|---|
| Antimony | U | | 0.75 | 2.00 |
| Arsenic | U | | 0.65 | 2.00 |
| Barium | U | | 0.17 | 0.500 |
| Beryllium | U | | 0.07 | 0.200 |
| Cadmium | U | | 0.07 | 0.500 |
| Chromium | U | | 0.14 | 1.00 |
| Cobalt | U | | 0.23 | 1.00 |
| Copper | U | | 0.53 | 2.00 |
| Lead | U | | 0.19 | 0.500 |
| Molybdenum | U | | 0.16 | 0.500 |
| Nickel | U | | 0.49 | 2.00 |
| Selenium | U | | 0.74 | 2.00 |
| Silver | U | | 0.28 | 1.00 |
| Thallium | U | | 0.65 | 2.00 |
| Vanadium | U | | 0.24 | 2.00 |
| Zinc | U | | 0.59 | 5.00 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3229007-2 06/27/17 10:28 • (LCSD) R3229007-3 06/27/17 10:31

| Analyte | Spike Amount mg/kg | LCS Result mg/kg | LCSD Result mg/kg | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | 100 | 99.9 | 99.4 | 100 | 99 | 80-120 | | | 1 | 20 |
| Arsenic | 100 | 99.9 | 98.7 | 100 | 99 | 80-120 | | | 1 | 20 |
| Barium | 100 | 104 | 103 | 104 | 103 | 80-120 | | | 1 | 20 |
| Beryllium | 100 | 104 | 102 | 104 | 102 | 80-120 | | | 1 | 20 |
| Cadmium | 100 | 99.9 | 99.1 | 100 | 99 | 80-120 | | | 1 | 20 |
| Chromium | 100 | 101 | 101 | 101 | 101 | 80-120 | | | 0 | 20 |
| Cobalt | 100 | 103 | 102 | 103 | 102 | 80-120 | | | 1 | 20 |
| Copper | 100 | 101 | 101 | 101 | 101 | 80-120 | | | 0 | 20 |
| Lead | 100 | 100 | 99.8 | 100 | 100 | 80-120 | | | 1 | 20 |
| Molybdenum | 100 | 102 | 101 | 102 | 101 | 80-120 | | | 1 | 20 |
| Nickel | 100 | 101 | 100 | 101 | 100 | 80-120 | | | 1 | 20 |
| Selenium | 100 | 100 | 99.7 | 100 | 100 | 80-120 | | | 0 | 20 |
| Silver | 20.0 | 19.1 | 19.1 | 96 | 95 | 80-120 | | | 0 | 20 |
| Thallium | 100 | 102 | 101 | 102 | 101 | 80-120 | | | 1 | 20 |
| Vanadium | 100 | 102 | 101 | 102 | 101 | 80-120 | | | 1 | 20 |
| Zinc | 100 | 102 | 101 | 102 | 101 | 80-120 | | | 1 | 20 |

## L918279-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L918279-02 06/27/17 10:34 • (MS) R3229007-6 06/27/17 10:42 • (MSD) R3229007-7 06/27/17 10:45

| Analyte | Spike Amount (dry) mg/kg | Original Result (dry) mg/kg | MS Result (dry) mg/kg | MSD Result (dry) mg/kg | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | 124 | U | 83.1 | 91.3 | 67 | 74 | 1 | 75-125 | J6 | J6 | 9 | 20 |
| Arsenic | 124 | 3.20 | 123 | 124 | 97 | 97 | 1 | 75-125 | | | 0 | 20 |
| Barium | 124 | 289 | 419 | 545 | 104 | 206 | 1 | 75-125 | | J3 J5 | 26 | 20 |
| Beryllium | 124 | 0.368 | 125 | 128 | 101 | 103 | 1 | 75-125 | | | 2 | 20 |
| Cadmium | 124 | 1.32 | 124 | 125 | 99 | 100 | 1 | 75-125 | | | 1 | 20 |
| Chromium | 124 | 13.5 | 138 | 136 | 100 | 98 | 1 | 75-125 | | | 2 | 20 |
| Cobalt | 124 | 6.12 | 138 | 134 | 106 | 103 | 1 | 75-125 | | | 3 | 20 |
| Copper | 124 | 18.2 | 151 | 147 | 107 | 104 | 1 | 75-125 | | | 2 | 20 |
| Lead | 124 | 583 | 652 | 1020 | 56 | 355 | 1 | 75-125 | V | J3 V | 44 | 20 |
| Molybdenum | 124 | 0.687 | 119 | 122 | 96 | 98 | 1 | 75-125 | | | 2 | 20 |
| Nickel | 124 | 13.8 | 153 | 140 | 112 | 101 | 1 | 75-125 | | | 9 | 20 |
| Selenium | 124 | U | 122 | 124 | 98 | 100 | 1 | 75-125 | | | 2 | 20 |
| Silver | 24.8 | U | 23.4 | 23.7 | 94 | 96 | 1 | 75-125 | | | 1 | 20 |
| Thallium | 124 | U | 124 | 124 | 100 | 100 | 1 | 75-125 | | | 0 | 20 |
| Vanadium | 124 | 13.8 | 142 | 136 | 103 | 99 | 1 | 75-125 | | | 4 | 20 |
| Zinc | 124 | 154 | 353 | 234 | 161 | 64 | 1 | 75-125 | J5 | J3 J6 | 41 | 20 |

## Method Blank (MB)

(MB) R3229851-1 06/29/17 12:40

| Analyte | MB Result mg/l | MB Qualifier | MB MDL mg/l | MB RDL mg/l |
|---|---|---|---|---|
| Antimony | U | | 0.0333 | 0.100 |
| Arsenic | U | | 0.0333 | 0.100 |
| Barium | U | | 0.0333 | 0.100 |
| Beryllium | U | | 0.00667 | 0.0200 |
| Cadmium | U | | 0.0333 | 0.100 |
| Chromium | U | | 0.0333 | 0.100 |
| Cobalt | U | | 0.0333 | 0.100 |
| Copper | U | | 0.0333 | 0.100 |
| Lead | U | | 0.0333 | 0.100 |
| Molybdenum | U | | 0.0333 | 0.100 |
| Nickel | U | | 0.0333 | 0.100 |
| Selenium | U | | 0.0333 | 0.100 |
| Silver | U | | 0.0333 | 0.100 |
| Thallium | U | | 0.0333 | 0.100 |
| Vanadium | U | | 0.0667 | 0.200 |
| Zinc | U | | 0.167 | 0.500 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3229851-2 06/29/17 12:43 • (LCSD) R3229851-3 06/29/17 12:45

| Analyte | Spike Amount mg/l | LCS Result mg/l | LCSD Result mg/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | 10.0 | 10.3 | 10.3 | 103 | 103 | 80-120 | | | 1 | 20 |
| Arsenic | 10.0 | 9.98 | 10.1 | 100 | 101 | 80-120 | | | 1 | 20 |
| Barium | 10.0 | 10.1 | 10.2 | 101 | 102 | 80-120 | | | 1 | 20 |
| Beryllium | 10.0 | 9.91 | 10.0 | 99 | 100 | 80-120 | | | 1 | 20 |
| Cadmium | 10.0 | 9.91 | 10.0 | 99 | 100 | 80-120 | | | 1 | 20 |
| Chromium | 10.0 | 9.51 | 9.57 | 95 | 96 | 80-120 | | | 1 | 20 |
| Cobalt | 10.0 | 10.0 | 10.1 | 100 | 101 | 80-120 | | | 1 | 20 |
| Copper | 10.0 | 10.2 | 10.3 | 102 | 103 | 80-120 | | | 1 | 20 |
| Lead | 10.0 | 9.69 | 9.76 | 97 | 98 | 80-120 | | | 1 | 20 |
| Molybdenum | 10.0 | 10.1 | 10.2 | 101 | 102 | 80-120 | | | 1 | 20 |
| Nickel | 10.0 | 9.79 | 9.90 | 98 | 99 | 80-120 | | | 1 | 20 |
| Selenium | 10.0 | 10.3 | 10.3 | 103 | 103 | 80-120 | | | 1 | 20 |
| Silver | 2.00 | 1.91 | 1.93 | 96 | 97 | 80-120 | | | 1 | 20 |
| Thallium | 10.0 | 9.97 | 10.1 | 100 | 101 | 80-120 | | | 1 | 20 |
| Vanadium | 10.0 | 9.75 | 9.81 | 97 | 98 | 80-120 | | | 1 | 20 |
| Zinc | 10.0 | 9.42 | 9.54 | 94 | 95 | 80-120 | | | 1 | 20 |

## L918254-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L918254-01 06/29/17 12:48 • (MS) R3229851-4 06/29/17 12:50 • (MSD) R3229851-5 06/29/17 12:53

| Analyte | Spike Amount mg/l | Original Result mg/l | MS Result mg/l | MSD Result mg/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | 10.0 | ND | 10.9 | 10.7 | 109 | 107 | 1 | 75-125 | | | 2 | 20 |
| Arsenic | 10.0 | ND | 10.8 | 10.7 | 108 | 107 | 1 | 75-125 | | | 1 | 20 |
| Barium | 10.0 | 0.215 | 10.3 | 10.2 | 101 | 99 | 1 | 75-125 | | | 2 | 20 |
| Beryllium | 10.0 | ND | 10.2 | 9.95 | 102 | 99 | 1 | 75-125 | | | 2 | 20 |
| Cadmium | 10.0 | ND | 10.5 | 10.3 | 105 | 103 | 1 | 75-125 | | | 2 | 20 |
| Chromium | 10.0 | ND | 9.58 | 9.44 | 96 | 94 | 1 | 75-125 | | | 1 | 20 |
| Cobalt | 10.0 | ND | 10.5 | 10.3 | 105 | 103 | 1 | 75-125 | | | 1 | 20 |
| Copper | 10.0 | ND | 10.6 | 10.4 | 106 | 104 | 1 | 75-125 | | | 1 | 20 |
| Lead | 10.0 | ND | 9.96 | 9.79 | 100 | 98 | 1 | 75-125 | | | 2 | 20 |
| Molybdenum | 10.0 | ND | 10.4 | 10.2 | 104 | 102 | 1 | 75-125 | | | 2 | 20 |
| Nickel | 10.0 | ND | 10.3 | 10.1 | 103 | 101 | 1 | 75-125 | | | 2 | 20 |
| Selenium | 10.0 | ND | 11.2 | 11.0 | 112 | 109 | 1 | 75-125 | | | 2 | 20 |
| Silver | 2.00 | ND | 2.00 | 1.97 | 100 | 99 | 1 | 75-125 | | | 1 | 20 |
| Thallium | 10.0 | ND | 10.0 | 9.89 | 100 | 99 | 1 | 75-125 | | | 1 | 20 |
| Vanadium | 10.0 | ND | 10.0 | 9.81 | 100 | 98 | 1 | 75-125 | | | 2 | 20 |
| Zinc | 10.0 | ND | 9.75 | 9.64 | 97 | 96 | 1 | 75-125 | | | 1 | 20 |

