OPERABLE UNIT 2
REMEDIAL INVESTIGATION REPORT
FORMER ALUMINUM LOUVRE CORPORATION
(NYSDEC Site Number 130195)
Volume 2 – Appendices A-G

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Appendix A
Zymax 3-D CSIA Reports

Forensic Report for Groundwater Samples Collected in Nassau County, New York

Isotope Projects #43222, 43223, 43229 & 43231

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INTRODUCTION

Six groundwater and four trip blank samples were received at the ZymaX Forensics Isotope Laboratory in late September 2013 for volatile organic compounds (VOCs) composition test and stable isotope forensic analysis (Three Dimensional-Compound Specific Isotope Analysis, 3D-CSIA for carbon, chlorine, and hydrogen isotopes of dissolved trichloroethene, TCE). The samples were logged in as, ZymaX Forensics Isotope Projects #43222, 43223, 43229 & 43231, according to the dates of sample receipt. Sample locations are shown in the site map as shown in **Figure 1**.

HDR provided the following background and hydro & geological information regarding the studied "Aluminum Louvre Site":

Background

The Former Aluminum Louvre Corporation site is located at the southeast corner of Bethpage-Sweethollow Road and Winding Road in the Hamlet of Old Bethpage, Town of Oyster Bay in a suburban portion of Nassau County, New York. The site is approximately 3.36 acres in size. The Aluminum Louvre Corporation formerly owned 161 Bethpage-Sweethollow Road and also owned or leased the 301 Winding Road property, and simultaneously occupied both lots that comprise the site since 1986. Aluminum Louvre manufactured louvers at the site, which involved the stamping, cutting, and shaping of metal stock and degreasing and painting. Nassau County records indicate that Aluminum Louvre used PCE, TCE, and 1, 1, 1-TCA at the site from 1986-1994, and generated halogenated solvent waste and oily wastes during this time.

The analytical results for groundwater indicate that chlorinated VOCs and other compounds are present in groundwater at the site. Groundwater at both the 161 and 201 properties is impacted with chlorinated VOCs above applicable standards, most notably TCE, PCE, DCE, and 1, 1, 1-TCA, and less widespread, toluene and xylene. The contamination originates mostly at a source area in the northeastern portion of the 301 property and extends from the water table to greater than 125 feet bgs in some areas, both on- and off-site. Groundwater flow is generally to the southeast, while at the site itself, the flow direction at the water table has a more easterly component. As shallow

groundwater moves off-site to the east of the site, the easterly flow changes to a southerly direction.

The highest concentrations of TCE, the main contaminant in groundwater at the site, were found at the water table in the soil source area in the eastern portion of the 301 property, and in the intermediate depths intervals to the east and southeast of the main source area, both on-site and off-site. With increasing distance from the source area, the highest concentrations of TCE and other chlorinated VOCs are found in the deeper sampling intervals of the multi-level wells. The highest off-site concentration of TCE (300 µg/L) was discovered on the 303 Winding Road property to the southeast at 95 feet bgs, in the general direction of groundwater flow. Another area of high TCE concentrations at some distance from the main source area is in the eastern part of the 161 property (TCE to 550 g/L at 70 feet bgs), in the direction of the observed flow of shallow groundwater.

Further to the east and east-southeast, TCE exceeded the NYSDEC standard in the intermediate and deep intervals at two off-site monitoring wells (MW-195-1 and MW-NEMF-3) at depths of 90 feet bgs and deeper. These two wells also had 1, 1, 1-TCA at higher concentrations than in the on-site source area wells, indicating that the observed contamination in this area may at least in part be attributable to another source. A previous investigation reported the historic use of 1, 1, 1-TCA and other solvents at one of the off-site properties to the east (195 property), along with the discovery of amber liquid in a dry well, and an illegal cesspool in the parking lot of the property.

In the area further to the south/southeast of the Former Aluminum Louvre site, a deep upgradient well at the Claremont Polychemical Superfund site has TCE at a concentration of 690µg/L in early 2011. Off-site Aluminum Louvre monitoring wells MW-NEMF-1 and MW-NEMF-2 closest to the upgradient Claremont well had TCE concentrations of non-detect and low µg/L, respectively. Although the possibility exists that groundwater contamination from the Aluminum Louvre site has reached the Claremont site based on groundwater flow direction developed using the Aluminum Louvre wells, the most recent data is inconclusive.

Therefore, isotope forensic evidence is needed to help delineate VOC contamination at the site.

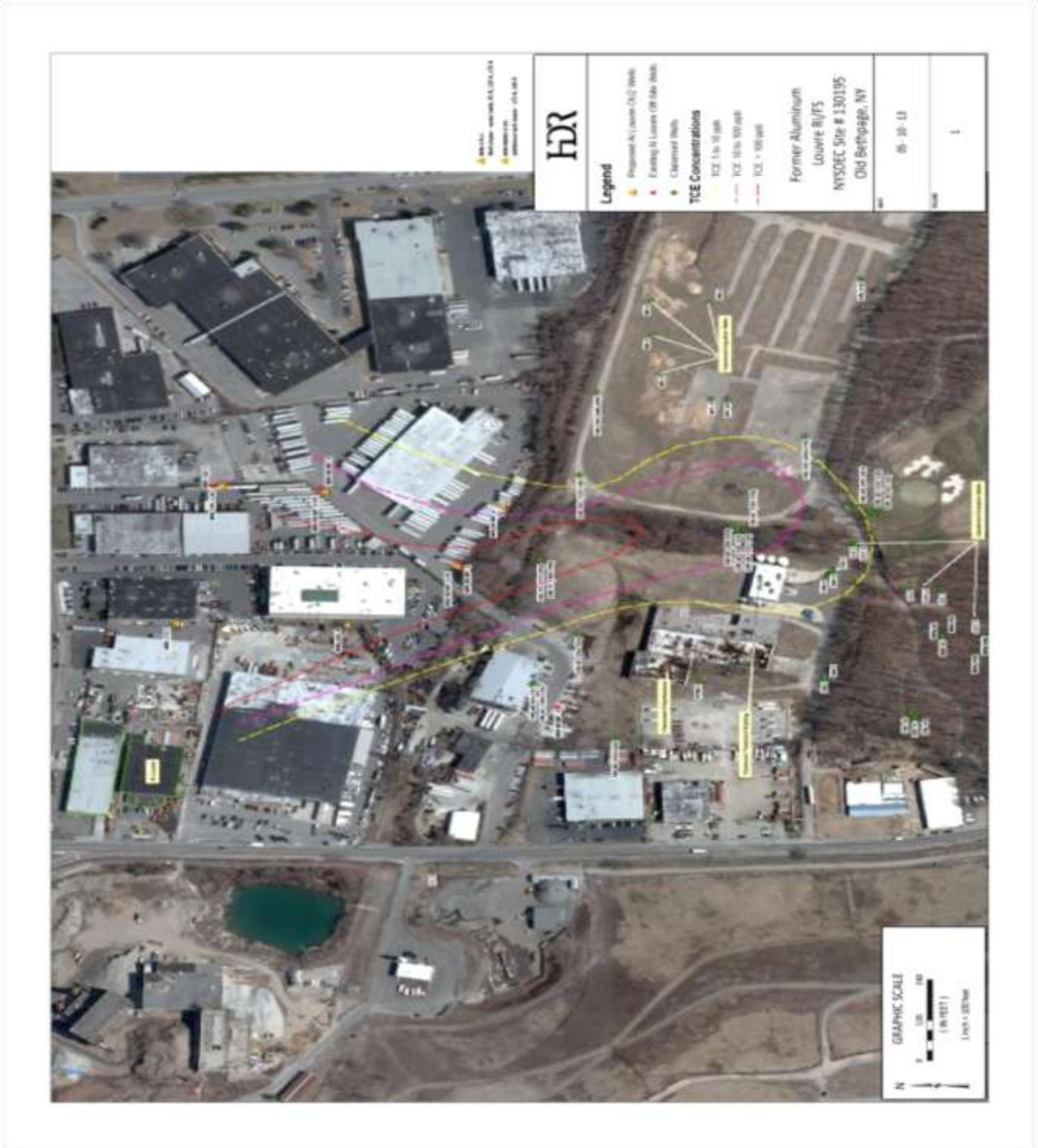

Figure 1 Site plan for 6 groundwater samples collected in the Former Aluminum Louvre Site, NY.

METHODOLOGY

Traditional analytical methods for VOCs and molecular fingerprinting analysis, such as gas chromatograph-mass spectrometry (GC-MS), are unable to differentiate chlorinated solvents, such as PCE and TCE, from different releases (sources), because: (1) unlike petroleum hydrocarbon products which are mixture of hydrocarbons with useful biomarkers and also abundance ratio tools, chlorinated solvents are often used as a single compound, e.g. PCE as a popular dry cleaning reagent; and (2) any chlorinated solvent of different sources are chemically identical on any traditional analytical instruments, such as GC-MS, etc.

Chemically identical PCE or TCE from different sources, however, may have an isotopic difference. If used wisely with caution, compound specific isotope analysis (CSIA) of individual compounds in a sample mixture may help identify chlorinated solvents of the same source, or distinguish between chlorinated solvents from different sources. New lines of evidence provided by the isotope analysis, however, must be consistent with any known site hydrogeology information so that reasonable and defendable conclusions can be made.

The basis of the stable isotope analytical method is that many elements exist in nature in more than one isotopic form (Clark, I. and Fritz, P. 1997). For example, carbon exists in two stable isotopic forms: ^{12}C, with 6 protons and 6 neutrons, accounts for about 99% of carbon; ^{13}C, with also 6 protons while 7 neutrons, accounts for about 1% of carbon. The ratio of the isotopes of an element is not the same in all naturally occurring compounds. There are small variations caused by the different atomic weights of the isotopes. Thus, ^{13}C react the same as ^{12}C in chemical transformations, but the heavier ^{13}C can be discriminated against in processes where weight is important, such as evaporation and diffusion.

The heavier isotope also forms a slightly stronger bond with other atoms (X), and when such bonds are broken in chemical or enzymatic reactions, slightly less of the ^{13}C-X bonds are broken. If all the C-X bonds are broken, the ratio of $^{13}C/^{12}C$ in the starting material is the same as in the product. But if the reaction does not go to completion, the product may be enriched in ^{12}C, and the starting

material enriched in ^{13}C. This isotope fractionation (changes in the isotope ratios) can occur when carbon-containing compounds are biodegraded in the environment.

In the industrial manufacturing of chemicals, including chlorinated solvents, stable isotope ratios of the final product depends on the stable isotope ratios of the feedstock and the manufacturing processes used to convert the feedstock into the final product. For example, many investigations have documented that differences exist in the stable isotope ratios of PCE and TCE produced by various manufacturers (van Warmerdam et al., 1995; Ertl et al., 1998; Shouakar-Stash et al., 2003). Therefore stable isotope ratios determined by CSIA provide a method for potentially discriminating between contaminants such as PCE or TCE from different releases (sources) and as a method for identifying contaminants potentially from the same release (source) at complex sites. This knowledge can be used to identify the parties that were responsible for the contamination (Hunkeler et al., 2004; Stark et al., 2003; Walker, et al., 2005) and CSIA has been accepted as one line of evidence in litigation (U.S. EPA Guidance on CSIA, 2008).

Stable isotope analysis has been recognized by the U.S. Environmental Protection Agency (EPA) as an advanced site diagnostic tool, which has an array of applications for organic pollutants, contaminated site investigation, and remediation. Carbon, chlorine, and hydrogen isotope ratios determined by 3D-CSIA provide a method for potentially discriminating between chlorinated solvents such as PCE and TCE from different releases (sources) or a method for identifying solvents potentially from the same release (source) at complex sites.

Dr. John Wilson from the U.S. EPA has given four webinars featuring the use of stable isotope analyses:

1. June 16, 2010 - Stable Isotopes Analyses to Understand the Degradation of Organic Contaminants in Ground Water (Summary)
2. Sept 9, 2010 - Stable Isotopes Analyses to Understand the Degradation of Organic Contaminants in Ground Water (Part 1)
3. Sept 16, 2010 - Stable Isotopes Analyses to Understand the Degradation of Organic Contaminants in Ground Water (Part 2)

4. Oct 27, 2010 - Applications of Stable Isotopes Analyses to Environmental Forensics (Part 3) and to Understand the Degradation of Chlorinated Organic Contaminants (Part 4)

The U.S. EPA's Report (A Guide for Assessing Biodegradation and Source Identification of Organic Ground Water Contaminants using Compound Specific Isotope Analysis, December 2008) describes the benefits and value of data provided by CSIA, and contrasts the information provided by CSIA to information provided by long-term monitoring of concentrations of contaminants, or information provided from techniques where specific stable isotopes are added to environmental samples.

Stable Isotope Ratios

Stable isotopes are measured as the ratio of the two most abundant isotopes of a given element. For carbon it is the ratio of ^{13}C, with a terrestrial abundance of 1.11%, to common ^{12}C which represents 98.89% of terrestrial carbon. Thus the $^{13}C/^{12}C$ ratio is about 0.011.

Measuring an absolute isotope ratio requires rather sophisticated mass spectrometers. Rather than measuring a "true ratio", its "apparent ratio" can be easily measured by gas source mass spectrometry. To cancel the instrumental error due to operational variations in different laboratories and instruments, etc., a known reference can be measured on the same instrument at the same time (Clark and Fritz, 1997). The difference between the measured ratios of the sample and reference is expressed by the delta (δ) notation. Further, δ values are expressed as parts per thousand or per mil (‰) difference from the reference, for carbon:

$$\delta^{13}C = [(^{13}C/^{12}C_{sample}) / (^{13}C/^{12}C_{standard}) - 1] \times 1000‰ \text{ PDB}$$

where PDB is the name of the reference used, in this case Pee Dee Belemnite, a belemnite rostrum from the Cretaceous Peedee formation of South Carolina. The standard, by definition, has a δ value of 0‰, and samples may have positive or negative δ values depending on whether the sample is enriched or depleted in the heavier isotope relative to the international standard. Positive δ values are commonly referred to as being isotopic heavier and negative δ values are referred to as isotopic

lighter. The sedimentary carbonate PDB lies at the heavy end of the naturally occurring carbon range, so most terrestrial materials on earth have negative δ values. For example, a δ-‰ value that has a positive value of +5‰, signifies that the sample has 0.5% more ^{13}C than the reference, or is enriched by 5‰. Similarly, a sample that is depleted from the reference by this amount would be expressed as $\delta^{13}C$ = -5‰ PDB.

The ratios for the other elements, such as hydrogen, chlorine, oxygen, sulfur, or nitrogen, are expressed in the same way relative to their specific standards. For oxygen or hydrogen isotopes, the accepted reference is Standard Mean Ocean Water (SMOW); for the chlorine isotope, it is Standard Mean Ocean Chloride (SMOC); for the sulfur isotope, it is the troilite (FeS) phase of the Canon Diablo meteorite (CDT); for the nitrogen isotope, it is atmospheric nitrogen (Air).

Stable Isotope Fractionation

The isotopic ratio of an element is not the same in all naturally occurring compounds. There are small variations caused by the different atomic weights of the isotopes. When one of the above heavy isotopes is a part of a compound, its bond to adjacent atoms is slightly stronger than the equivalent bond of the lighter isotope when it is in the same position in another molecule of the same compound. When molecules of this compound enter into chemical or biologically mediated reactions, the molecules with the lighter isotopes react slightly faster than the ones with the equivalent heavier isotopes. Thus, for example, a ^{13}C atom can act the same as ^{12}C in chemical transformations, but the heavier ^{13}C can be discriminated against in such processes. The heavier isotope ^{13}C forms a slightly stronger bond with other atoms (e.g., chlorine), and when such bonds are broken in chemical or enzymatic reactions, slightly less of the ^{13}C-Cl bonds are broken. If all the C-Cl bonds are broken, the ratio of $^{13}C/^{12}C$ in the starting material is the same as in the product. But if the reaction does not go to completion, the product may be enriched in ^{12}C, and the starting material enriched in ^{13}C. This means that, as the reaction proceeds, the reactant that remains has a progressively higher content of the heavy isotope since the molecules containing light isotopes have reacted to form product faster than those containing heavier isotopes. Such process, i.e.,

change in the stable isotope ratios, is called “stable isotope fractionation”. Fractionation processes will slightly modify the stable isotope ratio for any compounds containing a target isotope, such as carbon.

CSIA for Carbon and Hydrogen Isotopes

Under constant operating conditions, the standard deviations of the mean of the replicate measurements for chlorinated solvents are typically within ± 0.5 ‰ for $\delta^{13}C$ values, and ± 5 ‰ for $\delta^{2}H$ values.