## Method Blank (MB)

(MB) R3229782-3 06/28/17 12:29

| Analyte | MB Result mg/l | MB Qualifier | MB MDL mg/l | MB RDL mg/l |
|---|---|---|---|---|
| Benzene | U | | 0.0167 | 0.0500 |
| Carbon tetrachloride | U | | 0.0167 | 0.0500 |
| Chlorobenzene | U | | 0.0167 | 0.0500 |
| Chloroform | U | | 0.0833 | 0.250 |
| 1,2-Dichloroethane | U | | 0.0167 | 0.0500 |
| 1,1-Dichloroethene | U | | 0.0167 | 0.0500 |
| 2-Butanone (MEK) | U | | 0.167 | 0.500 |
| Tetrachloroethene | U | | 0.0167 | 0.0500 |
| Trichloroethene | U | | 0.0167 | 0.0500 |
| Vinyl chloride | U | | 0.0167 | 0.0500 |
| *(S) Toluene-d8* | *97.8* | | | *80.0-120* |
| *(S) Dibromofluoromethane* | *84.0* | | | *76.0-123* |
| *(S) a,a,a-Trifluorotoluene* | *98.8* | | | *80.0-120* |
| *(S) 4-Bromofluorobenzene* | *108* | | | *80.0-120* |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3229782-1 06/28/17 09:01 • (LCSD) R3229782-2 06/28/17 09:15

| Analyte | Spike Amount mg/l | LCS Result mg/l | LCSD Result mg/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 0.0250 | 0.0208 | 0.0212 | 83.3 | 84.8 | 69.0-123 | | | 1.83 | 20 |
| Carbon tetrachloride | 0.0250 | 0.0218 | 0.0223 | 87.3 | 89.0 | 63.0-122 | | | 1.95 | 20 |
| Chlorobenzene | 0.0250 | 0.0265 | 0.0265 | 106 | 106 | 79.0-121 | | | 0.260 | 20 |
| Chloroform | 0.0250 | 0.0202 | 0.0205 | 80.9 | 82.0 | 72.0-121 | | | 1.39 | 20 |
| 1,2-Dichloroethane | 0.0250 | 0.0193 | 0.0195 | 77.3 | 78.2 | 67.0-126 | | | 1.17 | 20 |
| 1,1-Dichloroethene | 0.0250 | 0.0207 | 0.0214 | 82.9 | 85.6 | 64.0-129 | | | 3.25 | 20 |
| 2-Butanone (MEK) | 0.125 | 0.0941 | 0.0973 | 75.3 | 77.8 | 37.0-158 | | | 3.35 | 20 |
| Tetrachloroethene | 0.0250 | 0.0263 | 0.0270 | 105 | 108 | 70.0-127 | | | 2.45 | 20 |
| Trichloroethene | 0.0250 | 0.0233 | 0.0235 | 93.2 | 94.2 | 78.0-120 | | | 1.05 | 20 |
| Vinyl chloride | 0.0250 | 0.0205 | 0.0220 | 82.0 | 88.1 | 64.0-133 | | | 7.17 | 20 |
| *(S) Toluene-d8* | | | | *99.3* | *100* | *80.0-120* | | | | |
| *(S) Dibromofluoromethane* | | | | *88.2* | *88.7* | *76.0-123* | | | | |
| *(S) a,a,a-Trifluorotoluene* | | | | *99.5* | *99.5* | *80.0-120* | | | | |
| *(S) 4-Bromofluorobenzene* | | | | *106* | *106* | *80.0-120* | | | | |

## L918254-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L918254-01 06/28/17 18:48 • (MS) R3229782-4 06/28/17 15:26 • (MSD) R3229782-5 06/28/17 15:40

| Analyte | Spike Amount mg/l | Original Result mg/l | MS Result mg/l | MSD Result mg/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 1.25 | ND | 0.597 | 0.895 | 47.7 | 71.6 | 1 | 34.0-147 | | J3 | 40.0 | 20 |
| Carbon tetrachloride | 1.25 | ND | 0.516 | 0.979 | 41.3 | 78.3 | 1 | 41.0-138 | | J3 | 61.9 | 20 |
| Chlorobenzene | 1.25 | ND | 0.921 | 1.25 | 73.6 | 100 | 1 | 52.0-141 | | J3 | 30.3 | 20 |
| Chloroform | 1.25 | ND | 0.661 | 0.940 | 52.8 | 75.2 | 1 | 50.0-139 | | J3 | 34.9 | 20 |
| 1,2-Dichloroethane | 1.25 | ND | 0.782 | 0.894 | 62.5 | 71.5 | 1 | 47.0-141 | | | 13.4 | 20 |
| 1,1-Dichloroethene | 1.25 | ND | 0.464 | 0.888 | 37.1 | 71.1 | 1 | 31.0-148 | | J3 | 62.8 | 20 |
| 2-Butanone (MEK) | 6.25 | ND | 4.25 | 4.31 | 68.0 | 68.9 | 1 | 12.0-149 | | | 1.28 | 24 |
| Tetrachloroethene | 1.25 | ND | 0.683 | 1.17 | 54.6 | 93.9 | 1 | 38.0-147 | | J3 | 52.9 | 20 |
| Trichloroethene | 1.25 | ND | 0.641 | 1.03 | 51.3 | 82.2 | 1 | 32.0-156 | | J3 | 46.4 | 20 |
| Vinyl chloride | 1.25 | ND | 0.324 | 0.634 | 25.9 | 50.7 | 1 | 24.0-153 | | J3 | 64.7 | 20 |
| *(S) Toluene-d8* | | | | | *99.9* | *98.7* | | *80.0-120* | | | | |
| *(S) Dibromofluoromethane* | | | | | *87.1* | *88.6* | | *76.0-123* | | | | |
| *(S) a,a,a-Trifluorotoluene* | | | | | *99.5* | *99.4* | | *80.0-120* | | | | |
| *(S) 4-Bromofluorobenzene* | | | | | *107* | *109* | | *80.0-120* | | | | |

## L918000-06 Original Sample (OS) • Matrix Spike (MS)

(OS) L918000-06 06/28/17 17:40 • (MS) R3229782-6 06/28/17 15:53

| Analyte | Spike Amount mg/l | Original Result mg/l | MS Result mg/l | MS Rec. % | Dilution | Rec. Limits % | MS Qualifier |
|---|---|---|---|---|---|---|---|
| Benzene | 1.25 | ND | 0.877 | 70.2 | 1 | 34.0-147 | |
| Carbon tetrachloride | 1.25 | 0.00193 | 0.944 | 75.4 | 1 | 41.0-138 | |
| Chlorobenzene | 1.25 | ND | 1.19 | 95.3 | 1 | 52.0-141 | |
| Chloroform | 1.25 | ND | 0.908 | 72.7 | 1 | 50.0-139 | |
| 1,2-Dichloroethane | 1.25 | ND | 0.880 | 70.4 | 1 | 47.0-141 | |
| 1,1-Dichloroethene | 1.25 | ND | 0.862 | 69.0 | 1 | 31.0-148 | |
| 2-Butanone (MEK) | 6.25 | ND | 5.00 | 80.0 | 1 | 12.0-149 | |
| Tetrachloroethene | 1.25 | ND | 1.11 | 89.0 | 1 | 38.0-147 | |
| Trichloroethene | 1.25 | ND | 0.997 | 79.7 | 1 | 32.0-156 | |
| Vinyl chloride | 1.25 | ND | 0.599 | 47.9 | 1 | 24.0-153 | |
| *(S) Toluene-d8* | | | | *98.8* | | *80.0-120* | |
| *(S) Dibromofluoromethane* | | | | *87.6* | | *76.0-123* | |
| *(S) a,a,a-Trifluorotoluene* | | | | *99.1* | | *80.0-120* | |
| *(S) 4-Bromofluorobenzene* | | | | *107* | | *80.0-120* | |

## Method Blank (MB)

(MB) R3230248-3 06/30/17 01:29

| Analyte | MB Result mg/kg | MB Qualifier | MB MDL mg/kg | MB RDL mg/kg |
|---|---|---|---|---|
| Acetone | U | | 0.0100 | 0.0500 |
| Benzene | U | | 0.000270 | 0.00100 |
| Bromodichloromethane | U | | 0.000254 | 0.00100 |
| Bromochloromethane | U | | 0.000390 | 0.00100 |
| Bromoform | U | | 0.000424 | 0.00100 |
| Bromomethane | U | | 0.00134 | 0.00500 |
| Carbon disulfide | U | | 0.000221 | 0.00100 |
| Carbon tetrachloride | U | | 0.000328 | 0.00100 |
| Chlorobenzene | U | | 0.000212 | 0.00100 |
| Chlorodibromomethane | U | | 0.000373 | 0.00100 |
| Chloroethane | U | | 0.000946 | 0.00500 |
| Chloroform | U | | 0.000229 | 0.00500 |
| Chloromethane | U | | 0.000375 | 0.00250 |
| Cyclohexane | U | | 0.000350 | 0.00100 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.00105 | 0.00500 |
| 1,2-Dibromoethane | U | | 0.000343 | 0.00100 |
| 1,2-Dichlorobenzene | U | | 0.000305 | 0.00100 |
| 1,3-Dichlorobenzene | U | | 0.000239 | 0.00100 |
| 1,4-Dichlorobenzene | U | | 0.000226 | 0.00100 |
| Dichlorodifluoromethane | U | | 0.000713 | 0.00500 |
| 1,1-Dichloroethane | U | | 0.000199 | 0.00100 |
| 1,2-Dichloroethane | U | | 0.000265 | 0.00100 |
| 1,1-Dichloroethene | U | | 0.000303 | 0.00100 |
| cis-1,2-Dichloroethene | U | | 0.000235 | 0.00100 |
| trans-1,2-Dichloroethene | U | | 0.000264 | 0.00100 |
| 1,2-Dichloropropane | U | | 0.000358 | 0.00100 |
| cis-1,3-Dichloropropene | U | | 0.000262 | 0.00100 |
| trans-1,3-Dichloropropene | U | | 0.000267 | 0.00100 |
| Ethylbenzene | U | | 0.000297 | 0.00100 |
| 2-Hexanone | U | | 0.00137 | 0.0100 |
| Isopropylbenzene | U | | 0.000243 | 0.0100 |
| 2-Butanone (MEK) | U | | 0.00468 | 0.0100 |
| Methyl Acetate | U | | 0.00610 | 0.0200 |
| Methyl Cyclohexane | U | | 0.000380 | 0.00100 |
| Methylene Chloride | U | | 0.00100 | 0.00500 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.00188 | 0.0100 |
| Methyl tert-butyl ether | U | | 0.000212 | 0.00100 |
| Styrene | U | | 0.000234 | 0.00100 |
| 1,1,2,2-Tetrachloroethane | U | | 0.000365 | 0.00100 |
| Tetrachloroethene | U | | 0.000276 | 0.00100 |

## Method Blank (MB)

(MB) R3230248-3 06/30/17 01:29

| Analyte | MB Result mg/kg | MB Qualifier | MB MDL mg/kg | MB RDL mg/kg |
|---|---|---|---|---|
| Toluene | U | | 0.000434 | 0.00500 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.000365 | 0.00100 |
| 1,2,3-Trichlorobenzene | 0.000426 | J | 0.000306 | 0.00100 |
| 1,2,4-Trichlorobenzene | U | | 0.000388 | 0.00100 |
| 1,1,1-Trichloroethane | U | | 0.000286 | 0.00100 |
| 1,1,2-Trichloroethane | U | | 0.000277 | 0.00100 |
| Trichloroethene | U | | 0.000279 | 0.00100 |
| Trichlorofluoromethane | U | | 0.000382 | 0.00500 |
| Vinyl chloride | U | | 0.000291 | 0.00100 |
| Xylenes, Total | U | | 0.000698 | 0.00300 |
| *(S) Toluene-d8* | *102* | | | *80.0-120* |
| *(S) Dibromofluoromethane* | *96.8* | | | *74.0-131* |
| *(S) a,a,a-Trifluorotoluene* | *101* | | | *80.0-120* |
| *(S) 4-Bromofluorobenzene* | *97.8* | | | *64.0-132* |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3230248-1 06/30/17 00:02 • (LCSD) R3230248-2 06/30/17 00:54

| Analyte | Spike Amount mg/kg | LCS Result mg/kg | LCSD Result mg/kg | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| Acetone | 0.125 | 0.0397 | 0.0403 | 31.7 | 32.2 | 11.0-160 | | | 1.56 | 23 |
| Benzene | 0.0250 | 0.0231 | 0.0218 | 92.4 | 87.0 | 71.0-124 | | | 6.01 | 20 |
| Bromodichloromethane | 0.0250 | 0.0239 | 0.0227 | 95.7 | 90.6 | 75.0-120 | | | 5.46 | 20 |
| Bromochloromethane | 0.0250 | 0.0268 | 0.0268 | 107 | 107 | 80.0-121 | | | 0.110 | 20 |
| Bromoform | 0.0250 | 0.0239 | 0.0233 | 95.6 | 93.1 | 65.0-133 | | | 2.62 | 20 |
| Bromomethane | 0.0250 | 0.0327 | 0.0310 | 131 | 124 | 26.0-160 | | | 5.32 | 20 |
| Carbon disulfide | 0.0250 | 0.0240 | 0.0210 | 95.8 | 83.9 | 53.0-130 | | | 13.3 | 20 |
| Carbon tetrachloride | 0.0250 | 0.0276 | 0.0253 | 110 | 101 | 66.0-123 | | | 8.82 | 20 |
| Chlorobenzene | 0.0250 | 0.0285 | 0.0264 | 114 | 105 | 79.0-121 | | | 7.70 | 20 |
| Chlorodibromomethane | 0.0250 | 0.0260 | 0.0253 | 104 | 101 | 74.0-128 | | | 2.61 | 20 |
| Chloroethane | 0.0250 | 0.0302 | 0.0267 | 121 | 107 | 51.0-147 | | | 12.1 | 20 |
| Chloroform | 0.0250 | 0.0256 | 0.0241 | 102 | 96.3 | 73.0-123 | | | 5.98 | 20 |
| Chloromethane | 0.0250 | 0.0190 | 0.0174 | 76.0 | 69.7 | 51.0-138 | | | 8.60 | 20 |
| Cyclohexane | 0.0250 | 0.0248 | 0.0223 | 99.2 | 89.1 | 70.0-130 | | | 10.8 | 20 |
| 1,2-Dibromo-3-Chloropropane | 0.0250 | 0.0197 | 0.0185 | 78.8 | 73.9 | 65.0-126 | | | 6.34 | 20 |
| 1,2-Dibromoethane | 0.0250 | 0.0269 | 0.0265 | 108 | 106 | 78.0-122 | | | 1.43 | 20 |
| 1,2-Dichlorobenzene | 0.0250 | 0.0257 | 0.0233 | 103 | 93.1 | 80.0-120 | | | 9.68 | 20 |
| 1,3-Dichlorobenzene | 0.0250 | 0.0291 | 0.0260 | 116 | 104 | 72.0-123 | | | 11.1 | 20 |
| 1,4-Dichlorobenzene | 0.0250 | 0.0262 | 0.0233 | 105 | 93.4 | 77.0-120 | | | 11.5 | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3230248-1 06/30/17 00:02 • (LCSD) R3230248-2 06/30/17 00:54

| Analyte | Spike Amount mg/kg | LCS Result mg/kg | LCSD Result mg/kg | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | 0.0250 | 0.0275 | 0.0236 | 110 | 94.3 | 49.0-155 | | | 15.3 | 20 |
| 1,1-Dichloroethane | 0.0250 | 0.0231 | 0.0220 | 92.3 | 87.9 | 70.0-128 | | | 4.82 | 20 |
| 1,2-Dichloroethane | 0.0250 | 0.0260 | 0.0255 | 104 | 102 | 69.0-128 | | | 2.24 | 20 |
| 1,1-Dichloroethene | 0.0250 | 0.0320 | 0.0283 | 128 | 113 | 63.0-131 | | | 12.1 | 20 |
| cis-1,2-Dichloroethene | 0.0250 | 0.0253 | 0.0232 | 101 | 93.0 | 74.0-123 | | | 8.54 | 20 |
| trans-1,2-Dichloroethene | 0.0250 | 0.0255 | 0.0232 | 102 | 92.7 | 72.0-122 | | | 9.76 | 20 |
| 1,2-Dichloropropane | 0.0250 | 0.0244 | 0.0219 | 97.7 | 87.5 | 75.0-126 | | | 11.0 | 20 |
| cis-1,3-Dichloropropene | 0.0250 | 0.0256 | 0.0238 | 102 | 95.3 | 80.0-125 | | | 7.12 | 20 |
| trans-1,3-Dichloropropene | 0.0250 | 0.0256 | 0.0242 | 103 | 96.9 | 75.0-129 | | | 5.66 | 20 |
| Ethylbenzene | 0.0250 | 0.0271 | 0.0243 | 108 | 97.1 | 77.0-120 | | | 10.8 | 20 |
| 2-Hexanone | 0.125 | 0.0903 | 0.0937 | 72.2 | 74.9 | 61.0-143 | | | 3.68 | 20 |
| Isopropylbenzene | 0.0250 | 0.0274 | 0.0248 | 110 | 99.2 | 75.0-120 | | | 9.88 | 20 |
| 2-Butanone (MEK) | 0.125 | 0.0730 | 0.0696 | 58.4 | 55.7 | 37.0-159 | | | 4.78 | 20 |
| Methyl Acetate | 0.125 | 0.0994 | 0.0933 | 79.5 | 74.6 | 70.0-130 | | | 6.30 | 21.3 |
| Methyl Cyclohexane | 0.0250 | 0.0291 | 0.0251 | 116 | 100 | 70.0-130 | | | 14.8 | 21.3 |
| Methylene Chloride | 0.0250 | 0.0224 | 0.0221 | 89.7 | 88.5 | 67.0-123 | | | 1.40 | 20 |
| 4-Methyl-2-pentanone (MIBK) | 0.125 | 0.101 | 0.102 | 80.9 | 81.3 | 60.0-144 | | | 0.500 | 20 |
| Methyl tert-butyl ether | 0.0250 | 0.0235 | 0.0226 | 93.8 | 90.5 | 66.0-125 | | | 3.62 | 20 |
| Styrene | 0.0250 | 0.0292 | 0.0274 | 117 | 109 | 78.0-124 | | | 6.59 | 20 |
| 1,1,2,2-Tetrachloroethane | 0.0250 | 0.0239 | 0.0220 | 95.4 | 88.2 | 73.0-120 | | | 7.93 | 20 |
| Tetrachloroethene | 0.0250 | 0.0319 | 0.0270 | 127 | 108 | 70.0-127 | | | 16.3 | 20 |
| Toluene | 0.0250 | 0.0255 | 0.0232 | 102 | 92.6 | 77.0-120 | | | 9.73 | 20 |
| 1,1,2-Trichlorotrifluoroethane | 0.0250 | 0.0324 | 0.0279 | 130 | 112 | 64.0-135 | | | 15.0 | 20 |
| 1,2,3-Trichlorobenzene | 0.0250 | 0.0249 | 0.0213 | 99.5 | 85.2 | 68.0-126 | | | 15.5 | 20 |
| 1,2,4-Trichlorobenzene | 0.0250 | 0.0267 | 0.0227 | 107 | 90.6 | 70.0-127 | | | 16.4 | 20 |
| 1,1,1-Trichloroethane | 0.0250 | 0.0283 | 0.0255 | 113 | 102 | 69.0-125 | | | 10.6 | 20 |
| 1,1,2-Trichloroethane | 0.0250 | 0.0259 | 0.0254 | 103 | 102 | 78.0-120 | | | 1.75 | 20 |
| Trichloroethene | 0.0250 | 0.0279 | 0.0257 | 112 | 103 | 79.0-120 | | | 8.32 | 20 |
| Trichlorofluoromethane | 0.0250 | 0.0361 | 0.0310 | 144 | 124 | 59.0-136 | J4 | | 15.3 | 20 |
| Vinyl chloride | 0.0250 | 0.0245 | 0.0221 | 98.1 | 88.5 | 63.0-134 | | | 10.3 | 20 |
| Xylenes, Total | 0.0750 | 0.0820 | 0.0757 | 109 | 101 | 77.0-120 | | | 7.99 | 20 |
| *(S) Toluene-d8* | | | | *101* | *102* | *80.0-120* | | | | |
| *(S) Dibromofluoromethane* | | | | *96.7* | *99.3* | *74.0-131* | | | | |
| *(S) a,a,a-Trifluorotoluene* | | | | *100* | *102* | *80.0-120* | | | | |
| *(S) 4-Bromofluorobenzene* | | | | *101* | *101* | *64.0-132* | | | | |

## L918387-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L918387-01 06/30/17 10:28 • (MS) R3230248-4 06/30/17 10:45 • (MSD) R3230248-5 06/30/17 11:03

| Analyte | Spike Amount (dry) mg/kg | Original Result (dry) mg/kg | MS Result (dry) mg/kg | MSD Result (dry) mg/kg | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Acetone | 0.134 | ND | 0.0804 | 0.0848 | 59.9 | 63.2 | 1 | 10.0-160 | | | 5.28 | 36 |
| Benzene | 0.0268 | ND | 0.0209 | 0.0203 | 78.0 | 75.8 | 1 | 13.0-146 | | | 2.83 | 27 |
| Bromodichloromethane | 0.0268 | ND | 0.0220 | 0.0223 | 82.0 | 82.9 | 1 | 15.0-142 | | | 1.15 | 28 |
| Bromochloromethane | 0.0268 | ND | 0.0259 | 0.0264 | 96.5 | 98.2 | 1 | 24.0-146 | | | 1.75 | 27 |
| Bromoform | 0.0268 | ND | 0.0247 | 0.0248 | 92.0 | 92.4 | 1 | 10.0-147 | | | 0.390 | 31 |
| Bromomethane | 0.0268 | ND | 0.0297 | 0.0280 | 111 | 104 | 1 | 10.0-160 | | | 5.91 | 32 |
| Carbon disulfide | 0.0268 | ND | 0.0180 | 0.0151 | 66.0 | 55.1 | 1 | 10.0-141 | | | 17.7 | 30 |
| Carbon tetrachloride | 0.0268 | ND | 0.0255 | 0.0242 | 95.1 | 90.1 | 1 | 13.0-140 | | | 5.45 | 30 |
| Chlorobenzene | 0.0268 | ND | 0.0241 | 0.0227 | 89.9 | 84.4 | 1 | 10.0-149 | | | 6.28 | 31 |
| Chlorodibromomethane | 0.0268 | ND | 0.0250 | 0.0244 | 93.1 | 91.1 | 1 | 12.0-147 | | | 2.23 | 29 |
| Chloroethane | 0.0268 | ND | 0.0281 | 0.0267 | 105 | 99.3 | 1 | 10.0-159 | | | 5.16 | 33 |
| Chloroform | 0.0268 | ND | 0.0237 | 0.0231 | 88.2 | 86.0 | 1 | 18.0-148 | | | 2.56 | 28 |
| Chloromethane | 0.0268 | ND | 0.0175 | 0.0172 | 65.2 | 64.3 | 1 | 10.0-146 | | | 1.39 | 29 |
| Cyclohexane | 0.0268 | ND | 0.0205 | 0.0193 | 76.5 | 72.1 | 1 | 70.0-130 | | | 6.00 | 24.6 |
| 1,2-Dibromo-3-Chloropropane | 0.0268 | ND | 0.0243 | 0.0254 | 90.5 | 94.7 | 1 | 10.0-149 | | | 4.52 | 34 |
| 1,2-Dibromoethane | 0.0268 | ND | 0.0278 | 0.0278 | 103 | 103 | 1 | 14.0-145 | | | 0.0500 | 28 |
| 1,2-Dichlorobenzene | 0.0268 | ND | 0.0206 | 0.0203 | 76.8 | 75.5 | 1 | 10.0-153 | | | 1.64 | 34 |
| 1,3-Dichlorobenzene | 0.0268 | ND | 0.0216 | 0.0203 | 80.6 | 75.5 | 1 | 10.0-150 | | | 6.57 | 35 |
| 1,4-Dichlorobenzene | 0.0268 | ND | 0.0199 | 0.0188 | 74.3 | 70.0 | 1 | 10.0-148 | | | 5.94 | 34 |
| Dichlorodifluoromethane | 0.0268 | ND | 0.0233 | 0.0222 | 86.7 | 82.6 | 1 | 10.0-160 | | | 4.84 | 30 |
| 1,1-Dichloroethane | 0.0268 | ND | 0.0203 | 0.0204 | 75.6 | 76.0 | 1 | 19.0-148 | | | 0.580 | 28 |
| 1,2-Dichloroethane | 0.0268 | ND | 0.0266 | 0.0267 | 98.9 | 99.6 | 1 | 17.0-147 | | | 0.640 | 27 |
| 1,1-Dichloroethene | 0.0268 | ND | 0.0255 | 0.0243 | 95.2 | 90.4 | 1 | 10.0-150 | | | 5.12 | 31 |
| cis-1,2-Dichloroethene | 0.0268 | 0.00298 | 0.0222 | 0.0226 | 71.4 | 73.1 | 1 | 16.0-145 | | | 1.95 | 28 |
| trans-1,2-Dichloroethene | 0.0268 | ND | 0.0208 | 0.0210 | 77.6 | 78.4 | 1 | 11.0-142 | | | 0.950 | 29 |
| 1,2-Dichloropropane | 0.0268 | ND | 0.0221 | 0.0217 | 82.2 | 81.0 | 1 | 17.0-148 | | | 1.43 | 28 |
| cis-1,3-Dichloropropene | 0.0268 | ND | 0.0228 | 0.0229 | 84.9 | 85.4 | 1 | 13.0-150 | | | 0.670 | 28 |
| trans-1,3-Dichloropropene | 0.0268 | ND | 0.0234 | 0.0233 | 87.2 | 86.8 | 1 | 10.0-152 | | | 0.380 | 29 |
| Ethylbenzene | 0.0268 | ND | 0.0223 | 0.0216 | 83.2 | 80.4 | 1 | 10.0-147 | | | 3.50 | 31 |
| 2-Hexanone | 0.134 | ND | 0.131 | 0.127 | 97.8 | 94.8 | 1 | 12.0-158 | | | 3.04 | 30 |
| Isopropylbenzene | 0.0268 | ND | 0.0227 | 0.0213 | 84.6 | 79.4 | 1 | 10.0-147 | | | 6.33 | 33 |
| 2-Butanone (MEK) | 0.134 | ND | 0.0980 | 0.102 | 73.1 | 75.7 | 1 | 10.0-160 | | | 3.59 | 33 |
| Methyl Acetate | 0.134 | ND | 0.0436 | 0.0427 | 32.5 | 31.8 | 1 | 70.0-130 | J6 | J6 | 2.13 | 28.3 |
| Methyl Cyclohexane | 0.0268 | ND | 0.0218 | 0.0214 | 81.1 | 79.9 | 1 | 70.0-130 | | | 1.49 | 28.3 |
| Methylene Chloride | 0.0268 | ND | 0.0202 | 0.0195 | 75.1 | 72.5 | 1 | 16.0-139 | | | 3.56 | 29 |
| 4-Methyl-2-pentanone (MIBK) | 0.134 | ND | 0.146 | 0.149 | 109 | 111 | 1 | 12.0-160 | | | 1.82 | 32 |
| Methyl tert-butyl ether | 0.0268 | ND | 0.0220 | 0.0214 | 81.9 | 79.8 | 1 | 21.0-145 | | | 2.52 | 29 |
| Styrene | 0.0268 | ND | 0.0244 | 0.0226 | 91.0 | 84.1 | 1 | 10.0-155 | | | 7.86 | 34 |
| 1,1,2,2-Tetrachloroethane | 0.0268 | ND | 0.0274 | 0.0268 | 102 | 99.9 | 1 | 10.0-155 | | | 2.19 | 31 |