CSIA for carbon isotopes involves a three step process using GC-IRMS: (1) separation of individual carbon-bearing compounds on a gas chromatograph (GC from Agilent, USA), (2) quantitative conversion of each compound to CO_2 in a high temperature combustion oven with CuO at 850°C, and (3) removal of H_2O produced in combustion, and introduction of the CO_2 derived from each compound into the isotope ratio mass spectrometer (IRMS from Micromass Isoprime, UK) for isotope analysis (as shown in **Figure 2**).

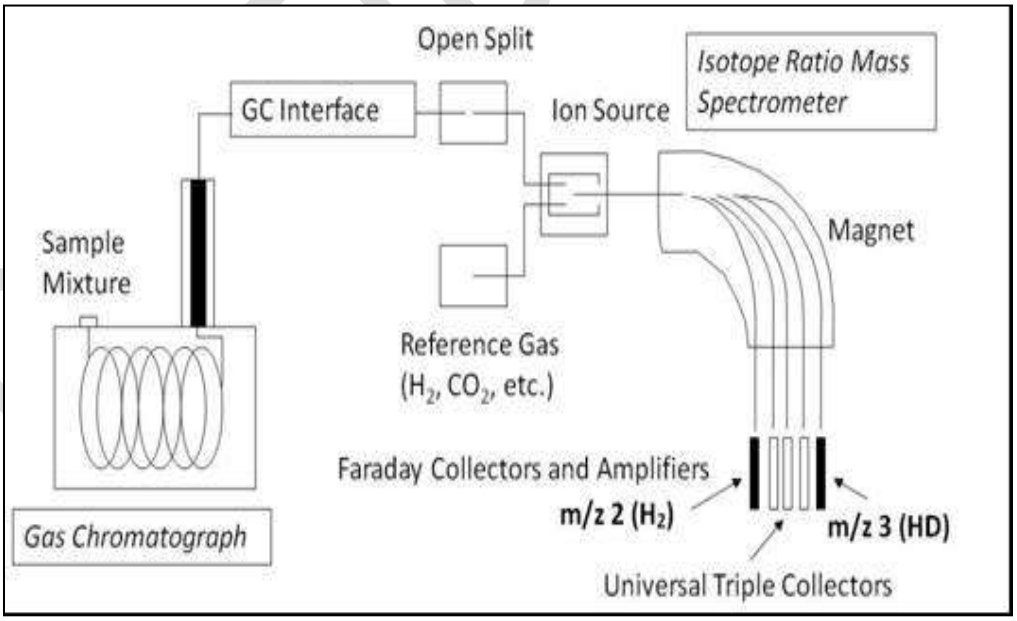

Figure 2 Schematic of the GC-IRMS and general procedure used in carbon and hydrogen CSIA

After ionization of CO_2, the mass spectrometer separates ions with different mass-to-charge ratios in space, allowing the simultaneous measurement of the ions with fixed Faraday cups. The high precision required in CSIA at the natural abundance level of stable isotopes can be achieved only with this simultaneous ion measurement.

A typical GC-IRMS chromatogram by carbon CSIA of chlorinated solvents is shown in **Figures 3**.

For hydrogen isotopes, the same three-step process applies except for the conversion of each compound to H_2 and C in a higher temperature oven with chromium (Cr) at 900°C, and introduction of the H_2 derived from each compound into the mass spectrometer for hydrogen isotope analysis.

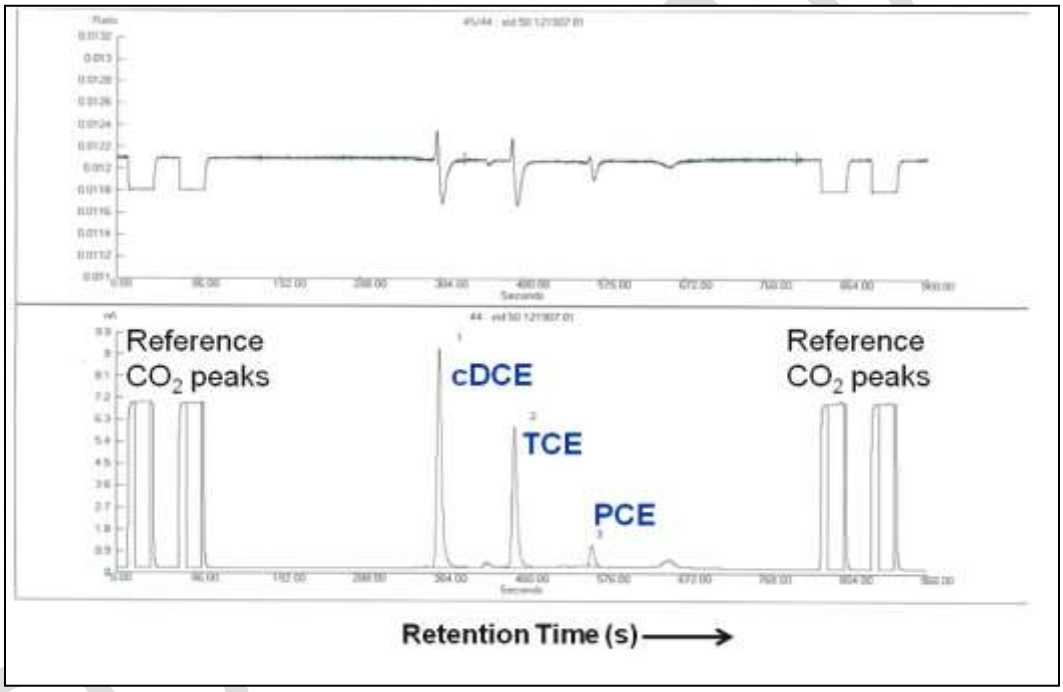

Figure 3 A GC-IRMS Chromatogram by Carbon-CSIA for cDCE, TCE, and PCE

CSIA for Chlorine Isotopes of CVOCs

Unlike carbon and hydrogen isotope CSIA which have become available for decades, until recently, chlorine isotope analysis by traditional methods could not be carried out without lab-intensive, offline pretreatments to convert chlorinated compounds into a molecule containing a single

chlorine atom, such as methyl chloride (CH_3Cl). After such conversion, the chlorine isotope ratio is determined using a dual-inlet isotope ratio mass spectrometer. The complex sample preparation process is the main disadvantage of conventional chlorine isotope analysis. However, high-precision isotopic analysis (±0.1‰) is achievable with these techniques.

Since 2009, chlorine isotopes of CVOCs, including PCE and TCE, have been analyzed using a modified method originally based on work of Sakaguchi-Söder et al. (2007) and later optimized based on work of Jin et al. (2011). This is a simple, quick, and sensitive CSIA method for chlorine isotope of CVOCs by using gas chromatography coupled to a quadrupole mass spectrometer (GC-qMS, Agilent, USA). In contrast to carbon and hydrogen, the two stable isotopes of chlorine are two-mass units apart and both occur at relatively similar abundances (^{35}Cl at 75.78% and ^{37}Cl at 24.22%). These characteristics enable a scanning quadrupole MS to record mass spectral data precisely to calculate isotope ratios. However, unlike an IRMS, which allows detecting several masses simultaneously, a GC-qMS has only one detector, which records selected masses consecutively. Therefore, instrument parameters of a quadrupole MS including dwell time, number of selected masses, etc., are crucial factors for the reproducibility and precision of chlorine CSIA using GC-qMS.

The chlorine isotopes by GC-qMS technique does not require off-line sample pretreatments, but requires complicated mathematical data analysis to derive chlorine isotope ratios from mass spectra. The chlorine isotope ratios of target compounds, such as PCE, are calculated from the peak areas of selected molecular ions and fragment ions of the substances (as shown in **Figure 4**), using a set of unique mathematic equations.

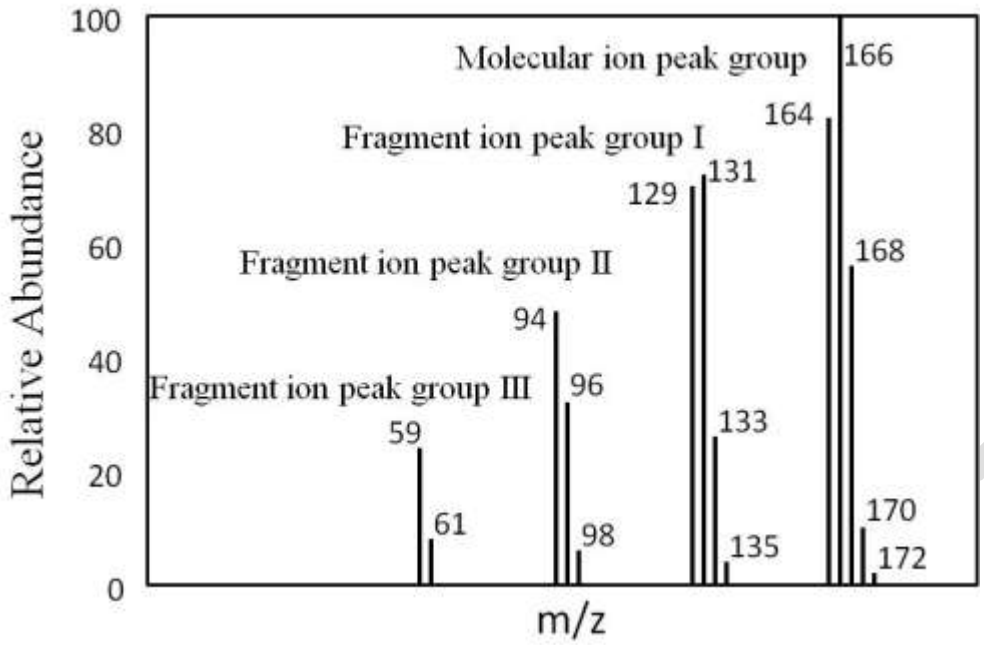

Figure 4 Molecular and Three Fragment Ion Peak Groups of PCE Obtained from a GC-qMS

Besides the evaluable schemes used to calculate chlorine isotope ratios, instrumental settings including split ratio, ionization energy, and dwell times are also evaluated to optimize the chlorine isotope measurement of chlorinated solvents. With the established SPME sample preparation protocols, samples of PCE and TCE at aqueous concentrations greater than 10 µg/L, precisions with relative standard deviations typically are within ±0.5 ‰.

Sample preparation

All groundwater samples collected were preserved with HCl during sample collection in the field. Up to eight VOA vials (40mL) were collected for each sample, so both VOCs and CSIA tests could be performed. Trip blanks filled with pure water were used for each batch of sample collection and submission. All samples received for CSIA were checked for any headspace and noted on the chain of custody forms. All samples were kept in dark in a refrigerator below 4°C while waiting for their VOCs results to become available.

When CSIA is performed on a sample, VOCs are extracted from water samples on a Solid Phase Micro-Extraction (SPME) fiber (U.S. EPA 2008). In a temperature-controlled room at 25°C, the SPME fiber is placed in the headspace of a vial above 35mL of the water sample, which has been allowed to stir for 60 minutes to achieve equilibrium of the volatile compounds between water and headspace. After another 30 minutes, the SPME fiber is inserted into the GC injection port.

VOCs are desorbed from the SPME fiber at a high temperature (250°C) in the GC injection port and into a helium carrier gas flow. *c*DCE, TCE, and PCE, etc., if present are separated on the GC column, flushed in the carrier gas through the furnace to convert the carbon or hydrogen in each compound to CO_2 or H_2 and the isotope ratios are measured in the IRMS. Three pulses of reference gas are injected during each sample run to calibrate CO_2 or H_2 signals from the sample peaks. For chlorine isotope analysis, separated CVOCs enter the ion source of mass spectrometer detector directly for analysis.

RESULTS AND DISCUSSION

Six wells were chosen for groundwater sample collection in this study. Four trip blanks arrived along with GW samples. The concentrations of VOCs were measured by EPA 8260B (**Table 1**).

Table 1 Chlorinated VOCs result in samples collected for 3D-CSIA isotopic forensics

ZymaX Lab ID	Sample Well ID	Concentrations of Chlorinated VOCs in µg/L					
		PCE	TCE	*c*DCE	1,1-DCE	1,1-DCA	1,1,1-TCA
43229-1	MW-301-1-S-CSIA	90	2900	64	<20	<20	<20
43222-1	MW-195-1-I-CSIA	14	56	1.2	9.6	3.9	26
43222-2	MW-NEMF-3-D-CSIA	3	32	<1	<1	<1	<1
43223-1	MW-NEMF-2-D-CSIA	28	53	1.3	<1	2.9	3.7
43223-2	EW-7C-CSIA	13	300	5.5	<2	<2	<2
43231-1	EW-7D-CSIA	<1	3.7	<1	<1	<1	<1
43222-3	TB09172013	<1	<1	<1	<1	<1	<1
43223-3	TB09182013	<1	<1	<1	<1	<1	<1
43229-2	TB09192013	<1	<1	<1	<1	<1	<1
43231-2	TB09202013	<1	<1	<1	<1	<1	<1

PCE: Tetrachloroethylene
TCE: Trichloroethylene
*c*DCE: *cis*-1, 2-Dichloroethylene
1, 1-DCE: 1, 1-Dichloroethylene
1, 1-DCA: 1, 1-Dichloroethane
1, 1, 1-TCA: 1, 1, 1-trichloroethane

Molecular Fingerprinting Evidence

Four trip blanks were submitted for each batch of sample collection and shipment. Target compounds for this study, TCE, and other Chlorinated VOC compounds were absent in these trip

blank samples, indicating all GW samples were collected without secondary contamination either in the field or during the sample shipment.

As seen in **Table 1**, TCE is the most commonly detected VOCs at the site. As a predominant biodegradation product of TCE/PCE, the tiny amount of cDCE among all chlorinated VOCs in all groundwater samples show insignificant in situ degradation of TCE in the plume, which makes it easier for source identification of TCE at the site.

Among all groundwater samples, MW-195-1-I-CSIA had relatively higher amount of 1,1,1-TCA, 1,1-DCA, and 1,2-DCE. As discussed earlier, an additional source of chlorinated VOCs may exist near this location.

In order to delineate the TCE plume at the site (manufactured TCE products from single or multiple releases), it is necessary to analyze these samples further using the 3D-CSIA isotope fingerprinting approach.

3D-CSIA Isotope Fingerprinting Evidence

Carbon, hydrogen, and chlorine isotope ratios of chlorinated solvent compound TCE in 6 groundwater samples were obtained at ZymaX Forensics Isotope Laboratory in October 2013, which are illustrated in **Table 2**.

Isotope ratios for certain samples were not determined (U) due to either: (1) concentration of target compound was too low to ensure reliable isotopic results; (2) matrix interference, i.e., baseline co-elution affecting the generation of isotopic results.

Isotope ratios for certain samples were labeled “J” because TCE produced a low peak signal and the result is considered usable to ± 1-2 ‰, but not the standard ± 0.5 ‰.

Table 2 3D-CSIA Results of Chlorinated Solvent TCE in 6 GW Samples

ZymaX Lab ID	Sample Well ID	TCE (µg/L)	TCE $\delta^{13}C$	TCE $\delta^{37}Cl$	TCE $\delta^{2}H$
43229-1	MW-301-1-S-CSIA	2900	-29.24	-0.41	502
43222-1	MW-195-1-I-CSIA	56	-34.13	0.96	228
43222-2	MW-NEMF-3-D-CSIA	32	-29.01	-0.15	U
43223-1	MW-NEMF-2-D-CSIA	53	-28.64	-0.06	498
43223-2	EW-7C-CSIA	300	-28.69	-0.21	496
43231-1	EW-7D-CSIA	3.7	J -28.64	U	U

Use of CSIA Data for Site Investigation

The use of stable isotopes to differentiate manufacturers of chlorinated solvents has been proposed as a means to distinguish sources contributing to a co-mingled groundwater plume (Morrison, 1999). CSIA may also provide evidence of the time sequence of multiple releases at a site. The principle behind this is that in older releases biodegradation may have altered the isotope ratio of the target component so the oldest release may be the most altered compared to the most recent one.

The low abundance of ^{37}Cl isotope fraction in chlorinated solvents is bound more tightly to carbon than are ^{35}Cl atoms (Bartholomew et al., 1954). The difference in bond strength results in chlorine isotope fractionation due to temperature and pressure differences during the manufacturing of the chlorinated solvents (Tanaka and Rye, 1991). For example, the isotopic range of TCE (>99.5% TCE) from multiple manufacturers has been reported to be: $\delta^{13}C$= -48.0 to -27.8‰, $\delta^{37}Cl$= -2.54 to +4.08‰, $\delta^{2}H$= -30 to +530‰ (Poulson and Drever, 1999).