## L918387-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L918387-01 06/30/17 10:28 • (MS) R3230248-4 06/30/17 10:45 • (MSD) R3230248-5 06/30/17 11:03

| Analyte | Spike Amount (dry) | Original Result (dry) | MS Result (dry) | MSD Result (dry) | MS Rec. | MSD Rec. | Dilution | Rec. Limits | MS Qualifier | MSD Qualifier | RPD | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | mg/kg | mg/kg | mg/kg | mg/kg | % | % | | % | | | % | % |
| Tetrachloroethene | 0.0268 | 0.0679 | 0.0408 | 0.0346 | 0.000 | 0.000 | 1 | 10.0-144 | J6 | J6 | 16.3 | 32 |
| Toluene | 0.0268 | ND | 0.0219 | 0.0214 | 81.8 | 79.8 | 1 | 10.0-144 | | | 2.45 | 28 |
| 1,1,2-Trichlorotrifluoroethane | 0.0268 | ND | 0.0262 | 0.0233 | 97.5 | 86.8 | 1 | 10.0-153 | | | 11.6 | 33 |
| 1,2,3-Trichlorobenzene | 0.0268 | ND | 0.0171 | 0.0168 | 63.7 | 62.4 | 1 | 10.0-153 | | | 1.98 | 40 |
| 1,2,4-Trichlorobenzene | 0.0268 | ND | 0.0168 | 0.0150 | 62.5 | 56.0 | 1 | 10.0-156 | | | 10.9 | 40 |
| 1,1,1-Trichloroethane | 0.0268 | ND | 0.0249 | 0.0242 | 92.7 | 90.1 | 1 | 18.0-145 | | | 2.92 | 29 |
| 1,1,2-Trichloroethane | 0.0268 | ND | 0.0265 | 0.0261 | 98.6 | 97.4 | 1 | 12.0-151 | | | 1.23 | 28 |
| Trichloroethene | 0.0268 | 0.00638 | 0.0254 | 0.0247 | 70.8 | 68.4 | 1 | 11.0-148 | | | 2.62 | 29 |
| Trichlorofluoromethane | 0.0268 | ND | 0.0299 | 0.0282 | 111 | 105 | 1 | 10.0-157 | | | 5.95 | 34 |
| Vinyl chloride | 0.0268 | ND | 0.0223 | 0.0212 | 83.0 | 79.0 | 1 | 10.0-150 | | | 4.84 | 29 |
| Xylenes, Total | 0.0805 | ND | 0.0673 | 0.0634 | 83.6 | 78.7 | 1 | 10.0-150 | | | 6.08 | 31 |
| *(S) Toluene-d8* | | | | | *102* | *102* | | *80.0-120* | | | | |
| *(S) Dibromofluoromethane* | | | | | *101* | *101* | | *74.0-131* | | | | |
| *(S) a,a,a-Trifluorotoluene* | | | | | *99.4* | *100* | | *80.0-120* | | | | |
| *(S) 4-Bromofluorobenzene* | | | | | *98.8* | *95.7* | | *64.0-132* | | | | |

## Method Blank (MB)

(MB) R3229070-1 06/27/17 13:04

| Analyte | MB Result mg/kg | MB Qualifier | MB MDL mg/kg | MB RDL mg/kg |
|---|---|---|---|---|
| PCB 1016 | U | | 0.00350 | 0.0170 |
| PCB 1221 | U | | 0.00537 | 0.0170 |
| PCB 1232 | U | | 0.00417 | 0.0170 |
| PCB 1242 | U | | 0.00318 | 0.0170 |
| PCB 1248 | U | | 0.00315 | 0.0170 |
| PCB 1254 | U | | 0.00472 | 0.0170 |
| PCB 1260 | U | | 0.00494 | 0.0170 |
| *(S) Decachlorobiphenyl* | *67.3* | | | *10.0-148* |
| *(S) Tetrachloro-m-xylene* | *56.1* | | | *21.0-146* |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3229070-2 06/27/17 13:17 • (LCSD) R3229070-3 06/27/17 13:29

| Analyte | Spike Amount mg/kg | LCS Result mg/kg | LCSD Result mg/kg | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| PCB 1260 | 0.167 | 0.123 | 0.109 | 73.7 | 65.4 | 37.0-145 | | | 11.9 | 37 |
| PCB 1016 | 0.167 | 0.0968 | 0.0817 | 58.0 | 49.0 | 36.0-141 | | | 16.8 | 35 |
| *(S) Decachlorobiphenyl* | | | | *96.2* | *79.6* | *10.0-148* | | | | |
| *(S) Tetrachloro-m-xylene* | | | | *81.4* | *67.5* | *21.0-146* | | | | |

## L917966-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L917966-01 06/27/17 15:14 • (MS) R3229081-1 06/27/17 15:29 • (MSD) R3229081-2 06/27/17 15:43

| Analyte | Spike Amount (dry) mg/kg | Original Result (dry) mg/kg | MS Result (dry) mg/kg | MSD Result (dry) mg/kg | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PCB 1260 | 0.200 | U | 0.0999 | 0.116 | 50.0 | 58.0 | 1 | 10.0-160 | | | 14.8 | 31 |
| PCB 1016 | 0.200 | U | 0.124 | 0.139 | 61.8 | 69.5 | 1 | 17.0-160 | | | 11.7 | 30 |
| *(S) Decachlorobiphenyl* | | | | | *69.4* | *83.5* | | *10.0-148* | | | | |
| *(S) Tetrachloro-m-xylene* | | | | | *74.4* | *76.8* | | *21.0-146* | | | | |

## Method Blank (MB)

(MB) R3230050-1 06/29/17 15:23

| Analyte | MB Result | MB Qualifier | MB MDL | MB RDL |
|---|---|---|---|---|
| | ug/l | | ug/l | ug/l |
| PCB 1260 | U | | 3.33 | 10.0 |
| PCB 1016 | U | | 3.33 | 10.0 |
| PCB 1221 | U | | 3.33 | 10.0 |
| PCB 1232 | U | | 3.33 | 10.0 |
| PCB 1242 | U | | 3.33 | 10.0 |
| PCB 1248 | U | | 3.33 | 10.0 |
| PCB 1254 | U | | 3.33 | 10.0 |
| *(S) Decachlorobiphenyl* | *77.9* | | | *10.0-144* |
| *(S) Tetrachloro-m-xylene* | *61.5* | | | *10.0-135* |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3230050-2 06/29/17 15:36 • (LCSD) R3230050-3 06/29/17 15:48

| Analyte | Spike Amount | LCS Result | LCSD Result | LCS Rec. | LCSD Rec. | Rec. Limits | LCS Qualifier | LCSD Qualifier | RPD | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| | ug/l | ug/l | ug/l | % | % | % | | | % | % |
| PCB 1260 | 2.50 | 1.55 | 1.87 | 62.2 | 75.0 | 45.0-142 | | | 18.6 | 24 |
| PCB 1016 | 2.50 | 1.08 | 1.37 | 43.2 | 54.8 | 41.0-134 | | J3 | 23.8 | 23 |
| *(S) Decachlorobiphenyl* | | | | *64.2* | *84.1* | *10.0-144* | | | | |
| *(S) Tetrachloro-m-xylene* | | | | *41.5* | *51.3* | *10.0-135* | | | | |

## L918279-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L918279-03 06/29/17 20:11 • (MS) R3230050-4 06/29/17 20:23 • (MSD) R3230050-5 06/29/17 20:36

| Analyte | Spike Amount | Original Result | MS Result | MSD Result | MS Rec. | MSD Rec. | Dilution | Rec. Limits | MS Qualifier | MSD Qualifier | RPD | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ug/l | ug/l | ug/l | ug/l | % | % | | % | | | % | % |
| PCB 1260 | 25.0 | U | 15.9 | 16.6 | 63.7 | 66.5 | 1 | 45.0-142 | | | 4.36 | 24 |
| PCB 1016 | 25.0 | U | 16.7 | 17.4 | 66.8 | 69.5 | 1 | 41.0-134 | | | 3.86 | 23 |
| *(S) Decachlorobiphenyl* | | | | | *65.5* | *70.0* | | *10.0-144* | | | | |
| *(S) Tetrachloro-m-xylene* | | | | | *48.6* | *50.5* | | *10.0-135* | | | | |

## Method Blank (MB)

(MB) R3229484-3 06/28/17 08:57

| Analyte | MB Result mg/kg | MB Qualifier | MB MDL mg/kg | MB RDL mg/kg |
|---|---|---|---|---|
| Acenaphthene | U | | 0.00642 | 0.0330 |
| Acenaphthylene | U | | 0.00671 | 0.0330 |
| Acetophenone | U | | 0.0752 | 0.333 |
| Anthracene | U | | 0.00632 | 0.0330 |
| Atrazine | U | | 0.0938 | 0.333 |
| Benzaldehyde | U | | 0.0532 | 0.333 |
| Benzo(a)anthracene | U | | 0.00428 | 0.0330 |
| Benzo(b)fluoranthene | U | | 0.00695 | 0.0330 |
| Benzo(k)fluoranthene | U | | 0.00582 | 0.0330 |
| Benzo(g,h,i)perylene | U | | 0.00721 | 0.0330 |
| Benzo(a)pyrene | U | | 0.00548 | 0.0330 |
| Biphenyl | U | | 0.00588 | 0.333 |
| Bis(2-chlorethoxy)methane | U | | 0.00770 | 0.333 |
| Bis(2-chloroethyl)ether | U | | 0.00896 | 0.333 |
| Bis(2-chloroisopropyl)ether | U | | 0.00760 | 0.333 |
| 4-Bromophenyl-phenylether | U | | 0.0114 | 0.333 |
| Caprolactam | U | | 0.104 | 0.333 |
| Carbazole | U | | 0.00524 | 0.333 |
| 4-Chloroaniline | U | | 0.0352 | 0.333 |
| 2-Chloronaphthalene | U | | 0.00639 | 0.0330 |
| 4-Chlorophenyl-phenylether | U | | 0.00627 | 0.333 |
| Chrysene | U | | 0.00555 | 0.0330 |
| Dibenz(a,h)anthracene | U | | 0.00821 | 0.0330 |
| Dibenzofuran | U | | 0.00518 | 0.333 |
| 3,3-Dichlorobenzidine | U | | 0.0794 | 0.333 |
| 2,4-Dinitrotoluene | U | | 0.00607 | 0.333 |
| 2,6-Dinitrotoluene | U | | 0.00737 | 0.333 |
| Fluoranthene | U | | 0.00496 | 0.0330 |
| Fluorene | U | | 0.00682 | 0.0330 |
| Hexachlorobenzene | U | | 0.00856 | 0.333 |
| Hexachloro-1,3-butadiene | U | | 0.0100 | 0.333 |
| Hexachlorocyclopentadiene | U | | 0.0587 | 0.333 |
| Hexachloroethane | U | | 0.0134 | 0.333 |
| Indeno(1,2,3-cd)pyrene | U | | 0.00772 | 0.0330 |
| Isophorone | U | | 0.00522 | 0.333 |
| 2-Methylnaphthalene | U | | 0.00861 | 0.0330 |
| Naphthalene | U | | 0.00889 | 0.0330 |
| 2-Nitroaniline | U | | 0.00755 | 0.333 |
| 3-Nitroaniline | U | | 0.00850 | 0.333 |
| 4-Nitroaniline | U | | 0.00639 | 0.333 |

## Method Blank (MB)

(MB) R3229484-3 06/28/17 08:57

| Analyte | MB Result mg/kg | MB Qualifier | MB MDL mg/kg | MB RDL mg/kg |
|---|---|---|---|---|
| Nitrobenzene | U | | 0.00695 | 0.333 |
| n-Nitrosodiphenylamine | U | | 0.00594 | 0.333 |
| n-Nitrosodi-n-propylamine | U | | 0.00906 | 0.333 |
| Phenanthrene | U | | 0.00528 | 0.0330 |
| Benzylbutyl phthalate | U | | 0.0103 | 0.333 |
| Bis(2-ethylhexyl)phthalate | U | | 0.0120 | 0.333 |
| Di-n-butyl phthalate | U | | 0.0109 | 0.333 |
| Diethyl phthalate | U | | 0.00691 | 0.333 |
| Dimethyl phthalate | U | | 0.00540 | 0.333 |
| Di-n-octyl phthalate | U | | 0.00907 | 0.333 |
| Pyrene | U | | 0.0123 | 0.0330 |
| 4-Chloro-3-methylphenol | U | | 0.00477 | 0.333 |
| 2-Chlorophenol | U | | 0.00831 | 0.333 |
| 2-Methylphenol | U | | 0.00986 | 0.333 |
| 3&4-Methyl Phenol | U | | 0.00783 | 0.333 |
| 2,4-Dichlorophenol | U | | 0.00746 | 0.333 |
| 2,4-Dimethylphenol | U | | 0.0471 | 0.333 |
| 4,6-Dinitro-2-methylphenol | U | | 0.124 | 0.333 |
| 2,4-Dinitrophenol | U | | 0.0980 | 0.333 |
| 2-Nitrophenol | U | | 0.0130 | 0.333 |
| 4-Nitrophenol | U | | 0.0525 | 0.333 |
| Pentachlorophenol | U | | 0.0480 | 0.333 |
| Phenol | U | | 0.00695 | 0.333 |
| 1,2,4,5-Tetrachlorobenzene | U | | 0.0762 | 0.333 |
| 2,4,5-Trichlorophenol | U | | 0.0104 | 0.333 |
| 2,4,6-Trichlorophenol | U | | 0.00779 | 0.333 |
| *(S) Nitrobenzene-d5* | *65.4* | | | *18.0-125* |
| *(S) 2-Fluorobiphenyl* | *53.1* | | | *28.0-120* |
| *(S) p-Terphenyl-d14* | *66.1* | | | *13.0-131* |
| *(S) Phenol-d5* | *70.9* | | | *20.0-120* |
| *(S) 2-Fluorophenol* | *76.3* | | | *20.0-120* |
| *(S) 2,4,6-Tribromophenol* | *63.2* | | | *17.0-137* |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3229484-1 06/28/17 08:04 • (LCSD) R3229484-2 06/28/17 08:30

| Analyte | Spike Amount mg/kg | LCS Result mg/kg | LCSD Result mg/kg | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| Acetophenone | 0.667 | 0.406 | 0.426 | 60.8 | 63.9 | 30.0-120 | | | 4.96 | 26 |
| Atrazine | 0.667 | 0.472 | 0.465 | 70.8 | 69.7 | 43.0-127 | | | 1.60 | 22 |
| Benzaldehyde | 0.667 | 0.112 | 0.0967 | 16.8 | 14.5 | 10.0-120 | | | 14.5 | 40 |
| Acenaphthene | 0.667 | 0.415 | 0.426 | 62.2 | 63.8 | 47.0-120 | | | 2.57 | 21 |
| Acenaphthylene | 0.667 | 0.437 | 0.457 | 65.5 | 68.5 | 48.0-120 | | | 4.38 | 21 |
| Anthracene | 0.667 | 0.428 | 0.440 | 64.2 | 66.0 | 46.0-120 | | | 2.72 | 20 |
| Biphenyl | 0.667 | 0.390 | 0.430 | 58.5 | 64.5 | 42.0-120 | | | 9.82 | 23 |
| Benzo(a)anthracene | 0.667 | 0.421 | 0.440 | 63.2 | 66.0 | 46.0-120 | | | 4.36 | 20 |
| Benzo(b)fluoranthene | 0.667 | 0.424 | 0.452 | 63.5 | 67.8 | 45.0-120 | | | 6.57 | 22 |
| Benzo(k)fluoranthene | 0.667 | 0.438 | 0.425 | 65.7 | 63.7 | 45.0-120 | | | 3.04 | 23 |
| Caprolactam | 0.667 | 0.531 | 0.542 | 79.5 | 81.3 | 41.0-136 | | | 2.15 | 22 |
| Benzo(g,h,i)perylene | 0.667 | 0.386 | 0.475 | 57.8 | 71.2 | 48.0-120 | | | 20.8 | 21 |
| Carbazole | 0.667 | 0.425 | 0.452 | 63.7 | 67.7 | 41.0-120 | | | 6.09 | 20 |
| 4-Chloroaniline | 0.667 | 0.282 | 0.290 | 42.2 | 43.5 | 27.0-120 | | | 3.08 | 25 |
| Benzo(a)pyrene | 0.667 | 0.444 | 0.447 | 66.6 | 67.1 | 46.0-120 | | | 0.670 | 21 |
| Bis(2-chlorethoxy)methane | 0.667 | 0.341 | 0.347 | 51.1 | 52.0 | 41.0-120 | | | 1.80 | 22 |
| Bis(2-chloroethyl)ether | 0.667 | 0.416 | 0.388 | 62.4 | 58.2 | 28.0-120 | | | 6.90 | 28 |
| Bis(2-chloroisopropyl)ether | 0.667 | 0.374 | 0.382 | 56.0 | 57.3 | 40.0-120 | | | 2.30 | 27 |
| 4-Bromophenyl-phenylether | 0.667 | 0.392 | 0.387 | 58.7 | 58.0 | 45.0-120 | | | 1.28 | 20 |
| Dibenzofuran | 0.667 | 0.431 | 0.430 | 64.6 | 64.5 | 43.0-120 | | | 0.0500 | 21 |
| 2-Chloronaphthalene | 0.667 | 0.382 | 0.420 | 57.3 | 63.0 | 43.0-120 | | | 9.56 | 22 |
| 4-Chlorophenyl-phenylether | 0.667 | 0.434 | 0.440 | 65.1 | 66.0 | 46.0-120 | | | 1.29 | 21 |
| Chrysene | 0.667 | 0.417 | 0.431 | 62.4 | 64.6 | 46.0-120 | | | 3.37 | 20 |
| Dibenz(a,h)anthracene | 0.667 | 0.390 | 0.491 | 58.5 | 73.7 | 47.0-120 | | J3 | 22.9 | 22 |
| 3,3-Dichlorobenzidine | 0.667 | 0.810 | 0.921 | 121 | 138 | 20.0-130 | | J4 | 12.9 | 24 |
| 2,4-Dinitrotoluene | 0.667 | 0.501 | 0.517 | 75.1 | 77.5 | 48.0-122 | | | 3.24 | 21 |
| 2,6-Dinitrotoluene | 0.667 | 0.448 | 0.468 | 67.2 | 70.1 | 46.0-120 | | | 4.27 | 21 |
| Fluoranthene | 0.667 | 0.412 | 0.498 | 61.8 | 74.7 | 46.0-120 | | | 18.9 | 20 |
| 2-Methylnaphthalene | 0.667 | 0.319 | 0.314 | 47.8 | 47.2 | 43.0-120 | | | 1.32 | 22 |
| Fluorene | 0.667 | 0.453 | 0.441 | 67.9 | 66.2 | 47.0-120 | | | 2.54 | 20 |
| Hexachlorobenzene | 0.667 | 0.398 | 0.384 | 59.7 | 57.6 | 42.0-120 | | | 3.58 | 20 |
| 2-Nitroaniline | 0.667 | 0.445 | 0.496 | 66.8 | 74.3 | 46.0-125 | | | 10.7 | 21 |
| Hexachloro-1,3-butadiene | 0.667 | 0.328 | 0.322 | 49.1 | 48.2 | 36.0-120 | | | 1.89 | 26 |
| 3-Nitroaniline | 0.667 | 0.370 | 0.398 | 55.5 | 59.7 | 37.0-120 | | | 7.28 | 22 |
| Hexachlorocyclopentadiene | 0.667 | 0.330 | 0.372 | 49.4 | 55.7 | 20.0-124 | | | 12.0 | 26 |
| 4-Nitroaniline | 0.667 | 0.543 | 0.532 | 81.4 | 79.8 | 31.0-127 | | | 1.98 | 26 |
| Hexachloroethane | 0.667 | 0.349 | 0.383 | 52.2 | 57.4 | 32.0-120 | | | 9.33 | 31 |
| Indeno(1,2,3-cd)pyrene | 0.667 | 0.394 | 0.495 | 59.1 | 74.2 | 48.0-120 | | J3 | 22.7 | 21 |
| Isophorone | 0.667 | 0.349 | 0.340 | 52.4 | 50.9 | 42.0-120 | | | 2.79 | 21 |
| Naphthalene | 0.667 | 0.313 | 0.316 | 46.9 | 47.3 | 41.0-120 | | | 0.860 | 24 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3229484-1 06/28/17 08:04 • (LCSD) R3229484-2 06/28/17 08:30