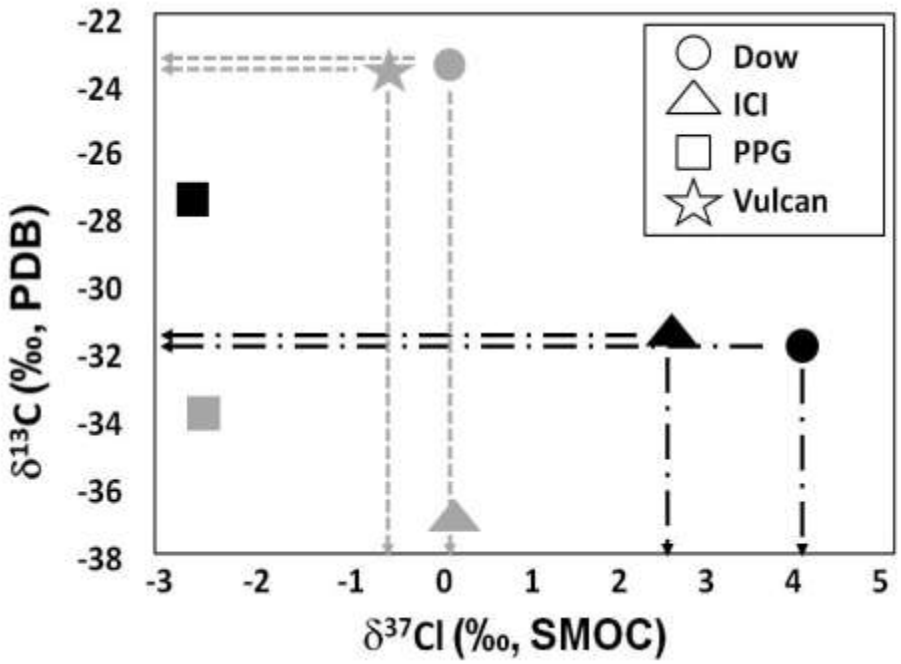

Figure 5 CSIA of PCE (grey) and TCE (black) of 4 manufacturers for $\delta^{13}C$ and $\delta^{37}Cl$ ratios

Figure 5 shows different $\delta^{13}C$ and/or $\delta^{37}Cl$ values of PCE and TCE from four manufacturers (modified from multiple sources). In one case, the isotopic ratios for $^{13}C/^{12}C$ and $^{37}Cl/^{35}Cl$ were used to distinguish among three chlorinated solvent manufacturers (van Warmerdam et al., 1995). In a similar application, ^{13}C and ^{37}Cl were used to discriminate between two different pure phase chlorinated solvent batches obtained from various manufacturers using CSIA (Beneteau et al., 1996).

Many studies have characterized selected chlorinated solvents in terms of their hydrogen, carbon and chlorine isotopic composition. Shouakar-Stash et al. (2003) noted that $\delta^{2}H$ for certain manufactured TCE varied between +466.9‰ and +681.9‰ due to the dehydrochlorination reactions used in the industrial production of TCE, whereas TCE generated as a dechlorination (a degradation pathways) product of PCE was significantly depleted (negative $\delta^{2}H$), a result of H atom incorporation from the environmental water. This suggests that $\delta^{2}H$ of certain chlorinated solvents such as TCE may be a powerful means of distinguishing between degradation products and

manufactured solvents, especially when TCE tested at the site has a fairly high δ^2H values (Wang, 2013).

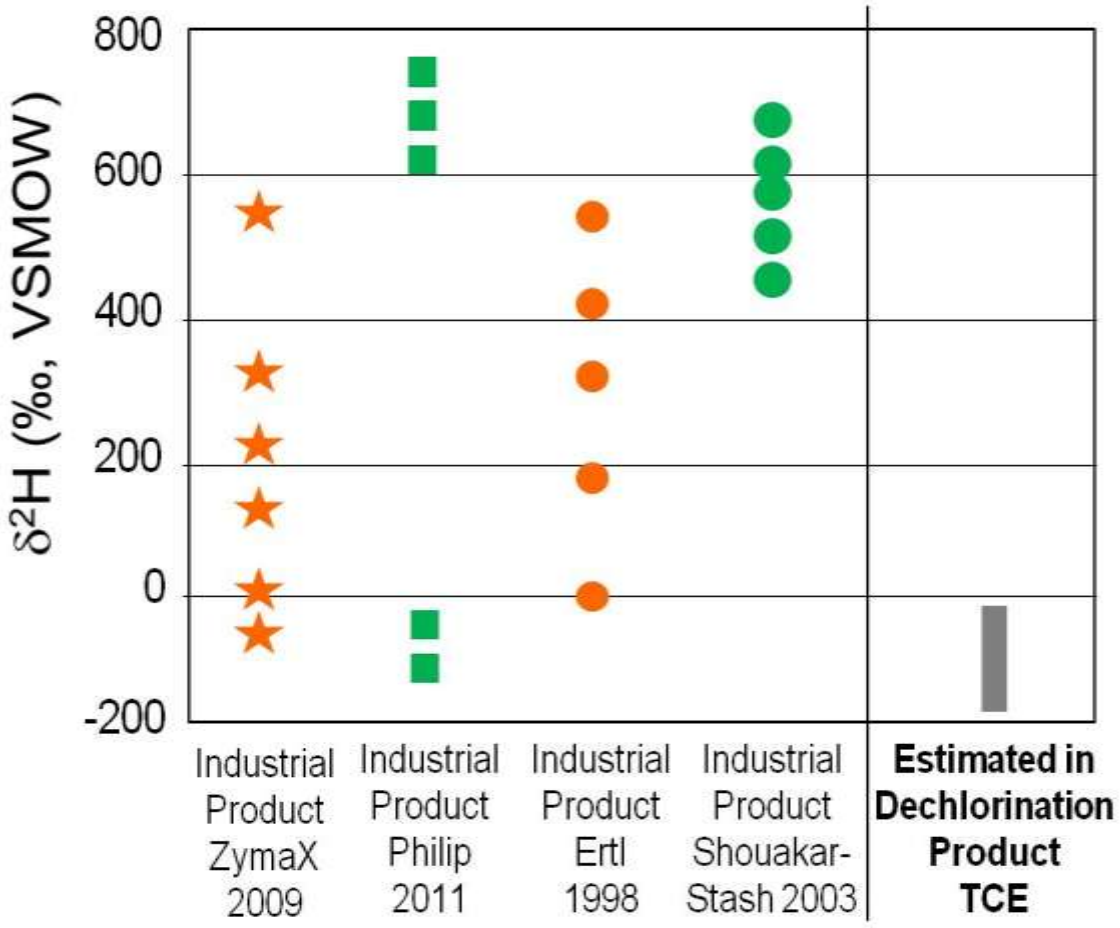

Figure 6 Summary of δ^2H ratios of industrial product TCE and dechlorination product TCE

Multiple Releases of Industrial TCE Products

In **Table 2**, hydrogen isotope analysis of TCE in all groundwater samples from the site showed strong evidence on TCE's origin at the site as industrial TCE products: δ^2H of all TCE detected were positive, between +228 ‰ and +502 ‰, which were within the known δ^2H ratio range in manufactured TCE products as shown in **Figure 6**.

In addition, all TCE detected in the 6 groundwater samples may be divided into two groups based on their different $\delta^{13}C$, $\delta^{37}Cl$, and $\delta^{2}H$ isotope signatures (as highlighted in **Table 2**):

Group 1 includes five wells: MW-301-1-S-CSIA, MW-NEMF-3-D-CSIA, MW-NEMF-2-D-CSIA, EW-7C-CSIA, and EW-7D-CSIA. TCE detected in these wells has uniform isotope signatures: $\delta^{13}C$ between -28.64 ‰ and -29.24 ‰, $\delta^{37}Cl$ between -0.41 ‰ and -0.06 ‰, and $\delta^{2}H$ between +496 ‰ and +502 ‰. This TCE plume was due to a TCE release originating in the 301 property then migrating to the east/southeast.

Group 2 has only one well, MW-195-1-I-CSIA, which is located to the east of the Former Aluminum Louvre Site. TCE in this well has quite different isotope signatures from TCE in group 1: lighter $\delta^{13}C$, heavier $\delta^{37}Cl$, and lighter $\delta^{2}H$ ratios. This plume may have originated from a separate TCE/TCA release near the well MW-195-1-I-CSIA. To its south/down gradient, well MW-NEMF-3D, however, has TCE of quite different isotope signatures (Table 2), indicating the additional TCE release has not affected well MW-NEMF-3D.

CONCLUSIONS

By reviewing both molecular fingerprinting and 3D-CSIA isotope fingerprinting evidence obtained in this study, and considering the already known hydrologic and geologic information from previous site investigation, we are able to distinguish two separate TCE releases at the Former aluminum Louvre Site:

- Five wells seem to have TCE of same origin: MW-301-1-S-CSIA, MW-NEMF-3-D-CSIA, MW-NEMF-2-D-CSIA, EW-7C-CSIA, and EW-7D-CSIA. TCE detected in these wells has uniform isotope signatures. This TCE plume was likely due to a TCE release originating in the 301 property then migrating to the east/southeast.
- Well MW-195-1-I-CSIA, which is located to the east of the Former Aluminum Louvre Site, seems to have TCE of quite different isotope signatures from TCE in the rest of wells. Further 3D-CSIA investigation in this area (soil and GW sampling) should be able to locate this separate TCE release/source.

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Forensic Report for Additional Groundwater Samples Collected in Nassau County, New York

Isotope Project #43359

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January 9th, 2014

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INTRODUCTION

In late September 2013, six groundwater samples were received at the ZymaX Forensics Isotope Laboratory for volatile organic compounds (VOCs) composition test and stable isotope forensic analysis (Three Dimensional-Compound Specific Isotope Analysis, 3D-CSIA for carbon, chlorine, and hydrogen isotopes of dissolved trichloroethene, TCE). The samples were logged in as, ZymaX Forensics Isotope Projects #43222, 43223, 43229 & 43231, according to the dates of sample receipt. 3D-CSIA and VOCs were reported in October 2013.

Based on the previous 3D-CSIA study, 3 plumes seem to exist – one from Al Louvre on the study site; one from 195 determined not to be related to the Al Louvre plume, and one from Claremont.

In late November 2013, two additional groundwater samples were received from the same site for VOCs and 3D-CSIA forensics. The samples were logged in as, ZymaX Forensics Isotope Project #43359.

According to the client, the two additional samples for 3D-CSIA were from:

SW-1. This is located to the southwest of the label "Claremont". This sample is very shallow and it is nearly impossible for it to be related to any other plume except Claremont since it is next to the source area there. A TCE sample representative of the Claremont source area is preferred.

EW-14D. This location is at the far, far lower right hand corner of the map. It would be helpful for 3D-CSIA to determine if the TCE contamination at EW-14D is related to the Al Louvre plume, the 195 plume, the Claremont plume, or an undetermined source.

All sample locations (n=8) for 3D-CSIA forensics are shown in the site map as shown in **Figure 1**.

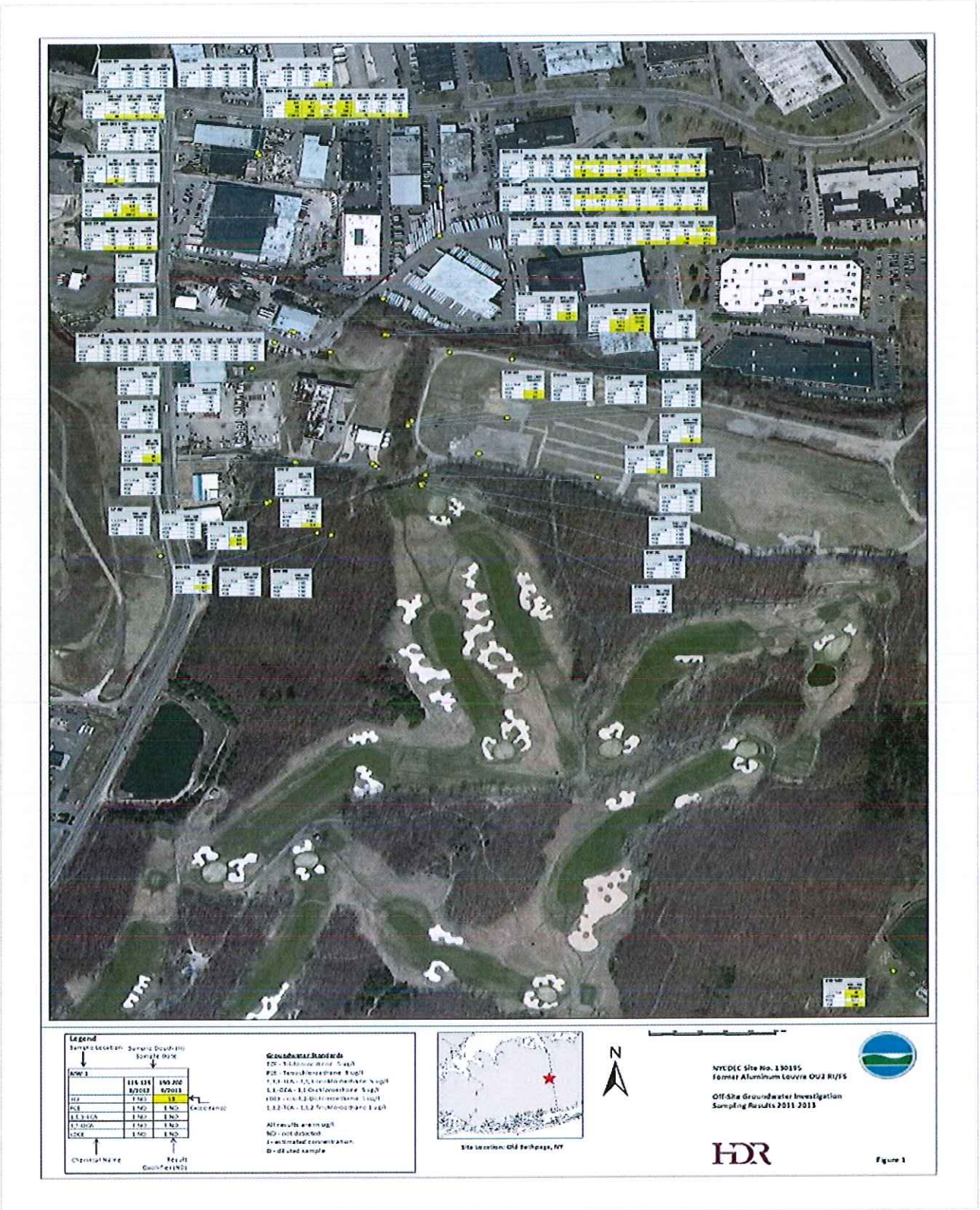


Figure 1 Site plan for 8 groundwater samples collected in the Former Aluminum Louvre Site, NY.

RESULTS AND DISCUSSION

To make our comparison clear, VOCs data in all of 8 groundwater samples from previous and current study were summarized in **Table 1**.

Table 1 Chlorinated VOCs result in samples collected for 3D-CSIA isotopic forensics

ZymaX	Sample	Concentrations of Chlorinated VOCs in µg/L					
Lab ID	Well ID	PCE	TCE	*c*DCE	1,1-DCE	1,1-DCA	1,1,1-TCA
43229-1	MW-301-1-S-CSIA	90	2900	64	<20	<20	<20
43222-1	MW-195-1-I-CSIA	14	56	1.2	9.6	3.9	26
43222-2	MW-NEMF-3-D-CSIA	3	32	<1	<1	<1	<1
43223-1	MW-NEMF-2-D-CSIA	28	53	1.3	<1	2.9	3.7
43223-2	EW-7C-CSIA	13	300	5.5	<2	<2	<2
43231-1	EW-7D-CSIA	<1	3.7	<1	<1	<1	<1
43359-2	SW-1-CSIA	52	6.3	5.0	<1	<1	<1
43359-3	EW-14D-CSIA	2.4	270	1.8	25	<1	33

PCE: Tetrachloroethylene
TCE: Trichloroethylene
*c*DCE: *cis*-1, 2-Dichloroethylene
1, 1-DCE: 1, 1-Dichloroethylene
1, 1-DCA: 1, 1-Dichloroethane
1, 1, 1-TCA: 1, 1, 1-trichloroethane

Molecular Fingerprinting Evidence

Surprisingly, PCE was the most dominant VOC in sample from SW-1, followed by low levels of TCE and their degradation product cDCE (**Table 1**). A separate PCE release was indicated. TCE could be co-released, degradation product of PCE, or a mixture of both.

TCE is the most dominant VOC in sample from EW-14D same as what was observed for the previously studied locations. As a predominant biodegradation product of TCE/PCE, the tiny amount of cDCE among all chlorinated VOCs in sample from EW-14D showed insignificant in situ degradation of TCE, making it easier for source identification of TCE at EW-14D.