| Analyte | Spike Amount mg/kg | LCS Result mg/kg | LCSD Result mg/kg | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| Nitrobenzene | 0.667 | 0.340 | 0.316 | 51.0 | 47.4 | 36.0-120 | | | 7.22 | 24 |
| n-Nitrosodiphenylamine | 0.667 | 0.400 | 0.404 | 59.9 | 60.6 | 42.0-120 | | | 1.10 | 20 |
| n-Nitrosodi-n-propylamine | 0.667 | 0.389 | 0.411 | 58.3 | 61.7 | 39.0-120 | | | 5.67 | 23 |
| Phenanthrene | 0.667 | 0.423 | 0.431 | 63.4 | 64.7 | 45.0-120 | | | 2.02 | 20 |
| Benzylbutyl phthalate | 0.667 | 0.413 | 0.469 | 62.0 | 70.3 | 41.0-123 | | | 12.6 | 20 |
| Bis(2-ethylhexyl)phthalate | 0.667 | 0.425 | 0.455 | 63.8 | 68.3 | 41.0-124 | | | 6.80 | 20 |
| Di-n-butyl phthalate | 0.667 | 0.432 | 0.472 | 64.8 | 70.8 | 44.0-120 | | | 8.91 | 20 |
| Diethyl phthalate | 0.667 | 0.466 | 0.465 | 69.9 | 69.7 | 46.0-120 | | | 0.360 | 20 |
| Dimethyl phthalate | 0.667 | 0.442 | 0.465 | 66.2 | 69.8 | 47.0-120 | | | 5.21 | 21 |
| 2-Methylphenol | 0.667 | 0.419 | 0.440 | 62.9 | 66.0 | 41.0-120 | | | 4.82 | 24 |
| Di-n-octyl phthalate | 0.667 | 0.476 | 0.464 | 71.3 | 69.5 | 40.0-123 | | | 2.62 | 21 |
| 3&4-Methyl Phenol | 0.667 | 0.477 | 0.520 | 71.5 | 77.9 | 47.0-120 | | | 8.64 | 24 |
| Pyrene | 0.667 | 0.406 | 0.466 | 60.8 | 69.9 | 45.0-120 | | | 13.8 | 21 |
| 4-Chloro-3-methylphenol | 0.667 | 0.361 | 0.368 | 54.1 | 55.2 | 46.0-120 | | | 1.96 | 20 |
| 2-Chlorophenol | 0.667 | 0.421 | 0.402 | 63.1 | 60.2 | 37.0-120 | | | 4.68 | 27 |
| 1,2,4,5-Tetrachlorobenzene | 0.667 | 0.451 | 0.442 | 67.6 | 66.3 | 40.0-120 | | | 1.87 | 23 |
| 2,4-Dichlorophenol | 0.667 | 0.372 | 0.371 | 55.7 | 55.7 | 45.0-120 | | | 0.0900 | 21 |
| 2,4,5-Trichlorophenol | 0.667 | 0.387 | 0.447 | 58.0 | 67.0 | 44.0-120 | | | 14.3 | 22 |
| 2,4-Dimethylphenol | 0.667 | 0.360 | 0.354 | 54.0 | 53.1 | 40.0-120 | | | 1.69 | 22 |
| 4,6-Dinitro-2-methylphenol | 0.667 | 0.466 | 0.474 | 69.9 | 71.1 | 34.0-120 | | | 1.71 | 23 |
| 2,4-Dinitrophenol | 0.667 | 0.429 | 0.477 | 64.4 | 71.5 | 10.0-120 | | | 10.5 | 30 |
| 2-Nitrophenol | 0.667 | 0.389 | 0.371 | 58.3 | 55.6 | 42.0-120 | | | 4.66 | 24 |
| 4-Nitrophenol | 0.667 | 0.494 | 0.513 | 74.1 | 76.9 | 40.0-120 | | | 3.71 | 21 |
| Pentachlorophenol | 0.667 | 0.422 | 0.427 | 63.3 | 64.0 | 33.0-122 | | | 1.14 | 22 |
| Phenol | 0.667 | 0.419 | 0.394 | 62.9 | 59.1 | 38.0-120 | | | 6.23 | 25 |
| 2,4,6-Trichlorophenol | 0.667 | 0.419 | 0.491 | 62.8 | 73.6 | 47.0-120 | | | 15.9 | 22 |
| *(S) Nitrobenzene-d5* | | | | *56.5* | *50.7* | *18.0-125* | | | | |
| *(S) 2-Fluorobiphenyl* | | | | *57.4* | *63.3* | *28.0-120* | | | | |
| *(S) p-Terphenyl-d14* | | | | *62.4* | *67.3* | *13.0-131* | | | | |
| *(S) Phenol-d5* | | | | *70.5* | *62.2* | *20.0-120* | | | | |
| *(S) 2-Fluorophenol* | | | | *75.1* | *64.2* | *20.0-120* | | | | |
| *(S) 2,4,6-Tribromophenol* | | | | *68.0* | *63.3* | *17.0-137* | | | | |

## L917542-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L917542-03 06/28/17 16:54 • (MS) R3229484-4 06/28/17 17:21 • (MSD) R3229484-5 06/28/17 17:47

| Analyte | Spike Amount (dry) mg/kg | Original Result (dry) mg/kg | MS Result (dry) mg/kg | MSD Result (dry) mg/kg | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Acetophenone | 0.0782 | U | ND | ND | 0.000 | 0.000 | 10 | 24.0-120 | J6 | J6 | 0.000 | 21 |
| Atrazine | 0.0782 | U | ND | ND | 0.000 | 0.000 | 10 | 42.0-126 | J6 | J6 | 0.000 | 21 |
| Benzaldehyde | 0.0782 | U | ND | ND | 0.000 | 0.000 | 10 | 10.0-126 | J6 | J6 | 0.000 | 32 |
| Biphenyl | 0.0782 | U | 0.503 | 0.468 | 64.4 | 59.9 | 10 | 37.0-120 | | | 7.17 | 21 |
| Acenaphthene | 0.0782 | U | 0.499 | 0.470 | 63.8 | 60.1 | 10 | 37.0-120 | | | 5.96 | 23 |
| Acenaphthylene | 0.0782 | U | 0.504 | 0.476 | 64.5 | 61.0 | 10 | 41.0-120 | | | 5.64 | 22 |
| Caprolactam | 0.0782 | U | ND | ND | 0.000 | 0.000 | 10 | 27.0-151 | J6 | J6 | 0.000 | 22 |
| Carbazole | 0.0782 | U | 0.460 | 0.459 | 58.8 | 58.7 | 10 | 38.0-120 | | | 0.270 | 21 |
| 4-Chloroaniline | 0.0782 | U | ND | ND | 0.000 | 0.000 | 10 | 21.0-120 | J6 | J6 | 0.000 | 27 |
| Anthracene | 0.0782 | U | 0.480 | 0.466 | 61.4 | 59.6 | 10 | 30.0-123 | | | 2.85 | 25 |
| Dibenzofuran | 0.0782 | U | 0.504 | 0.497 | 64.5 | 63.6 | 10 | 30.0-120 | | | 1.37 | 22 |
| Benzo(a)anthracene | 0.0782 | U | 0.554 | 0.469 | 70.9 | 60.0 | 10 | 21.0-123 | | | 16.6 | 26 |
| Benzo(b)fluoranthene | 0.0782 | U | 0.713 | 0.521 | 91.2 | 66.7 | 10 | 20.0-127 | | J3 | 31.1 | 29 |
| Benzo(k)fluoranthene | 0.0782 | U | 0.578 | 0.529 | 73.9 | 67.7 | 10 | 22.0-123 | | | 8.77 | 28 |
| Benzo(g,h,i)perylene | 0.0782 | U | 0.188 | 0.150 | 24.1 | 19.1 | 10 | 10.0-120 | | | 22.7 | 32 |
| Benzo(a)pyrene | 0.0782 | U | 0.513 | 0.439 | 65.7 | 56.2 | 10 | 23.0-120 | | | 15.5 | 27 |
| Bis(2-chlorethoxy)methane | 0.0782 | U | 0.425 | 0.417 | 54.4 | 53.4 | 10 | 37.0-120 | | | 1.91 | 22 |
| Bis(2-chloroethyl)ether | 0.0782 | U | 0.432 | 0.353 | 55.2 | 45.2 | 10 | 26.0-120 | | | 20.0 | 27 |
| Bis(2-chloroisopropyl)ether | 0.0782 | U | 0.415 | 0.381 | 53.0 | 48.8 | 10 | 35.0-120 | | | 8.39 | 25 |
| 4-Bromophenyl-phenylether | 0.0782 | U | 0.460 | 0.411 | 58.8 | 52.6 | 10 | 34.0-120 | | | 11.2 | 23 |
| 2-Chloronaphthalene | 0.0782 | U | 0.476 | 0.463 | 60.9 | 59.3 | 10 | 40.0-120 | | | 2.73 | 22 |
| 4-Chlorophenyl-phenylether | 0.0782 | U | 0.510 | 0.535 | 65.2 | 68.4 | 10 | 37.0-120 | | | 4.78 | 23 |
| 2-Methylnaphthalene | 0.0782 | U | 0.456 | 0.395 | 58.3 | 50.6 | 10 | 35.0-120 | | | 14.2 | 23 |
| Chrysene | 0.0782 | U | 0.508 | 0.449 | 65.0 | 57.5 | 10 | 19.0-127 | | | 12.2 | 27 |
| Dibenz(a,h)anthracene | 0.0782 | U | 0.240 | 0.208 | 30.8 | 26.6 | 10 | 10.0-120 | | | 14.5 | 28 |
| 2-Nitroaniline | 0.0782 | U | 0.504 | 0.477 | 64.5 | 61.0 | 10 | 42.0-125 | | | 5.71 | 22 |
| 3-Nitroaniline | 0.0782 | U | 0.422 | 0.417 | 54.0 | 53.4 | 10 | 29.0-120 | | | 1.08 | 25 |
| 4-Nitroaniline | 0.0782 | U | 0.519 | 0.524 | 66.3 | 67.0 | 10 | 27.0-130 | | | 0.960 | 27 |
| 3,3-Dichlorobenzidine | 0.0782 | U | ND | 0.941 | 0.000 | 120 | 10 | 10.0-142 | J6 | J3 | 200 | 30 |
| 2,4-Dinitrotoluene | 0.0782 | U | 0.523 | 0.495 | 66.9 | 63.3 | 10 | 37.0-129 | | | 5.52 | 24 |
| 2,6-Dinitrotoluene | 0.0782 | U | 0.550 | 0.511 | 70.3 | 65.4 | 10 | 40.0-120 | | | 7.25 | 23 |
| Fluoranthene | 0.0782 | U | 0.750 | 0.507 | 95.9 | 64.9 | 10 | 20.0-133 | | J3 | 38.6 | 28 |
| Fluorene | 0.0782 | U | 0.515 | 0.533 | 65.9 | 68.2 | 10 | 35.0-120 | | | 3.39 | 23 |
| Hexachlorobenzene | 0.0782 | U | 0.457 | 0.427 | 58.4 | 54.7 | 10 | 33.0-120 | | | 6.64 | 24 |
| Hexachloro-1,3-butadiene | 0.0782 | U | 0.435 | 0.385 | 55.7 | 49.3 | 10 | 33.0-120 | | | 12.1 | 25 |
| Hexachlorocyclopentadiene | 0.0782 | U | 1.24 | 1.24 | 159 | 159 | 10 | 10.0-120 | J5 | J5 | 0.0100 | 33 |
| Hexachloroethane | 0.0782 | U | 0.242 | 0.209 | 30.9 | 26.8 | 10 | 21.0-120 | | | 14.4 | 30 |
| Indeno(1,2,3-cd)pyrene | 0.0782 | U | 0.236 | 0.198 | 30.2 | 25.4 | 10 | 10.0-120 | | | 17.6 | 30 |
| Isophorone | 0.0782 | U | 0.403 | 0.401 | 51.5 | 51.3 | 10 | 38.0-120 | | | 0.410 | 22 |