Besides PCE/TCE/cDCE, sample from EW-14D had relatively higher amount of 1, 1, 1-TCA and 1, 1-DCE. Similar pattern, however, was observed in samples from both Al Louvre and 195 plumes in the previous study. Therefore, it was possible for TCE in sample EW-14D to have connection with either plume.

3D-CSIA Isotope Fingerprinting Evidence

Carbon, hydrogen, and chlorine isotope ratios of chlorinated solvent compound TCE in all of 8 groundwater samples from previous and current study were summarized in **Table 2**.

Table 2 3D-CSIA Results of Chlorinated Solvent TCE in 6 GW Samples

ZymaX Lab ID	Sample Well ID	TCE (µg/L)	TCE $\delta^{13}C$	TCE $\delta^{37}Cl$	TCE $\delta^{2}H$
43229-1	MW-301-1-S-CSIA	2900	-29.24	-0.41	502
43222-1	MW-195-1-I-CSIA	56	-34.13	0.96	228
43222-2	MW-NEMF-3-D-CSIA	32	-29.01	-0.15	U
43223-1	MW-NEMF-2-D-CSIA	53	-28.64	-0.06	498
43223-2	EW-7C-CSIA	300	-28.69	-0.21	496
43231-1	EW-7D-CSIA	3.7	J -28.64	U	U
43359-2	SW-1-CSIA	6.3	J -26.31	J 0.45	U
43359-3	EW-14D-CSIA	270	-29.01	-0.28	487

Isotope ratios for certain samples were not determined (U) due to either: (1) concentration of target compound was too low to ensure reliable isotopic results; (2) matrix interference, i.e., baseline co-elution affecting the generation of isotopic results.

Isotope ratios for certain samples were labeled "J" because TCE produced a low peak signal and the result is considered usable to ± 1-2 ‰, but not the standard ± 0.5 ‰.

Summary

TCE detected in all of 8 groundwater samples may be divided into three groups based on their different $\delta^{13}C$, $\delta^{37}Cl$, and $\delta^{2}H$ isotope signatures (as highlighted in **Table 2**):

Group 1 includes six wells: MW-301-1-S-CSIA, MW-NEMF-3-D-CSIA, MW-NEMF-2-D-CSIA, EW-7C-CSIA, EW-7D-CSIA, and the newly add-on EW-14D-CSIA. TCE detected in these wells has uniform isotope signatures: $\delta^{13}C$ between -28.64 ‰ and -29.24 ‰, $\delta^{37}Cl$ between -0.41 ‰ and -0.06 ‰, and $\delta^{2}H$ between +487 ‰ and +502 ‰. This TCE plume was due to a TCE release originating in the 301 property then migrating to the east/southeast.

Group 2 has only one well, MW-195-1-I-CSIA, which is located to the east of the Former Aluminum Louvre Site. TCE in this well has quite different isotope signatures from TCE in group 1: lighter $\delta^{13}C$, heavier $\delta^{37}Cl$, and lighter $\delta^{2}H$ ratios. This plume may have originated from a separate TCE/TCA release near the well MW-195-1-I-CSIA. To its south/down gradient, well MW-NEMF-3D, however, has TCE of quite different isotope signatures (Table 2), indicating the additional TCE release has not affected well MW-NEMF-3D.

Group 3 has only one well, the newly add-on SW-1-CSIA, which is located to the southwest of the Claremont source area. TCE in this shallow well has quite different isotope signatures from TCE in groups 1 and 2: a little heavier $\delta^{13}C$ and $\delta^{37}Cl$, with unknown $\delta^{2}H$ ratio due to its low concentrations. TCE in the sample from SW-1 could have originated as a co-released product with PCE, degradation product of PCE, or a mixture of both.

Appendix B
Boring and Well Construction Logs

MW-175-1-D
MW-175-1-I
MW-175-1-S
MW-175-1-VD
MW-303-1-D
MW-303-1-I
MW-303-1-VD
MW-NEMF-2-ED
MW-NEMF-2-VD
MW-NEMF-3-ED
MW-NEMF-3-VD
MW-NEMF-4-D
MW-NEMF-4-ED
MW-NEMF-4-VD

Borehole / Well Completion Log

Client NYSDEC **Well ID** *MW-175-1-D*

Project Aluminum Louvre OU2 RI/FS **Project No.** 147-147461

Drilling

Drilling Contractor	*AES*	Start Date	*10/7/2013*	Northing	*216944.5*
Drilled by	*RYAN*	Completion Date	*10/8/2013*	Easting	*1138652.8*
Logged By	*JB*	Borehole Depth (ft)	*129.0*	Surface Elev.(ft)	*134.1*
Drilling Method	*HSA*	Borehole Dia. (in)	*4.25 ID/ 8.5 OD*	TOC Elev. (ft)	*133.8*

Samples

Sample Method	N/A	Sample Interval	N/A	Date:	12/2/2013
				DTW (ft. btoc)	69.3
				* DTW measured after well development	

Well

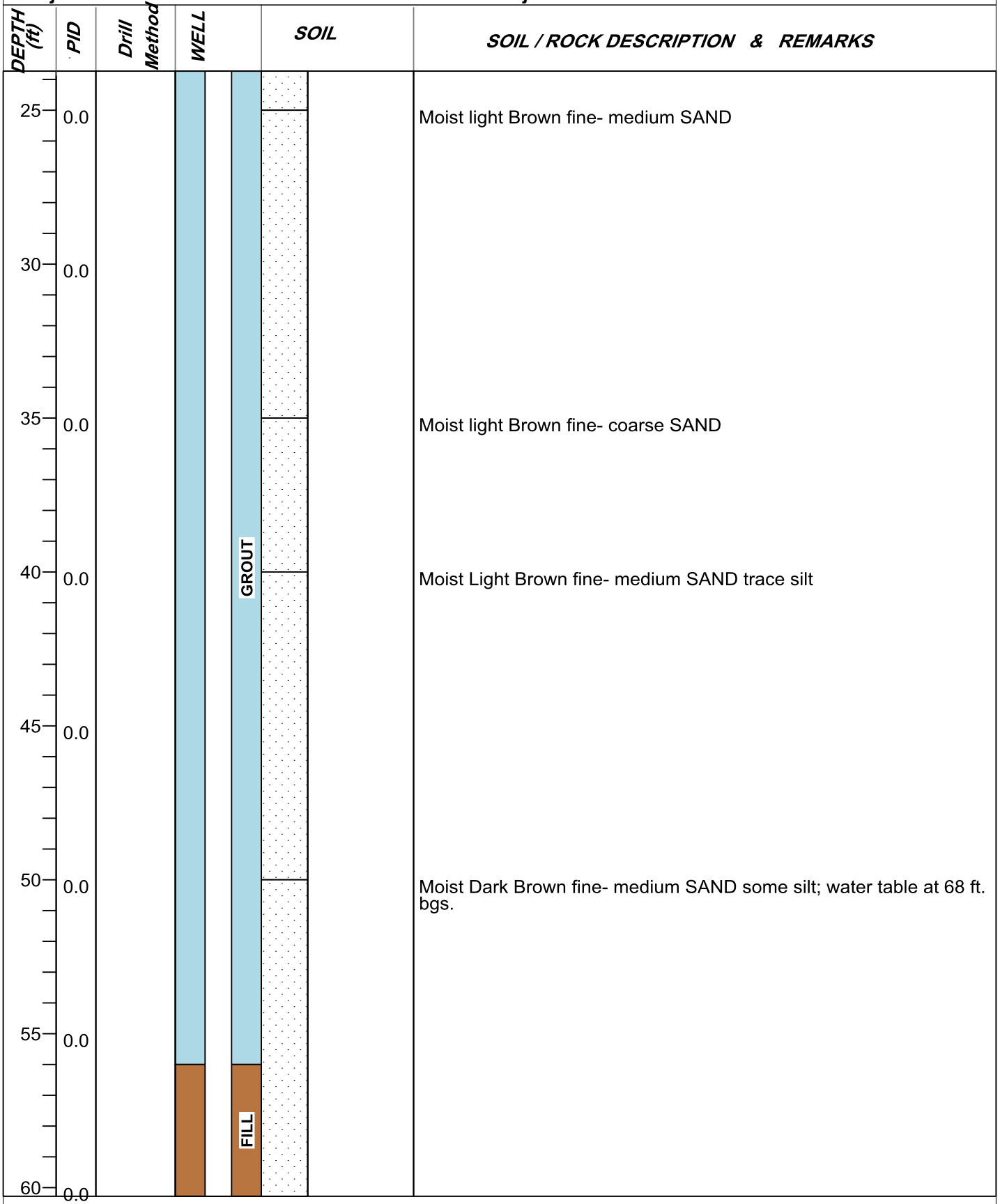
Well Depth (bgs)	125.0	Filter Material	SAND	Notes:	*MW-175-S/I/D Nested Well*
Screen Interval (ft)	115-125	Filter Interval (ft)	115-125		
Screen Type	Sch. 40 PVC	Amount	9 Bags		
Slot Size (in)	0.0	Seal Material	BENTONITE PLUG		
Development	Hand Checked	Seal Interval (ft)	100-103		
Well Diameter (in)	1.0	Amount	2.5 gals		
		Grout Interval	0-56'		
		Amount	9 cement, 6 grout		

DEPTH (ft)	PID	Drill Method	WELL	SOIL	SOIL / ROCK DESCRIPTION & REMARKS
0	0.0	HSA		FILL	Asphalt, fill (bricks and cement)
				SAND	Dry Light brown fine to medium SAND trace coarse sand and silt
5	0.0				
10	0.0		GROUT		Moist Dark Brown medium SAND trace fine gravel
15	0.0				
20	2.0				Moist Dark Brown fine- medium SAND

Borehole / Well Completion Log

Client NYSDEC **Well ID** *MW-175-1-D*

Project Aluminum Louvre OU2 RI/FS **Project No.** 147-147461



Borehole / Well Completion Log

Client NYSDEC **Well ID** *MW-175-1-D*

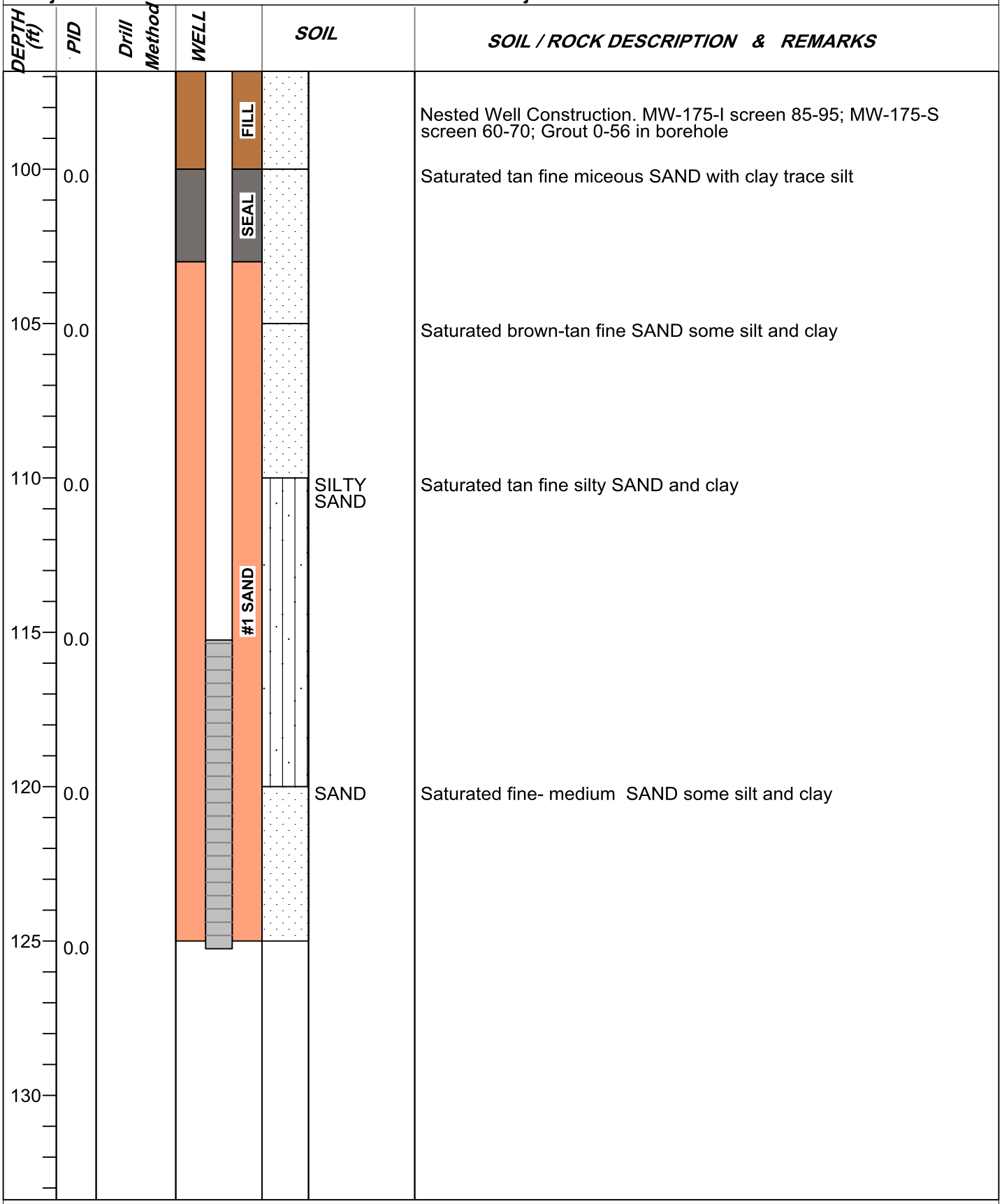
Project Aluminum Louvre OU2 RI/FS **Project No.** 147-147461

DEPTH (ft)	PID	Drill Method	WELL	SOIL	SOIL / ROCK DESCRIPTION & REMARKS
	0.0				
65	0.4				
▽ 70	0.2				Wet Brown fine-medium SAND some silt trace clay
75	0.0				Wet Orange- Brown fine- medium SAND some orange silt
80	0.0			FILL	
85	0.1				Saturated yellowish orange fine SAND some medium sand trace silt
90	0.0				Saturated brown fine- medium miceous SAND some silt and clay.
95	0.0				

Borehole / Well Completion Log

Client NYSDEC **Well ID** *MW-175-1-D*

Project Aluminum Louvre OU2 RI/FS **Project No.** 147-147461



Borehole / Well Completion Log

Client NYSDEC **Well ID** *MW-175-1-I*

Project Aluminum Louvre OU2 RI/FS **Project No.** 147-147461

Drilling

Drilling Contractor	*AES*	Start Date	*10/7/2013*	Northing	*216944.5*
Drilled by	*RYAN*	Completion Date	*10/8/2013*	Easting	*1138652.8*
Logged By	*JB*	Borehole Depth (ft)	*95.0*	Surface Elev.(ft)	*134.1*
Drilling Method	*HSA*	Borehole Dia. (in)	*4.25 ID/ 8.5 OD*	TOC Elev. (ft)	*133.8*

Samples

Sample Method	N/A	Sample Interval	N/A	Date:	12/2/2013
				DTW (ft. btoc)	69.1
				* DTW measured after well development	

Well

Well Depth (bgs)	95.0	Filter Material	SAND
Screen Interval (ft)	85-95	Filter Interval (ft)	82-95
		Amount	8 Bags
Screen Type	Sch. 40 PVC	Seal Material	BENTONITE PLUG
Slot Size (in)	0.0	Seal Interval (ft)	80-82
		Amount	2.5 gals
Development	Hand Checked	Grout Interval	0-56'
Well Diameter (in)	1.0	Amount	9 cement, 6 grout

Notes: *MW-175-S/I/D Nested Well*

DEPTH (ft)	PID	Drill Method	WELL	SOIL	SOIL / ROCK DESCRIPTION & REMARKS
0	0.0	HSA		FILL	Asphalt, fill (bricks and cement)
				SAND	Dry Light brown fine to medium SAND trace coarse sand and silt
5	0.0				
10	0.0		GROUT		Moist Dark Brown medium SAND trace fine gravel
15	0.0				
20	2.0				Moist Dark Brown fine- medium SAND

Borehole / Well Completion Log

Client NYSDEC **Well ID** *MW-175-1-I*

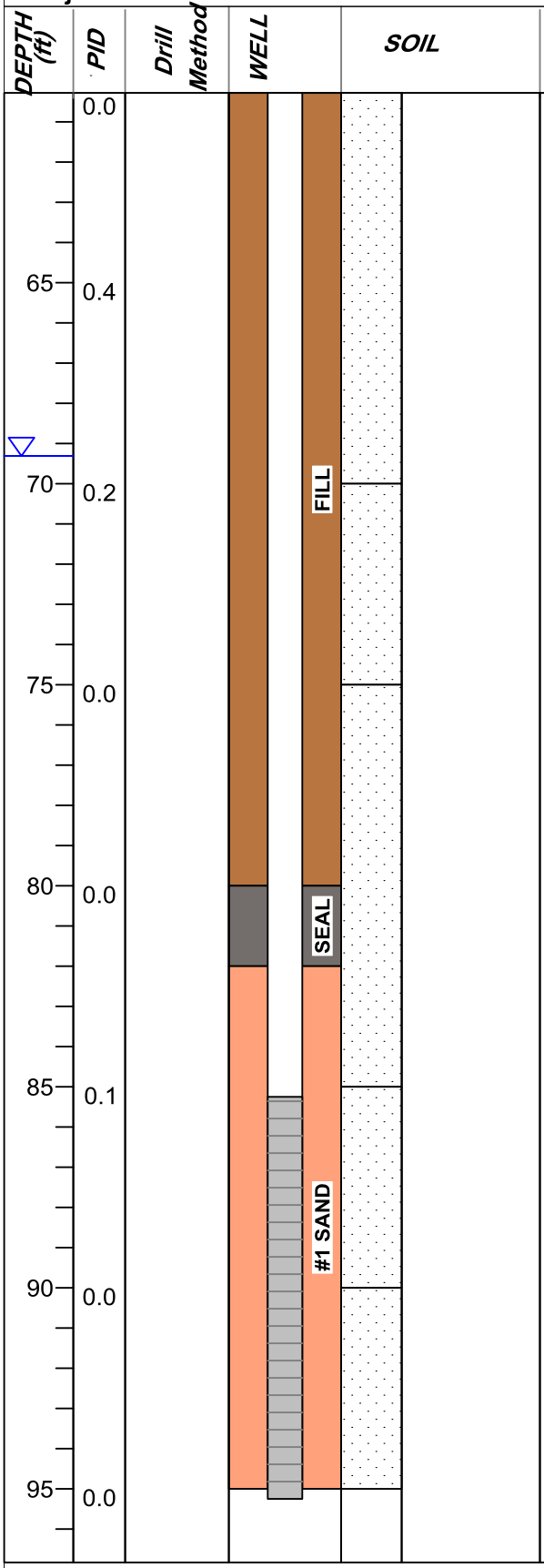
Project Aluminum Louvre OU2 RI/FS **Project No.** 147-147461

DEPTH (ft)	PID	Drill Method	WELL	SOIL	SOIL / ROCK DESCRIPTION & REMARKS
25	0.0				Moist light Brown fine- medium SAND
30	0.0				
35	0.0				Moist light Brown fine- coarse SAND
40	0.0		GROUT		Moist Light Brown fine- medium SAND trace silt
45	0.0				
50	0.0				Moist Dark Brown fine- medium SAND some silt; water table at 68 ft. bgs.
55	0.0		FILL		
60	0.0				

Borehole / Well Completion Log

Client NYSDEC **Well ID** *MW-175-1-I*

Project Aluminum Louvre OU2 RI/FS **Project No.** 147-147461



SOIL / ROCK DESCRIPTION & REMARKS

Nested Well Construction. MW-175-S screen 60-70; Grout 0-56 in borehole

Wet Brown fine-medium SAND some silt trace clay

Wet Orange- Brown fine- medium SAND some orange silt

Saturated yellowish orange fine SAND some medium sand trace silt

Saturated brown fine- medium miceous SAND some silt and clay.

Borehole / Well Completion Log

Client NYSDEC **Well ID** *MW-175-1-S*

Project Aluminum Louvre OU2 RI/FS **Project No.** 147-147461

Drilling

Drilling Contractor	*AES*	Start Date	*10/7/2013*	Northing	*216944.5*
Drilled by	*RYAN*	Completion Date	*10/8/2013*	Easting	*1138652.8*
Logged By	*JB*	Borehole Depth (ft)	*70.0*	Surface Elev.(ft)	*134.1*
Drilling Method	*HSA*	Borehole Dia. (in)	*4.25 ID/ 8.5 OD*	TOC Elev. (ft)	*133.8*

Samples

Sample Method	N/A	Sample Interval	N/A	Date:	12/2/2013
				DTW (ft. btoc)	68.9
				* DTW measured after well development	

Well

Well Depth (bgs)	70.0	Filter Material	SAND
Screen Interval (ft)	60-70	Filter Interval (ft)	58-70
		Amount	6 Bags
Screen Type	Sch. 40 PVC	Seal Material	BENTONITE PLUG
Slot Size (in)	0.0	Seal Interval (ft)	56-58
		Amount	5 gals
Development	Hand Checked	Grout Interval	0-56'
Well Diameter (in)	1.0	Amount	9 cement, 6 grout

Notes: *MW-175-S/I/D Nested Well*

DEPTH (ft)	PID	Drill Method	WELL	SOIL	SOIL / ROCK DESCRIPTION & REMARKS
0	0.0	HSA		FILL	Asphalt, fill (bricks and cement)
				SAND	Dry Light brown fine to medium SAND trace coarse sand and silt
5	0.0				Hand Cleared
10	0.0		GROUT		Moist Dark Brown medium SAND trace fine gravel
15	0.0				
20	2.0				Moist Dark Brown fine- medium SAND

Borehole / Well Completion Log

Client NYSDEC **Well ID** *MW-175-1-S*

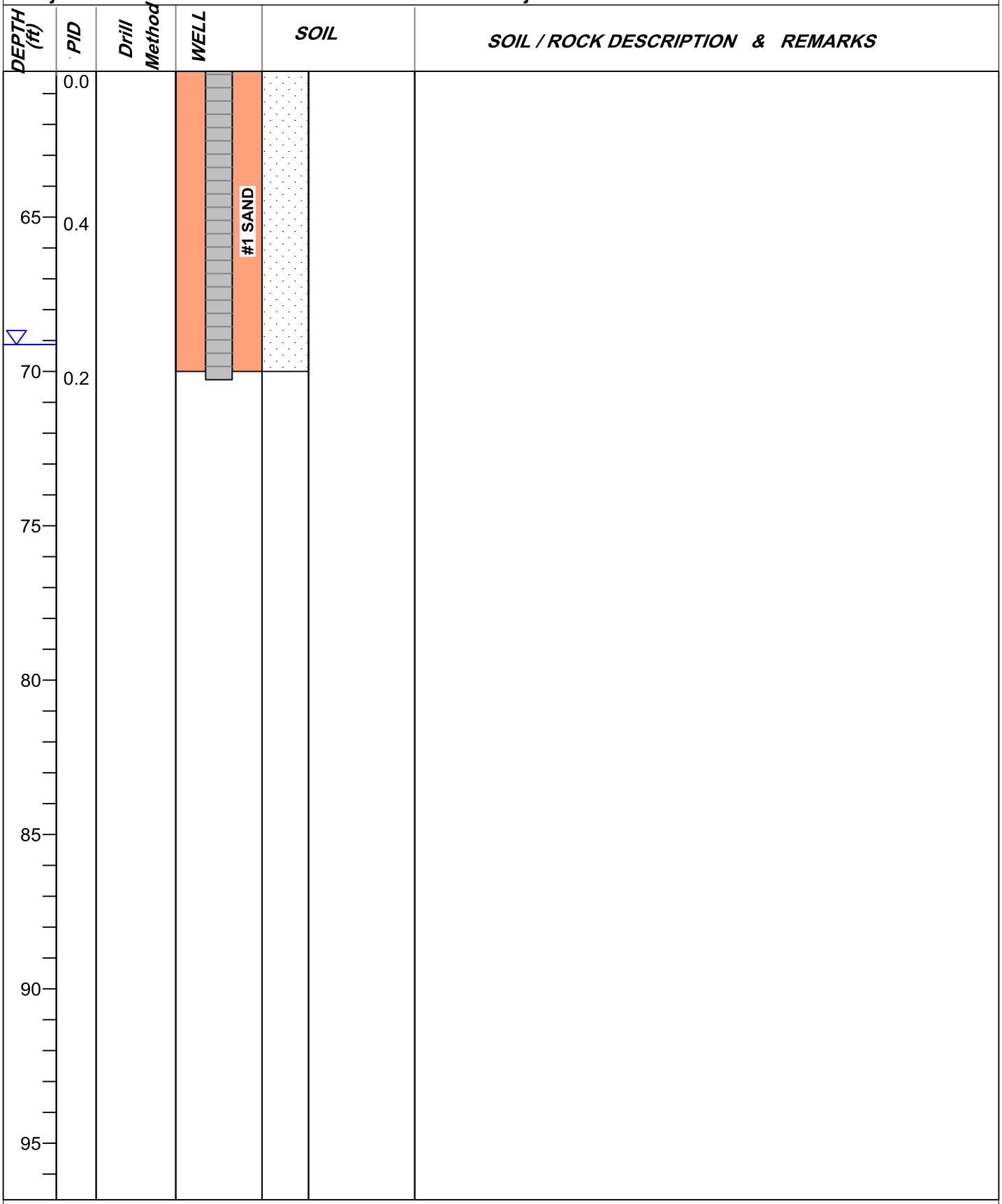
Project Aluminum Louvre OU2 RI/FS **Project No.** 147-147461

DEPTH (ft)	PID	Drill Method	WELL	SOIL	SOIL / ROCK DESCRIPTION & REMARKS
25	0.0				Moist light Brown fine- medium SAND
30	0.0				
35	0.0				Moist light Brown fine- coarse SAND
40	0.0		GROUT		Moist Light Brown fine- medium SAND trace silt
45	0.0				
50	0.0				Moist Dark Brown fine- medium SAND some silt; water table at 68 ft. bgs.
55	0.0		SEAL		
60	0.0		#1 SAND		

Borehole / Well Completion Log

Client NYSDEC **Well ID** *MW-175-1-S*

Project Aluminum Louvre OU2 RI/FS **Project No.** 147-147461



Borehole / Well Completion Log

Client NYSDEC **Well ID** MW-175-1-VD

Project Aluminum Louvre OU2 RI/FS **Project No.** 147-147461

Drilling

Drilling Contractor	AES	Start Date	10/8/2013	Northing	216944.0
Drilled by	RYAN	Completion Date	10/11/2013	Easting	1138645.0
Logged By	JB	Borehole Depth (ft)	212.0	Surface Elev.(ft)	133.7
Drilling Method	MUD ROTARY	Borehole Dia. (in)	3 7/8	TOC Elev. (ft)	133.4

Samples

Sample Method	N/A	Sample Interval	N/A	Date:	12/2/2013
				DTW (ft. btoc)	68.9
				* DTW measured after well development	

Well

Well Depth (bgs)	200.0	Filter Material	SAND
Screen Interval (ft)	190-200	Filter Interval (ft)	186-200
		Amount	4.25 Bags
Screen Type	Sch. 40 PVC	Seal Material	BENTONITE PLUG
Slot Size (in)	0.0	Seal Interval (ft)	184-186
		Amount	2.5 gals
Development	Hydrolift	Grout Interval	0-184'
Well Diameter (in)	2.0	Amount	7 cement, 6 grout

Notes:

DEPTH (ft)	PID	Drill Method	WELL	SOIL	SOIL / ROCK DESCRIPTION & REMARKS
0	0.0	HSA		FILL	Asphalt, fill (bricks and cement)
				SAND	Dry tan SAND with fill (cement and bricks), cobbles, small sub angular gravel. Coarsening upwards
5	0.0				Hand Cleared
10	0.0		GROUT		Dry Light Brown orange- brown fine-medium miceous SAND with silt. Clay lenses settled out in screen
15					
20	0.0				Dry light Brown fine SAND with orange silt and clay. MM beds clay settling out in screen

Borehole / Well Completion Log

Client NYSDEC **Well ID** *MW-175-1-VD*

Project Aluminum Louvre OU2 RI/FS **Project No.** 147-147461

DEPTH (ft)	PID	Drill Method	WELL	SOIL	SOIL / ROCK DESCRIPTION & REMARKS
25	0.0			SILTY SAND	Dry light Brown fine SILTY SAND trace mica flakes. AES losing mud quickly.
30	0.0			SAND	Dry Light Brown fine-medium miceous SAND and orange and black silt with clay. Interbedded in screen.
35	0.0				
40	0.0				
45	0.0				Dry Light Brown fine SAND some orange silt and clay trace mica flakes
50	0.0				Dry Light brown fine SAND with silt
55	0.0				
60	0.0				

GROUT

Borehole / Well Completion Log

Client NYSDEC **Well ID** *MW-175-1-VD*

Project Aluminum Louvre OU2 RI/FS **Project No.** 147-147461

DEPTH (ft)	PID	Drill Method	WELL	SOIL	SOIL / ROCK DESCRIPTION & REMARKS
	0.0				Moist light brown fine- medium miceous SAND with silt trace clay.
65	0.0				Wet light brown fine SAND with trace coarse sand trace (5%) fine sub angular gravel. Interbedded in screen.
70	0.0				Wet light brown homogenous fine SAND trace medium sand. Begin mud rotary.
75					
80					Wet Light Brown fine- medium SAND trace coarse sand and silt
85		MUD			Light brown fine miceous SAND with silt some clay
90					
95					Brown fine-medium SAND some silty clay

GROUT

Borehole / Well Completion Log

Client NYSDEC **Well ID** *MW-175-1-VD*

Project Aluminum Louvre OU2 RI/FS **Project No.** 147-147461

DEPTH (ft)	PID	Drill Method	WELL	SOIL	SOIL / ROCK DESCRIPTION & REMARKS
100					tan fine miceous SAND with silt trace clay
105					
110				SILTY SAND	tan silty SAND with clay trace medium sand
115			GROUT	SILT	tan SILT with clay some fine sand
120				SAND	fine SAND with silt trace clay
125					tan fine- medium SAND with silt
130					tan fine- medium SAND with silt trace clay

Borehole / Well Completion Log

Client NYSDEC **Well ID** *MW-175-1-VD*

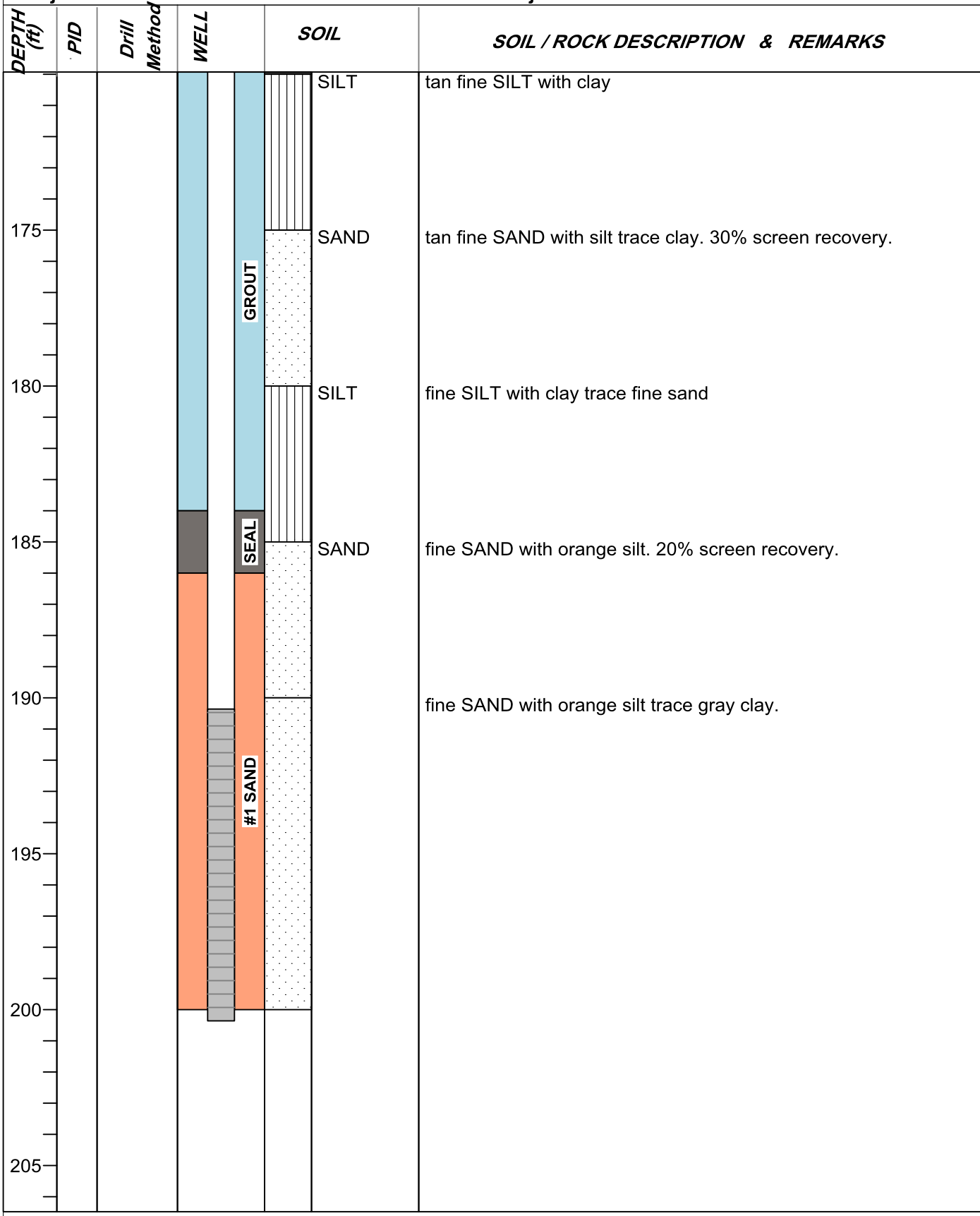
Project Aluminum Louvre OU2 RI/FS **Project No.** 147-147461