## L917542-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L917542-03 06/28/17 16:54 • (MS) R3229484-4 06/28/17 17:21 • (MSD) R3229484-5 06/28/17 17:47

| Analyte | Spike Amount (dry) mg/kg | Original Result (dry) mg/kg | MS Result (dry) mg/kg | MSD Result (dry) mg/kg | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Naphthalene | 0.0782 | U | 0.417 | 0.396 | 53.4 | 50.7 | 10 | 37.0-120 | | | 5.19 | 25 |
| 2-Methylphenol | 0.0782 | U | ND | 0.565 | 0.000 | 72.3 | 10 | 34.0-120 | J6 | J3 | 200 | 26 |
| Nitrobenzene | 0.0782 | U | 0.356 | 0.381 | 45.6 | 48.8 | 10 | 32.0-120 | | | 6.77 | 24 |
| 3&4-Methyl Phenol | 0.0782 | U | 0.598 | 0.574 | 76.5 | 73.5 | 10 | 35.0-120 | | | 4.03 | 25 |
| n-Nitrosodiphenylamine | 0.0782 | U | 0.458 | 0.411 | 58.6 | 52.6 | 10 | 20.0-125 | | | 10.7 | 25 |
| n-Nitrosodi-n-propylamine | 0.0782 | U | 0.418 | 0.367 | 53.5 | 46.9 | 10 | 34.0-120 | | | 13.2 | 23 |
| Phenanthrene | 0.0782 | U | 0.559 | 0.472 | 71.5 | 60.4 | 10 | 24.0-124 | | | 16.8 | 25 |
| Benzylbutyl phthalate | 0.0782 | U | 0.599 | 0.725 | 76.6 | 92.7 | 10 | 18.0-130 | | | 19.0 | 27 |
| Bis(2-ethylhexyl)phthalate | 0.0782 | U | 0.566 | 0.545 | 72.4 | 69.8 | 10 | 19.0-127 | | | 3.75 | 28 |
| Di-n-butyl phthalate | 0.0782 | U | 0.509 | 0.486 | 65.1 | 62.1 | 10 | 29.0-120 | | | 4.61 | 26 |
| Diethyl phthalate | 0.0782 | U | 0.528 | 0.538 | 67.6 | 68.8 | 10 | 42.0-121 | | | 1.70 | 23 |
| Dimethyl phthalate | 0.0782 | U | 0.519 | 0.506 | 66.4 | 64.7 | 10 | 42.0-120 | | | 2.59 | 23 |
| 1,2,4,5-Tetrachlorobenzene | 0.0782 | U | ND | ND | 0.000 | 0.000 | 10 | 40.0-120 | J6 | J6 | 0.000 | 22 |
| Di-n-octyl phthalate | 0.0782 | U | 0.552 | 0.527 | 70.6 | 67.5 | 10 | 21.0-122 | | | 4.54 | 27 |
| 2,4,5-Trichlorophenol | 0.0782 | U | 0.549 | 0.533 | 70.2 | 68.1 | 10 | 40.0-126 | | | 3.01 | 24 |
| Pyrene | 0.0782 | U | 0.672 | 0.537 | 85.9 | 68.7 | 10 | 19.0-127 | | | 22.3 | 29 |
| 4-Chloro-3-methylphenol | 0.0782 | U | 0.515 | 0.452 | 65.8 | 57.9 | 10 | 37.0-121 | | | 12.9 | 23 |
| 2-Chlorophenol | 0.0782 | U | 0.452 | 0.416 | 57.9 | 53.2 | 10 | 34.0-120 | | | 8.49 | 25 |
| 2,4-Dichlorophenol | 0.0782 | U | 0.468 | 0.464 | 59.9 | 59.4 | 10 | 41.0-120 | | | 0.800 | 22 |
| 2,4-Dimethylphenol | 0.0782 | U | ND | ND | 0.000 | 0.000 | 10 | 27.0-120 | J6 | J6 | 0.000 | 25 |
| 4,6-Dinitro-2-methylphenol | 0.0782 | U | ND | ND | 0.000 | 0.000 | 10 | 10.0-131 | J6 | J6 | 0.000 | 29 |
| 2,4-Dinitrophenol | 0.0782 | U | ND | ND | 0.000 | 0.000 | 10 | 10.0-142 | J6 | J6 | 0.000 | 30 |
| 2-Nitrophenol | 0.0782 | U | 0.389 | 0.387 | 49.7 | 49.5 | 10 | 34.0-124 | | | 0.570 | 27 |
| 4-Nitrophenol | 0.0782 | U | ND | ND | 0.000 | 0.000 | 10 | 26.0-133 | J6 | J6 | 0.000 | 25 |
| Pentachlorophenol | 0.0782 | U | 1.09 | 1.08 | 140 | 139 | 10 | 15.0-152 | | | 1.01 | 26 |
| Phenol | 0.0782 | U | 0.511 | 0.481 | 65.4 | 61.5 | 10 | 33.0-120 | | | 6.16 | 24 |
| 2,4,6-Trichlorophenol | 0.0782 | U | 0.523 | 0.509 | 66.9 | 65.1 | 10 | 40.0-125 | | | 2.84 | 24 |
| *(S) Nitrobenzene-d5* | | | | | *48.6* | *50.9* | | *18.0-125* | | | | |
| *(S) 2-Fluorobiphenyl* | | | | | *61.3* | *55.9* | | *28.0-120* | | | | |
| *(S) p-Terphenyl-d14* | | | | | *65.6* | *63.6* | | *13.0-131* | | | | |
| *(S) Phenol-d5* | | | | | *63.8* | *57.6* | | *20.0-120* | | | | |
| *(S) 2-Fluorophenol* | | | | | *65.5* | *53.5* | | *20.0-120* | | | | |
| *(S) 2,4,6-Tribromophenol* | | | | | *61.2* | *58.1* | | *17.0-137* | | | | |

**Sample Narrative:**

OS: Dilution due to matrix impact during extract concentration procedure

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

## Method Blank (MB)

(MB) R3230208-3 06/30/17 03:30

| Analyte | MB Result mg/l | MB Qualifier | MB MDL mg/l | MB RDL mg/l |
|---|---|---|---|---|
| 1,4-Dichlorobenzene | U | | 0.0333 | 0.100 |
| 2,4-Dinitrotoluene | U | | 0.0333 | 0.100 |
| Hexachlorobenzene | U | | 0.0333 | 0.100 |
| Hexachloro-1,3-butadiene | U | | 0.0333 | 0.100 |
| Hexachloroethane | U | | 0.0333 | 0.100 |
| Nitrobenzene | U | | 0.0333 | 0.100 |
| Pyridine | U | | 0.0333 | 0.100 |
| 2-Methylphenol | U | | 0.0333 | 0.100 |
| 3&4-Methyl Phenol | U | | 0.0333 | 0.100 |
| Pentachlorophenol | U | | 0.0333 | 0.100 |
| 2,4,5-Trichlorophenol | U | | 0.0333 | 0.100 |
| 2,4,6-Trichlorophenol | U | | 0.0333 | 0.100 |
| *(S) Nitrobenzene-d5* | *56.3* | | | *10.0-126* |
| *(S) 2-Fluorobiphenyl* | *66.0* | | | *22.0-127* |
| *(S) p-Terphenyl-d14* | *93.4* | | | *29.0-141* |
| *(S) Phenol-d5* | *24.5* | | | *10.0-120* |
| *(S) 2-Fluorophenol* | *36.8* | | | *10.0-120* |
| *(S) 2,4,6-Tribromophenol* | *75.5* | | | *10.0-153* |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3230208-1 06/30/17 02:19 • (LCSD) R3230208-2 06/30/17 02:42

| Analyte | Spike Amount mg/l | LCS Result mg/l | LCSD Result mg/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,4-Dichlorobenzene | 0.0500 | 0.0196 | 0.0245 | 39.2 | 48.9 | 26.0-120 | | | 22.0 | 30 |
| 2,4-Dinitrotoluene | 0.0500 | 0.0296 | 0.0414 | 59.3 | 82.8 | 47.0-127 | | J3 | 33.1 | 21 |
| Hexachlorobenzene | 0.0500 | 0.0277 | 0.0402 | 55.3 | 80.3 | 41.0-124 | | J3 | 36.9 | 21 |
| Hexachloro-1,3-butadiene | 0.0500 | 0.0203 | 0.0240 | 40.5 | 48.0 | 26.0-120 | | | 16.9 | 31 |
| Hexachloroethane | 0.0500 | 0.0189 | 0.0231 | 37.8 | 46.2 | 22.0-120 | | | 20.0 | 34 |
| Nitrobenzene | 0.0500 | 0.0219 | 0.0267 | 43.8 | 53.4 | 31.0-120 | | | 19.8 | 28 |
| Pyridine | 0.0500 | 0.0152 | 0.0159 | 30.5 | 31.8 | 10.0-120 | | | 4.23 | 39 |
| 2-Methylphenol | 0.0500 | 0.0208 | 0.0260 | 41.7 | 52.0 | 26.0-120 | | | 22.0 | 27 |
| 3&4-Methyl Phenol | 0.0500 | 0.0228 | 0.0290 | 45.6 | 57.9 | 27.0-120 | | | 23.7 | 28 |
| Pentachlorophenol | 0.0500 | 0.0223 | 0.0329 | 44.6 | 65.8 | 20.0-126 | | J3 | 38.5 | 32 |
| 2,4,5-Trichlorophenol | 0.0500 | 0.0284 | 0.0392 | 56.7 | 78.3 | 44.0-124 | | J3 | 32.0 | 24 |
| 2,4,6-Trichlorophenol | 0.0500 | 0.0271 | 0.0381 | 54.2 | 76.1 | 40.0-122 | | J3 | 33.7 | 24 |
| *(S) Nitrobenzene-d5* | | | | *49.8* | *61.7* | *10.0-126* | | | | |
| *(S) 2-Fluorobiphenyl* | | | | *59.8* | *79.0* | *22.0-127* | | | | |
| *(S) p-Terphenyl-d14* | | | | *66.4* | *93.1* | *29.0-141* | | | | |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3230208-1 06/30/17 02:19 • (LCSD) R3230208-2 06/30/17 02:42

| Analyte | Spike Amount mg/l | LCS Result mg/l | LCSD Result mg/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| *(S) Phenol-d5* | | | | *25.1* | *29.2* | *10.0-120* | | | | |
| *(S) 2-Fluorophenol* | | | | *34.9* | *41.2* | *10.0-120* | | | | |
| *(S) 2,4,6-Tribromophenol* | | | | *64.2* | *90.4* | *10.0-153* | | | | |