DEPTH (ft)	PID	Drill Method	WELL	SOIL	SOIL / ROCK DESCRIPTION & REMARKS
135				CLAY	Brown- gray CLAY with silt trace fine sand
140					
145				SILT	Dark Brown SILT and clay some fine sand
150			GROUT		
155				CLAY	Dark Brown CLAY with silt. Trace wood organics
160				SAND	tan fine SAND with silt and clay
165				DATA_GAP	No sample settled in screen. Fines smaller than sieve size

Borehole / Well Completion Log

Client NYSDEC **Well ID** *MW-175-1-VD*

Project Aluminum Louvre OU2 RI/FS **Project No.** 147-147461



Borehole / Well Completion Log

Client NYSDEC **Well ID** *MW-303-1-D*

Project Aluminum Louvre OU2 RI/FS **Project No.** 147-147461

Drilling

Drilling Contractor	*AES*	Start Date	*10/14/2013*	Northing	*216581.3*
Drilled by	*RYAN*	Completion Date	*10/15/2013*	Easting	*1138640.6*
Logged By	*JB*	Borehole Depth (ft)	*128.0*	Surface Elev.(ft)	*127.0*
Drilling Method	*HSA*	Borehole Dia. (in)	*4.25 ID/ 8.5 OD*	TOC Elev. (ft)	*126.8*

Samples

Sample Method	N/A	Sample Interval	N/A	Date:	12/2/2013
				DTW (ft. btoc)	62.8
				* DTW measured after well development	

Well

Well Depth (bgs)	125.0	Filter Material	SAND	Notes:	*MW-303-I/D Nested Well*
Screen Interval (ft)	115-125	Filter Interval (ft)	112-125		
Screen Type	Sch. 40 PVC	Amount	8 Bags		
Slot Size (in)	0.0	Seal Material	BENTONITE PLUG		
Development	Hand Checked	Seal Interval (ft)	108-112		
Well Diameter (in)	1.0	Amount	2.5 gals		
		Grout Interval	0-79.5'		
		Amount	10 cement, 7 grout		

DEPTH (ft)	PID	Drill Method	WELL	SOIL	SOIL / ROCK DESCRIPTION & REMARKS
0	0.0	HSA		GRAVEL	6" Asphalt, fine- coarse subrounded GRAVEL with fill (bricks and cement)
				SAND	fine-medium SAND with subrounded fine gravel trace fines
5	0.0				Dry Dark Brown fine-medium miceous SAND some fine gravel trace clay. Hand cleared.
10	0.0		GROUT		Dry Dark Brown fine- medium miceous SAND some silt
15	0.0				Dry Light Brown fine- medium miceous SAND trace silt. Tree roots present in sample
20	0.0				Dry Light Brown fine miceous SAND some silt with gray clay lenses

Borehole / Well Completion Log

Client NYSDEC **Well ID** *MW-303-1-D*

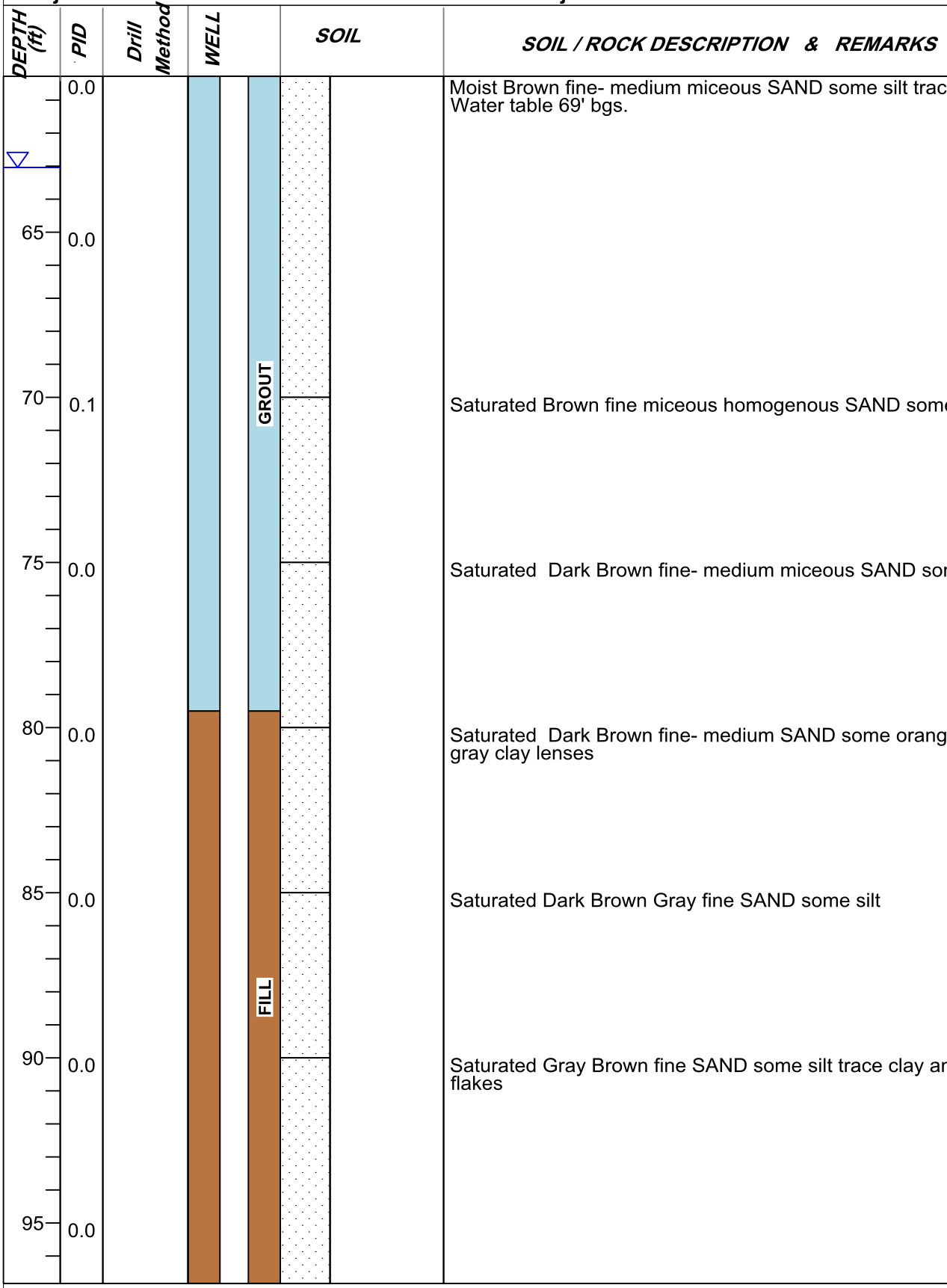
Project Aluminum Louvre OU2 RI/FS **Project No.** 147-147461

DEPTH (ft)	PID	Drill Method	WELL	SOIL	SOIL / ROCK DESCRIPTION & REMARKS
25	0.0				
30	0.0				Moist well graded Brown fine- medium SAND
35	0.0				Moist well graded Brown fine SAND trace medium sand
40	0.0		GROUT		
45	0.0				Moist Brown fine miceous SAND trace silt
50	0.0				
55	0.0				Moist Brown fine SAND some silt, trace mica flakes
60	0.0				

Borehole / Well Completion Log

Client NYSDEC **Well ID** *MW-303-1-D*

Project Aluminum Louvre OU2 RI/FS **Project No.** 147-147461

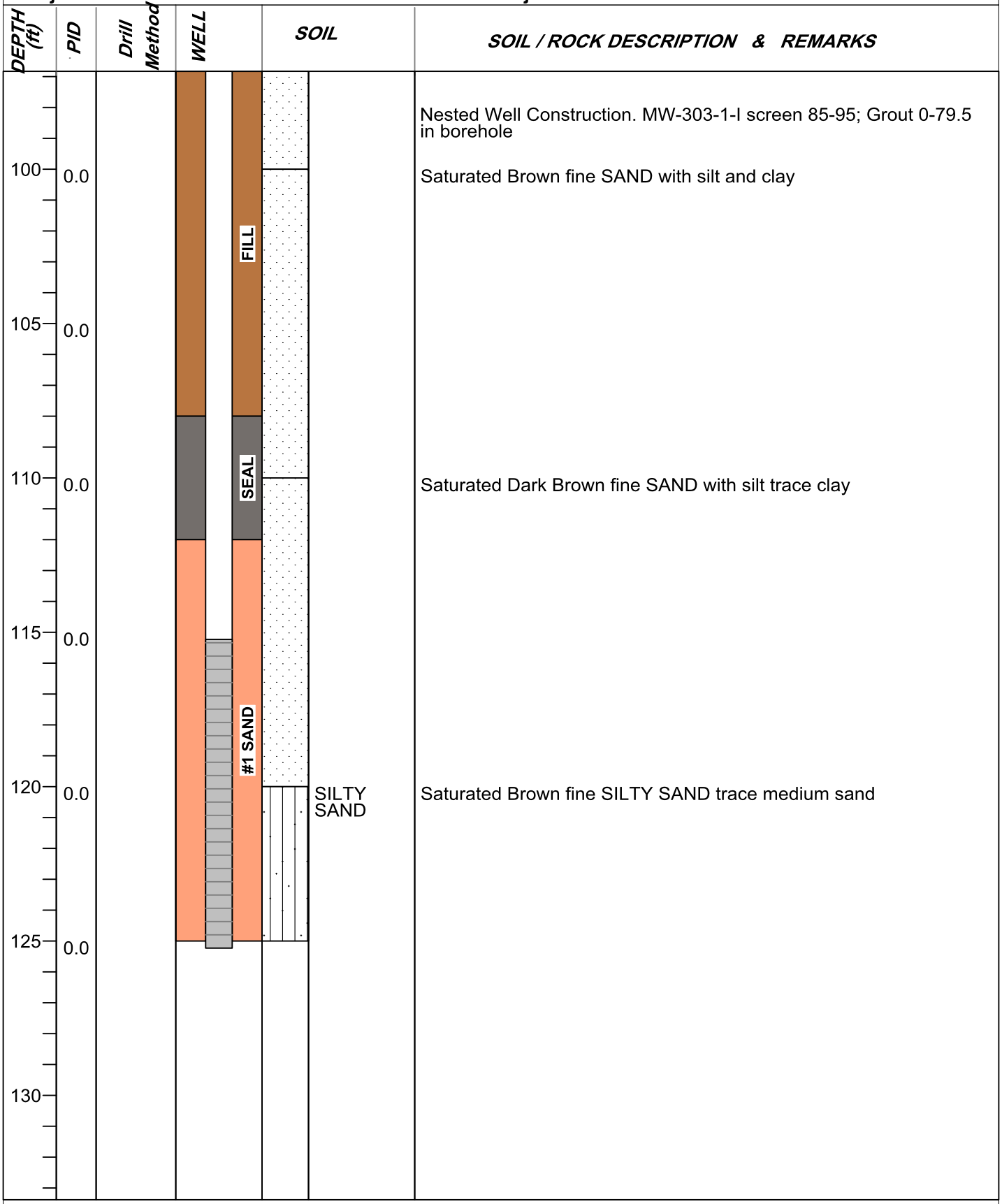


DEPTH (ft)	PID	Drill Method	WELL	SOIL	SOIL / ROCK DESCRIPTION & REMARKS
	0.0				Moist Brown fine- medium miceous SAND some silt trace clay. Water table 69' bgs.
65	0.0				
70	0.1				Saturated Brown fine miceous homogenous SAND some silt
75	0.0				Saturated Dark Brown fine- medium miceous SAND some silt
80	0.0				Saturated Dark Brown fine- medium SAND some orange silt and gray clay lenses
85	0.0				Saturated Dark Brown Gray fine SAND some silt
90	0.0				Saturated Gray Brown fine SAND some silt trace clay and fine mica flakes
95	0.0				

Borehole / Well Completion Log

Client NYSDEC **Well ID** *MW-303-1-D*

Project Aluminum Louvre OU2 RI/FS **Project No.** 147-147461



SOIL / ROCK DESCRIPTION & REMARKS

Nested Well Construction. MW-303-1-I screen 85-95; Grout 0-79.5 in borehole

Saturated Brown fine SAND with silt and clay

Saturated Dark Brown fine SAND with silt trace clay

Saturated Brown fine SILTY SAND trace medium sand

Borehole / Well Completion Log

Client NYSDEC **Well ID** *MW-303-1-I*

Project Aluminum Louvre OU2 RI/FS **Project No.** 147-147461

Drilling

Drilling Contractor	*AES*	Start Date	*10/14/2013*	Northing	*216581.3*
Drilled by	*RYAN*	Completion Date	*10/15/2013*	Easting	*1138640.6*
Logged By	*JB*	Borehole Depth (ft)	*95.0*	Surface Elev.(ft)	*127.0*
Drilling Method	*HSA*	Borehole Dia. (in)	*4.25 ID/ 8.5 OD*	TOC Elev. (ft)	*126.8*

Samples

Sample Method	N/A	Sample Interval	N/A	Date:	12/2/2013
				DTW (ft. btoc)	62.5
				* DTW measured after well development	

Well

Well Depth (bgs)	95.0	Filter Material	SAND
Screen Interval (ft)	85-95	Filter Interval (ft)	82-95
		Amount	4 Bags
Screen Type	Sch. 40 PVC	Seal Material	BENTONITE PLUG
Slot Size (in)	0.0	Seal Interval (ft)	79.5-82
		Amount	2.5 gals
Development	Hand Checked	Grout Interval	0-79.5'
Well Diameter (in)	1.0	Amount	10 cement, 7 grout

Notes: *MW-303-I/D Nested Well*

DEPTH (ft)	PID	Drill Method	WELL	SOIL	SOIL / ROCK DESCRIPTION & REMARKS
0	0.0	HSA		GRAVEL	6" Asphalt, fine- coarse subrounded GRAVEL with fill (bricks and cement)
				SAND	fine-medium SAND with subrounded fine gravel trace fines
5	0.0				Dry Dark Brown fine-medium miceous SAND some fine gravel trace clay. Hand cleared.
10	0.0		GROUT		Dry Dark Brown fine- medium miceous SAND some silt
15	0.0				Dry Light Brown fine- medium miceous SAND trace silt. Tree roots present in sample.
20	0.0				Dry Light Brown fine miceous SAND some silt with gray clay lenses

Borehole / Well Completion Log

Client NYSDEC **Well ID** *MW-303-1-I*

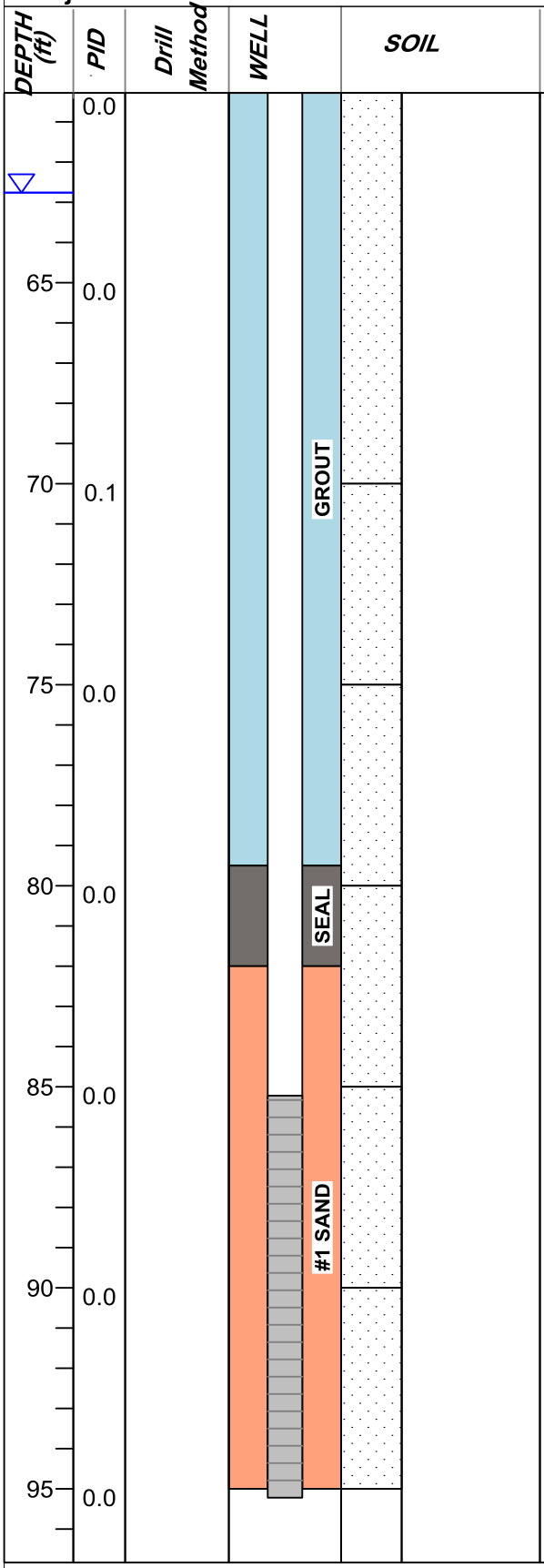
Project Aluminum Louvre OU2 RI/FS **Project No.** 147-147461

DEPTH (ft)	PID	Drill Method	WELL	SOIL	SOIL / ROCK DESCRIPTION & REMARKS
25	0.0				
30	0.0				Moist well graded Brown fine- medium SAND
35	0.0				Moist well graded Brown fine SAND trace medium sand
40	0.0		GROUT		
45	0.0				Moist Brown fine miceous SAND trace silt
50	0.0				
55	0.0				Moist Brown fine SAND some silt, trace mica flakes
60	0.0				

Borehole / Well Completion Log

Client NYSDEC **Well ID** *MW-303-1-I*

Project Aluminum Louvre OU2 RI/FS **Project No.** 147-147461



SOIL / ROCK DESCRIPTION & REMARKS

Moist Brown fine- medium miceous SAND some silt trace clay. Water table 69' bgs.