## L918168-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L918168-01 06/30/17 03:54 • (MS) R3230208-4 06/30/17 04:17 • (MSD) R3230208-5 06/30/17 04:41

| Analyte | Spike Amount mg/l | Original Result mg/l | MS Result mg/l | MSD Result mg/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,4-Dichlorobenzene | 0.500 | ND | 0.255 | 0.195 | 51.0 | 39.0 | 1 | 12.0-125 | | J3 | 26.8 | 23 |
| 2,4-Dinitrotoluene | 0.500 | ND | 0.465 | 0.383 | 93.0 | 76.5 | 1 | 30.0-156 | | | 19.4 | 29 |
| Hexachlorobenzene | 0.500 | ND | 0.455 | 0.390 | 91.0 | 78.0 | 1 | 29.0-144 | | | 15.4 | 33 |
| Hexachloro-1,3-butadiene | 0.500 | ND | 0.291 | 0.252 | 58.3 | 50.5 | 1 | 18.0-122 | | | 14.4 | 35 |
| Hexachloroethane | 0.500 | ND | 0.252 | 0.195 | 50.4 | 39.0 | 1 | 12.0-120 | | | 25.4 | 36 |
| Nitrobenzene | 0.500 | ND | 0.267 | 0.209 | 53.4 | 41.8 | 1 | 14.0-134 | | | 24.2 | 32 |
| Pyridine | 0.500 | ND | 0.117 | 0.0897 | 23.4 | 17.9 | 1 | 10.0-120 | | | 26.6 | 40 |
| 2-Methylphenol | 0.500 | ND | 0.245 | 0.197 | 49.1 | 39.4 | 1 | 14.0-120 | | | 21.8 | 29 |
| 3&4-Methyl Phenol | 0.500 | ND | 0.268 | 0.222 | 53.6 | 44.3 | 1 | 13.0-124 | | | 19.0 | 26 |
| Pentachlorophenol | 0.500 | ND | 0.435 | 0.376 | 87.0 | 75.2 | 1 | 10.0-160 | | | 14.6 | 40 |
| 2,4,5-Trichlorophenol | 0.500 | ND | 0.441 | 0.359 | 88.1 | 71.8 | 1 | 15.0-160 | | | 20.4 | 27 |
| 2,4,6-Trichlorophenol | 0.500 | ND | 0.437 | 0.348 | 87.5 | 69.5 | 1 | 10.0-153 | | | 22.8 | 29 |
| *(S) Nitrobenzene-d5* | | | | | *60.3* | *49.0* | | *10.0-126* | | | | |
| *(S) 2-Fluorobiphenyl* | | | | | *89.4* | *75.8* | | *22.0-127* | | | | |
| *(S) p-Terphenyl-d14* | | | | | *78.5* | *78.7* | | *29.0-141* | | | | |
| *(S) Phenol-d5* | | | | | *26.6* | *21.0* | | *10.0-120* | | | | |
| *(S) 2-Fluorophenol* | | | | | *39.6* | *30.6* | | *10.0-120* | | | | |
| *(S) 2,4,6-Tribromophenol* | | | | | *112* | *94.1* | | *10.0-153* | | | | |

## Abbreviations and Definitions

| | |
|---|---|
| SDG | Sample Delivery Group. |
| MDL | Method Detection Limit. |
| MDL (dry) | Method Detection Limit. |
| RDL (dry) | Reported Detection Limit. |
| RDL | Reported Detection Limit. |
| ND | Not detected at the Reporting Limit (or MDL where applicable). |
| U | Not detected at the Reporting Limit (or MDL where applicable). |
| RPD | Relative Percent Difference. |
| (dry) | Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils]. |
| Original Sample | The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG. |
| (S) | Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media. |
| Rec. | Recovery. |

| Qualifier | Description |
|---|---|
| J | The identification of the analyte is acceptable; the reported value is an estimate. |
| J0 | J0: Calibration verification outside of acceptance limits. Result is estimated. |
| J3 | The associated batch QC was outside the established quality control range for precision. |
| J4 | The associated batch QC was outside the established quality control range for accuracy. |
| J5 | The sample matrix interfered with the ability to make any accurate determination; spike value is high. |
| J6 | The sample matrix interfered with the ability to make any accurate determination; spike value is low. |
| O1 | The analyte failed the method required serial dilution test and/or subsequent post-spike criteria. These failures indicate matrix interference. |
| V | The sample concentration is too high to evaluate accurate spike recoveries. |

ESC Lab Sciences is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our "one location" design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be **YOUR LAB OF CHOICE.**
* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

## State Accreditations

| | | | |
|---|---|---|---|
| Alabama | 40660 | Nevada | TN-03-2002-34 |
| Alaska | UST-080 | New Hampshire | 2975 |
| Arizona | AZ0612 | New Jersey–NELAP | TN002 |
| Arkansas | 88-0469 | New Mexico | TN00003 |
| California | 01157CA | New York | 11742 |
| Colorado | TN00003 | North Carolina | Env375 |
| Conneticut | PH-0197 | North Carolina [1] | DW21704 |
| Florida | E87487 | North Carolina [2] | 41 |
| Georgia | NELAP | North Dakota | R-140 |
| Georgia [1] | 923 | Ohio–VAP | CL0069 |
| Idaho | TN00003 | Oklahoma | 9915 |
| Illinois | 200008 | Oregon | TN200002 |
| Indiana | C-TN-01 | Pennsylvania | 68-02979 |
| Iowa | 364 | Rhode Island | 221 |
| Kansas | E-10277 | South Carolina | 84004 |
| Kentucky [1] | 90010 | South Dakota | n/a |
| Kentucky [2] | 16 | Tennessee [1 4] | 2006 |
| Louisiana | AI30792 | Texas | T 104704245-07-TX |
| Maine | TN0002 | Texas [5] | LAB0152 |
| Maryland | 324 | Utah | 6157585858 |
| Massachusetts | M-TN003 | Vermont | VT2006 |
| Michigan | 9958 | Virginia | 109 |
| Minnesota | 047-999-395 | Washington | C1915 |
| Mississippi | TN00003 | West Virginia | 233 |
| Missouri | 340 | Wisconsin | 9980939910 |
| Montana | CERT0086 | Wyoming | A2LA |
| Nebraska | NE-OS-15-05 | | |

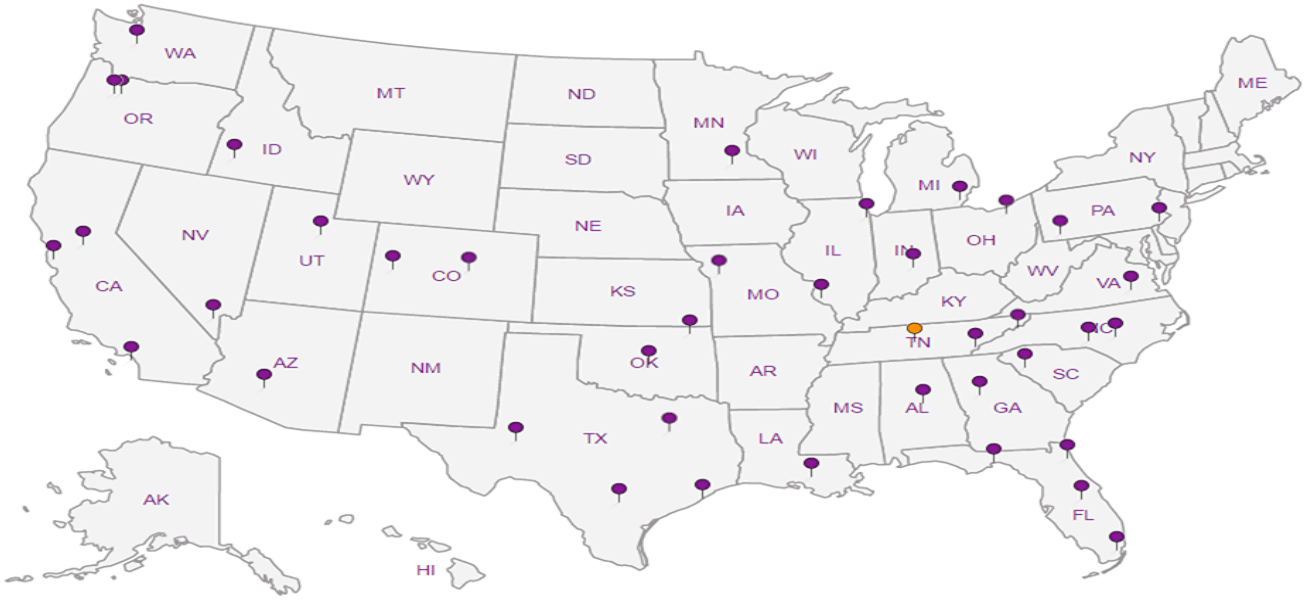
## Third Party & Federal Accreditations

| | | | |
|---|---|---|---|
| A2LA – ISO 17025 | 1461.01 | AIHA-LAP,LLC | 100789 |
| A2LA – ISO 17025 [5] | 1461.02 | DOD | 1461.01 |
| Canada | 1461.01 | USDA | S-67674 |
| EPA–Crypto | TN00003 | | |

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [n/a] Accreditation not applicable

## Our Locations

ESC Lab Sciences has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. **ESC Lab Sciences performs all testing at our central laboratory.**



| | | |
|---|---|---|
| **GHD**<br>285 Delaware Ave.<br>Suite 500<br>Buffalo, NY 14202 | Billing Information:<br>Mr. Dave Rowlinson<br>285 Delaware Ave.<br>Suite 500<br>Buffalo, NY 14202 | Pres Chk |
| Report to:<br>Mr. Dave Rowlinson | Email To: dave.rowlinson@ghd.com; jeffrey.cloud@ghd.com | |
| Project<br>Description: Botantical Gardens Investigation | | City/State Collected: N.Ton NY |
| Phone: 716-748-6624<br>Fax: | Client Project #<br>1137154-100 | Lab Project #<br>STEARNSANY-1137154 |
| Collected by (print):<br>John Raby | Site/Facility ID # | P.O. #<br>33700390 |
| Collected by (signature):<br>Immediately Packed on Ice N ___ Y X | *Rush?* (Lab MUST Be Notified)<br>___ Same Day ___ Five Day<br>___ Next Day ___ 5 Day (Rad Only)<br>___ Two Day ___ 10 Day (Rad Only)<br>___ Three Day | Quote #<br>Date Results Needed |

| Sample ID | Comp/Grab | Matrix * | Depth | Date | Time | No. of Cntrs | CAM 17 mtls, TS 2ozClr-NoPres | SVOCs 4ozClr-NoPres | TCLP 8ozClr-NoPres | V8260TCLC 40ml/NaHSO4/Syr/MeOH | VOC Screen 2ozClr-NoPres | Remarks | Sample # (lab only) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S-062117-SR-001 | G | SS | 4' | 6/21/17 | 1405 | 6 | X | X | | X | X | | -01 |
| S-062117-SR-002 | C | SS | N/A | 6/21/17 | 1430 | 6 | X | X | | X | X | | -02 |
| | | SS | | | | 6 | X | X | | X | X | | |
| | | SS | | | | 6 | X | X | | X | X | | |
| | | SS | | | | 6 | X | X | | X | X | | |
| S-062117-SR-002 | | TCLP | | 6/21/17 | 1430 | 1 | | | X | | | | -03 |

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS X FedEx __ Courier __ _____

Tracking # 7283 4323 6426

| Relinquished by : (Signature) | Date: | Time: | Received by: (Signature) |
|---|---|---|---|
| | 6/22/17 | 11:30 | |
| Relinquished by : (Signature) | Date: | Time: | Received by: (Signature) |
| | | | |
| Relinquished by : (Signature) | Date: | Time: | Received for lab by: (Signature) |
| | | | |

Trip Blank Received: (Yes) No
(HCL) / MeoH
TBR

Temp: 3.6 °C Bottles Received: 13+1 HCL

Date: 6/23/17 Time: 0545

If preservation required by Login: Date/Time

Hold:

Condition: NCF / (OK)

Sample Receipt Checklist
COC Seal Present/Intact: __NP Y __N
COC Signed/Accurate: Y __N
Bottles arrive intact: Y __N
Correct bottles used: Y __N
Sufficient volume sent: Y __N
If Applicable
VOA Zero Headspace: Y __N
Preservation Correct/Checked: __Y __N

Chain of Custody Page ___ of ___

ESC LABORATORIES
YOUR LAB OF CHOICE
12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L# L918279
A192
Tat

Acctnum: STEARNSANY
Template: T121401
Prelogin: P592642
TSR: 364 - T. Alan Harvill
PB: 3/20/17 mw
Shipped Via: FedEX Ground