Saturated Brown fine miceous homogenous SAND some silt

Saturated Dark Brown fine- medium miceous SAND some silt

Saturated Dark Brown fine- medium SAND some orange silt and gray clay lenses

Saturated Dark Brown Gray fine SAND some silt

Saturated Gray Brown fine SAND some silt trace clay and fine mica flakes

Borehole / Well Completion Log

Client NYSDEC **Well ID** MW-303-1-VD

Project Aluminum Louvre OU2 RI/FS **Project No.** 147-147461

Drilling

Drilling Contractor	AES	Start Date	10/15/2013	Northing	216581.4
Drilled by	RYAN	Completion Date	10/17/2013	Easting	1138624.4
Logged By	JB	Borehole Depth (ft)	215.0	Surface Elev.(ft)	126.7
Drilling Method	MUD ROTARY	Borehole Dia. (in)	3 7/8	TOC Elev. (ft)	126.4

Samples

Sample Method	N/A	Sample Interval	N/A	Date:	12/2/2013
				DTW (ft. btoc)	62.4
				* DTW measured after well development	

Well

Well Depth (bgs)	200.0	Filter Material	SAND
Screen Interval (ft)	190-200	Filter Interval (ft)	184-200
		Amount	5.25 Bags
Screen Type	Sch. 40 PVC	Seal Material	BENTONITE PLUG
Slot Size (in)	0.0	Seal Interval (ft)	181-184
		Amount	1.25 gals
Development	Hydrolift	Grout Interval	0-181'
Well Diameter (in)	2.0	Amount	3 Bags

Notes:

DEPTH (ft)	PID	Drill Method	WELL	SOIL	SOIL / ROCK DESCRIPTION & REMARKS
0	0.0	HSA		GRAVEL	6" Asphalt, medium subrounded GRAVEL with fill (bricks and cement), cobbles , some fine-med sand
				SAND	fine-medium SAND with subrounded fine gravel trace fines
5	0.0				Dry Brown fine miceous SAND with silt trace medium- coarse sand and clay lenses. Hand cleared.
10		MUD	GROUT	SILTY SAND	Dry tan silty SAND with clay trace subrounded fine-medium gravel. Begin mud rotary.
15				CLAY	orange, black, tan CLAY and silt with fine sand
20				SAND	fine SAND with orange silt and clay

Borehole / Well Completion Log

Client NYSDEC **Well ID** *MW-303-1-VD*

Project Aluminum Louvre OU2 RI/FS **Project No.** 147-147461

DEPTH (ft)	PID	Drill Method	WELL	SOIL	SOIL / ROCK DESCRIPTION & REMARKS
25					fine SAND with orange silt trace clay. Small beads of clay in screen.
30					yellowish orange fine miceous SAND trace silt and clay
35					fine SAND with orange clay trace silt
40			GROUT		
45					fine SAND trace orange silt and clay
50					Clayey fine SAND with orange silt
55					fine- medium SAND with silt trace clay and mica flakes
60					

Borehole / Well Completion Log

Client NYSDEC **Well ID** *MW-303-1-VD*

Project Aluminum Louvre OU2 RI/FS **Project No.** 147-147461

DEPTH (ft)	PID	Drill Method	WELL	SOIL	SOIL / ROCK DESCRIPTION & REMARKS
65					fine SAND with black silt trace orange clay and medium sand
70					fine homogenous SAND with silt trace clay
75			GROUT		fine SAND trace beige and orange silt. 20% screen recovery.
80					fine SAND with beige clay (clay in chunks in screen). AES losing mud quickly.
85					fine- medium miceous SAND trace silt
90					fine SAND with silt trace beige clay
95					fine SAND trace clay and coarse sand

Borehole / Well Completion Log

Client NYSDEC **Well ID** *MW-303-1-VD*

Project Aluminum Louvre OU2 RI/FS **Project No.** 147-147461

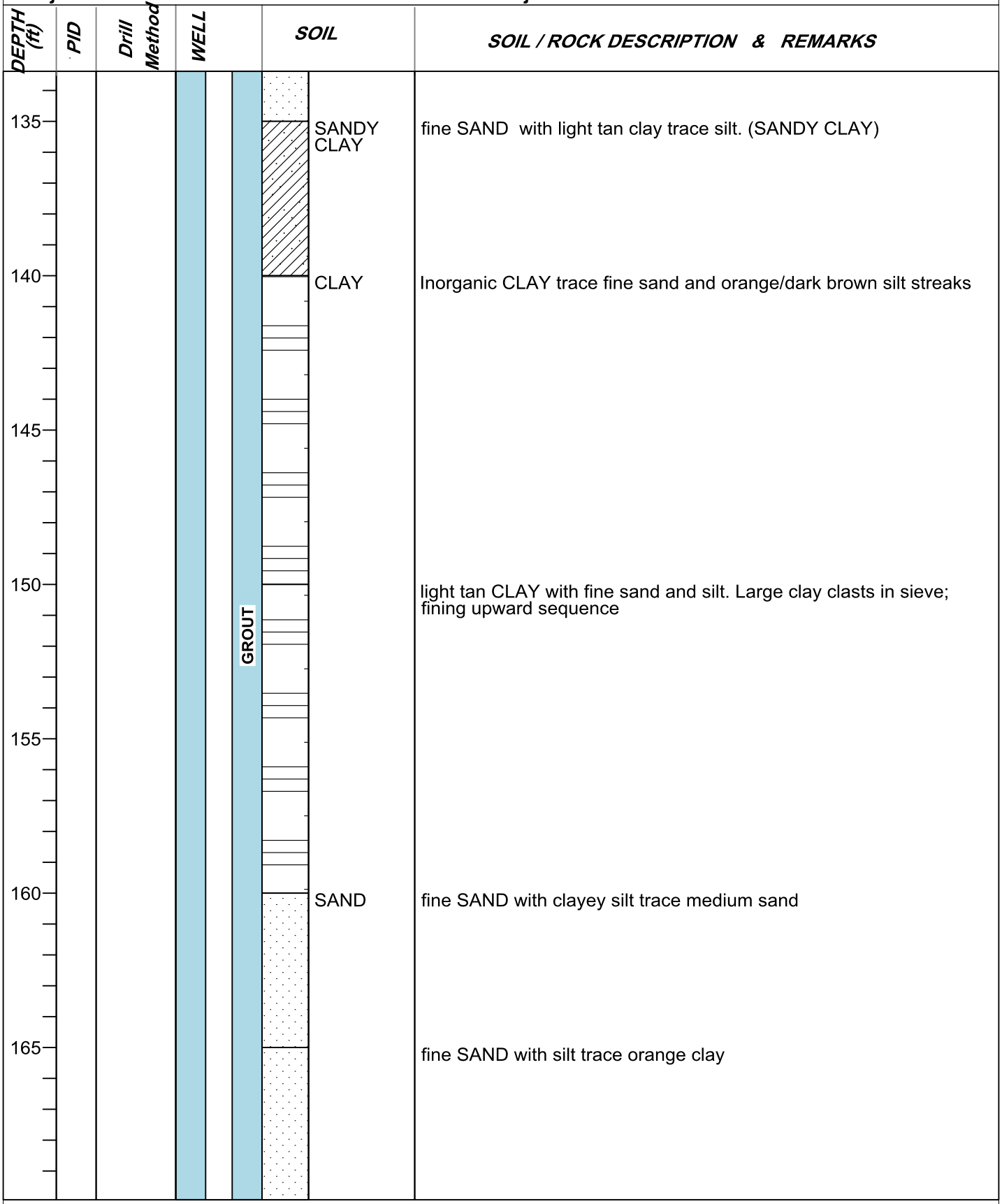
DEPTH (ft)	PID	Drill Method	WELL	SOIL	SOIL / ROCK DESCRIPTION & REMARKS
100					tan fine- medium SAND trace orange clayey silt
105					fine- coarse SAND trace orange silt and tan clay. Black organic streaking.
110					medium-coarse SAND trace fine subrounded gravel and silt. Small crushed shell clasts.
115			GROUT	SILTY SAND	tan/orange SILTY SAND with beige clay
120				CLAY	Light brown CLAY with fine sand and orange silt.
125				SAND	tan/orange fine- medium SAND trace silt
130					

Borehole / Well Completion Log

Client NYSDEC **Well ID** *MW-303-1-VD*

Project Aluminum Louvre OU2 RI/FS **Project No.** 147-147461

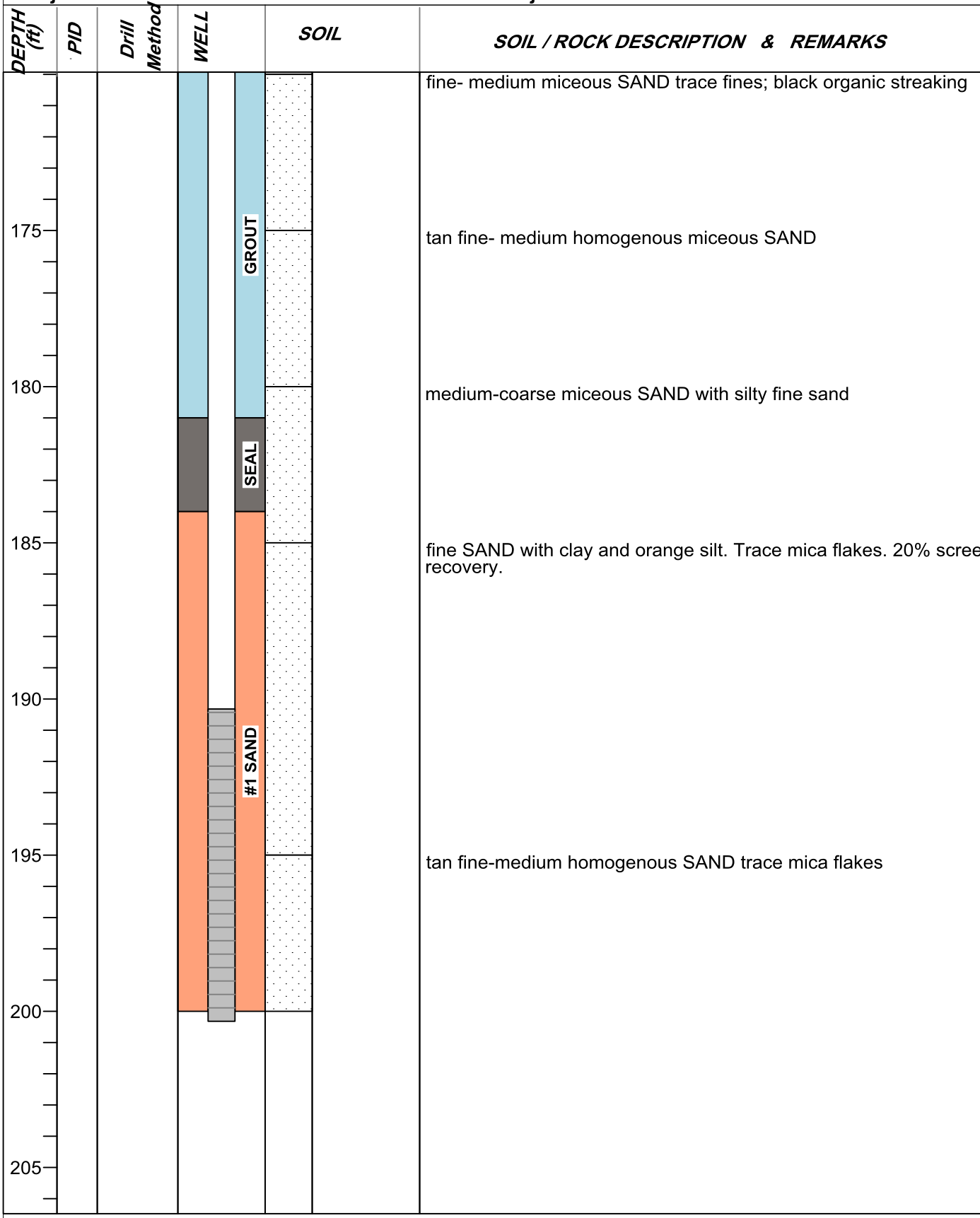
HDR



Borehole / Well Completion Log

Client NYSDEC **Well ID** *MW-303-1-VD*

Project Aluminum Louvre OU2 RI/FS **Project No.** 147-147461



Borehole / Well Completion Log

Client NYSDEC **Well ID** MW-NEMF-2-ED

Project Aluminum Louvre OU2 RI/FS **Project No.** 147-147461

Drilling

Drilling Contractor	AES	Start Date	10/17/2013	Northing	216335.1
Drilled by	RYAN	Completion Date	10/21/2013	Easting	1138839.6
Logged By	JB	Borehole Depth (ft)	265.0	Surface Elev.(ft)	134.5
Drilling Method	MUD ROTARY	Borehole Dia. (in)	3 7/8	TOC Elev. (ft)	134.3

Samples

Sample Method	N/A	Sample Interval	N/A	Date:	12/2/2013
				DTW (ft. btoc)	70.7
				* DTW measured after well development	

Well

Well Depth (bgs)	250.0	Filter Material	SAND
Screen Interval (ft)	240-250	Filter Interval (ft)	236-250
		Amount	6.5 Bags
Screen Type	Sch. 40 PVC	Seal Material	BENTONITE PLUG
Slot Size (in)	0.0	Seal Interval (ft)	233-236
		Amount	1.25 gals
Development	Hydrolift	Grout Interval	0-233
Well Diameter (in)	2.0	Amount	3 Bags

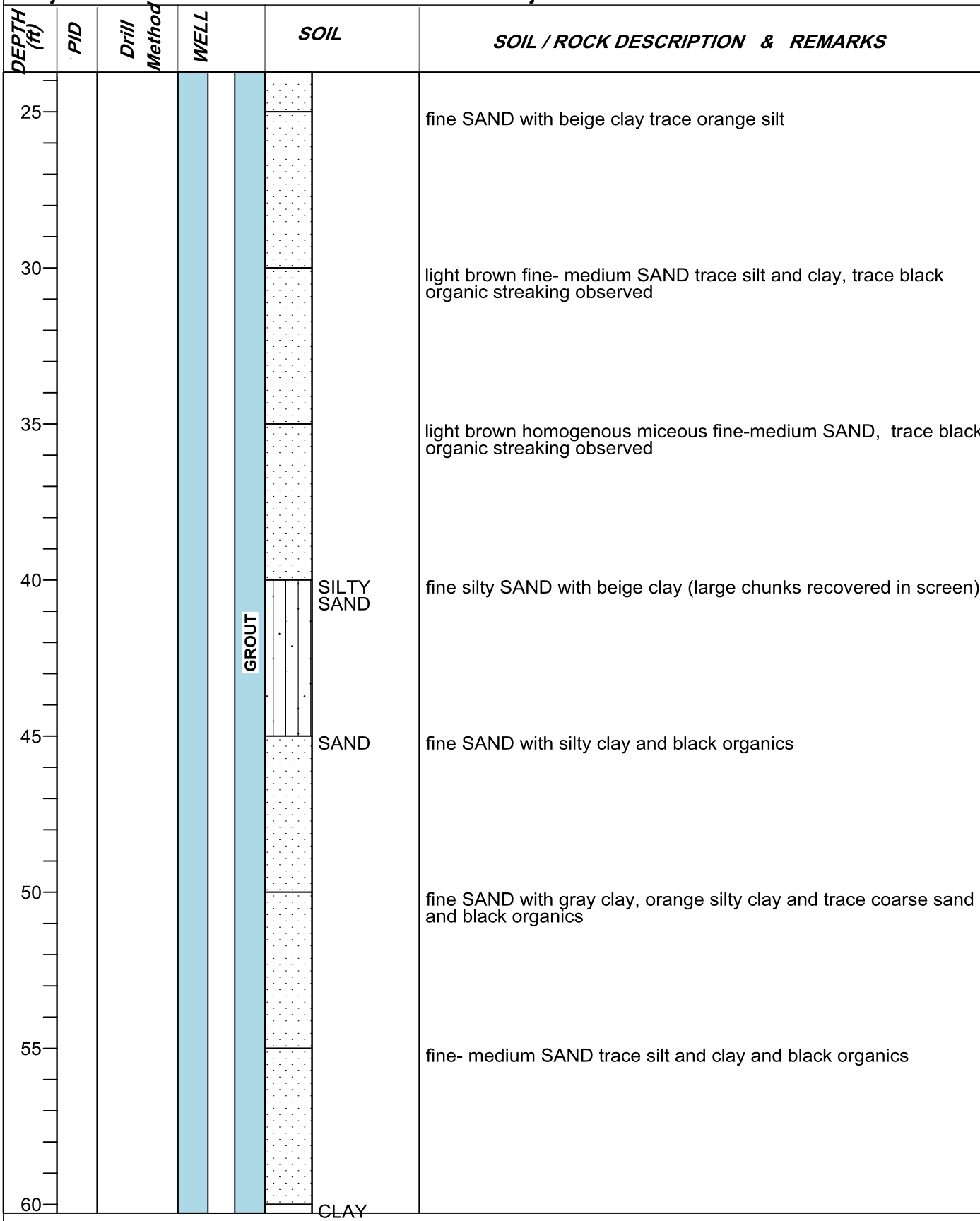
Notes:

DEPTH (ft)	PID	Drill Method	WELL	SOIL	SOIL / ROCK DESCRIPTION & REMARKS
0	0.0	HSA		GRAVEL	0-4" Asphalt. Fine- coarse subrounded GRAVEL and fill with silty fine sand
				SAND	yellowish - orange fine- coarse SAND with coarse subrounded gravel trace fine gravel trace mica flakes
5	0.0				Dry fine SAND trace brown-orange clay trace small (mm) mica flakes. Begin Mud Rotary Hand Cleared
10	0.0		GROUT	SILT	Gravelly SILT with fine-coarse sand, fine gravel, trace gray clay.
15		MUD		SAND	fine- medium SAND trace orange and black silty clay, black organic streaking observed
20					fine SAND with silt and tan-orange clay, black organic streaking observed

Borehole / Well Completion Log

Client NYSDEC **Well ID** *MW-NEMF-2-ED*

Project Aluminum Louvre OU2 RI/FS **Project No.** 147-147461

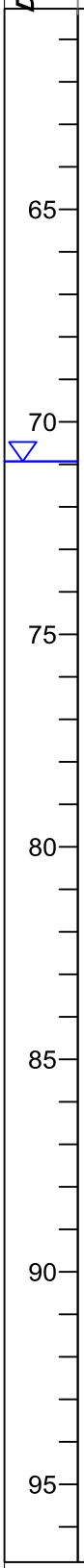


Borehole / Well Completion Log

Client NYSDEC **Well ID** *MW-NEMF-2-ED*

Project Aluminum Louvre OU2 RI/FS **Project No.** 147-147461

HDR



SOIL	SOIL / ROCK DESCRIPTION & REMARKS
CLAY	beige- orange/brown CLAY trace fine sand
	beige- orange/brown CLAY with fine sand and silt. Unit difficult to drill.
SAND	fine silty SAND with beige-orange clay
SILT	fine SILT with orange-tan clay trace fine sand
SILTY SAND	fine silty SAND with beige clay
SAND	fine- medium SAND with silt trace coarse sand and clay. 20% screen recovery.

Borehole / Well Completion Log

Client NYSDEC **Well ID** *MW-NEMF-2-ED*

Project Aluminum Louvre OU2 RI/FS **Project No.** 147-147461

DEPTH (ft)	PID	Drill Method	WELL	SOIL	SOIL / ROCK DESCRIPTION & REMARKS
100			GROUT		fine SAND with silt trace clay
105					fine-medium homogenous SAND trace coarse sand. 20% screen recovery.
110					fine-coarse homogenous SAND trace small mica flakes
115					fine SAND with silt trace yellowish orange clay
120					fine SAND with silt and orange- beige clay (in small chunks in screen)
125					fine- medium miceous SAND trace silt and clay
130					fine miceous SAND with orange silt trace clay

Borehole / Well Completion Log

Client NYSDEC **Well ID** *MW-NEMF-2-ED*

Project Aluminum Louvre OU2 RI/FS **Project No.** 147-147461

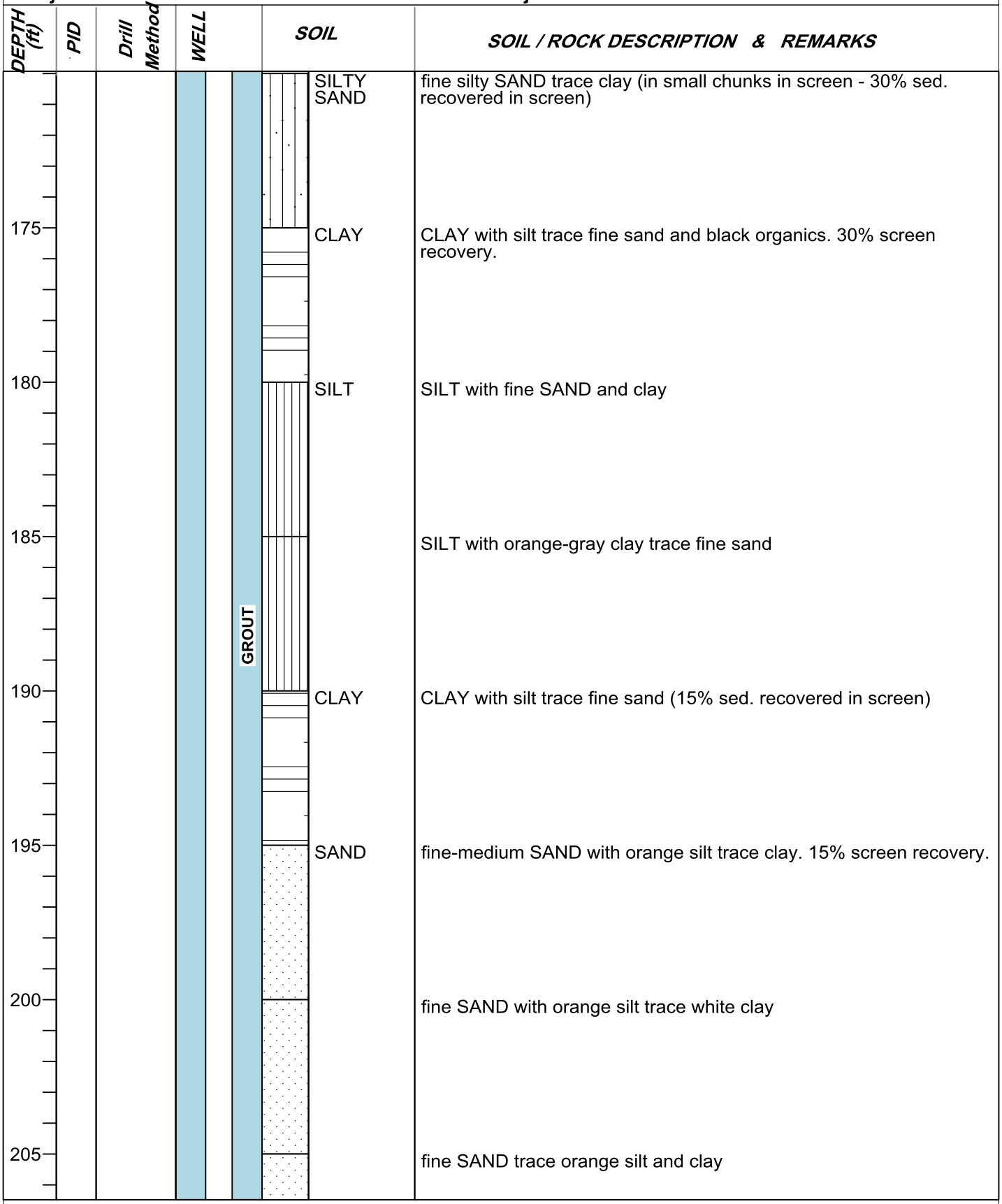
DEPTH (ft)	PID	Drill Method	WELL	SOIL	SOIL / ROCK DESCRIPTION & REMARKS
135					fine SAND trace orange silt and mica flakes
140					
145					fine- medium homogenous SAND trace beige clay and orange silt streaking
150			GROUT		
155					fine SAND with light beige silt trace orange clay
160					fine homogenous SAND trace beige-orange silt
165					

Borehole / Well Completion Log

Client NYSDEC **Well ID** *MW-NEMF-2-ED*

Project Aluminum Louvre OU2 RI/FS **Project No.** 147-147461

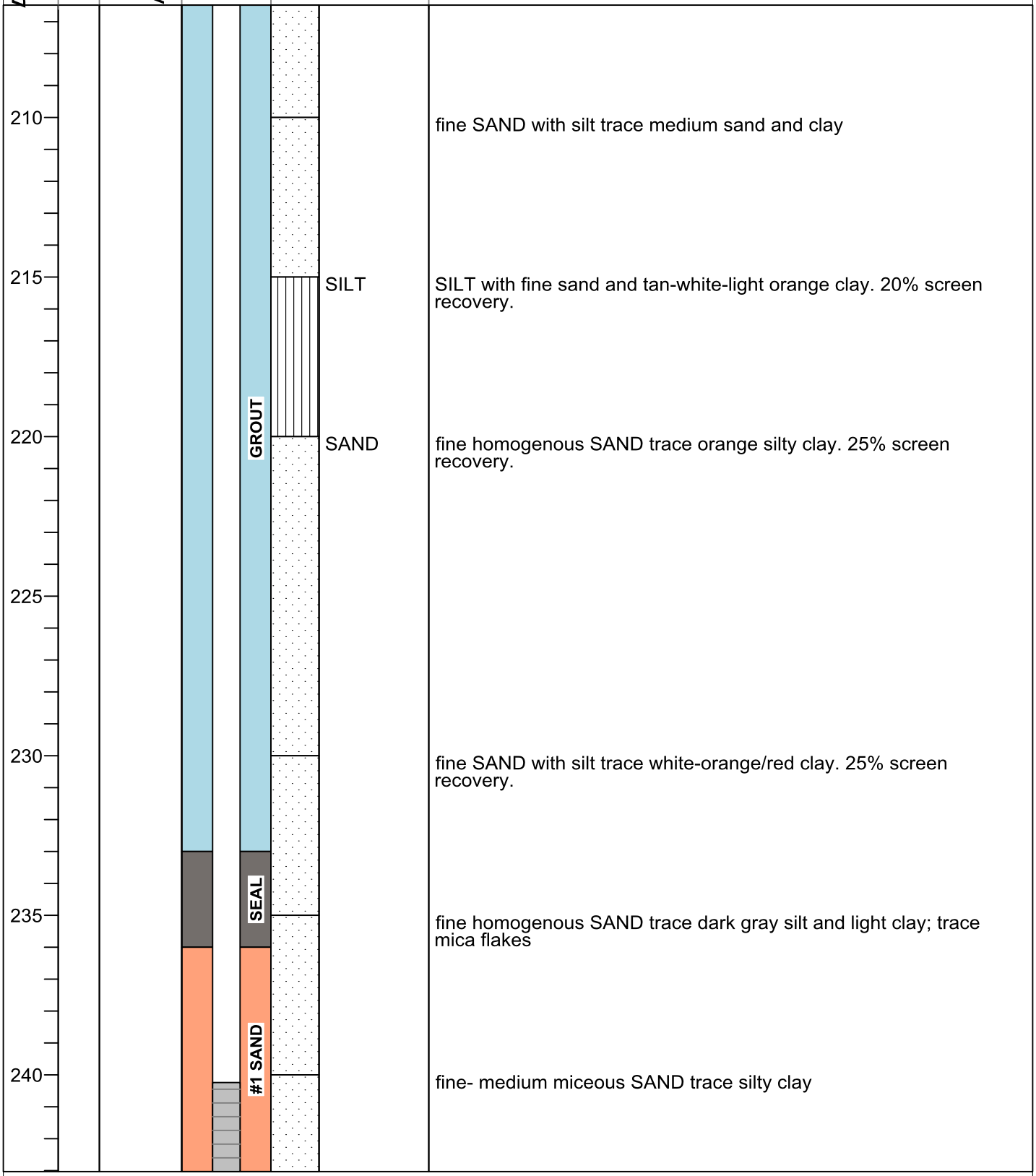
HDR



Borehole / Well Completion Log

Client NYSDEC **Well ID** *MW-NEMF-2-ED*

Project Aluminum Louvre OU2 RI/FS **Project No.** 147-147461



Borehole / Well Completion Log

Client NYSDEC **Well ID** *MW-NEMF-2-ED*

Project Aluminum Louvre OU2 RI/FS **Project No.** 147-147461

DEPTH (ft)	PID	Drill Method	WELL	SOIL	SOIL / ROCK DESCRIPTION & REMARKS
245			#1 SAND		fine SAND with orange silty clay
250					
255					
260					
265					
270					
275					

Borehole / Well Completion Log

Client NYSDEC **Well ID** MW-NEMF-2-VD

Project Aluminum Louvre OU2 RI/FS **Project No.** 147-147461

Drilling

Drilling Contractor	AES	Start Date	10/22/2013	Northing	216330.1
Drilled by	RYAN	Completion Date	10/23/2013	Easting	1138848.3
Logged By	JB	Borehole Depth (ft)	205.0	Surface Elev.(ft)	134.7
Drilling Method	MUD ROTARY	Borehole Dia. (in)	3 7/8	TOC Elev. (ft)	134.5

Samples

Sample Method	N/A	Sample Interval	N/A	Date:	12/2/2013
				DTW (ft. btoc)	70.8
				* DTW measured after well development	

Well

Well Depth (bgs)	200.0	Filter Material	SAND
Screen Interval (ft)	190-200	Filter Interval (ft)	186-200
		Amount	3 Bags
Screen Type	Sch. 40 PVC	Seal Material	BENTONITE PLUG
Slot Size (in)	0.0	Seal Interval (ft)	182-186
		Amount	1.25 gals
Development	Hydrolift	Grout Interval	0-182
Well Diameter (in)	2.0	Amount	4 Bags

Notes:

DEPTH (ft)	PID	Drill Method	WELL	SOIL	SOIL / ROCK DESCRIPTION & REMARKS
0	0.0	HSA		GRAVEL	0-4" Asphalt. Dry Brown fine-coarse SAND with coarse qtz gravel, fill, and cobbles
				SAND	Dry fine-coarse SAND with fine subrounded gravel.
5	0.0				Dry yellowish orange fine-medium miceous SAND with coarse gravel trace sm. cobbles (~3"). Hand cleared.
10	0.0		GROUT		Dry yellowish orange fine-medium homogenous miceous SAND trace fines. Begin mud rotary.
		MUD			fine- medium SAND with beige and dark gray silty clay trace mm. mica flakes.
15					
20					fine-medium SAND with beige and dark gray silty clay trace fine gravel and coarse sand

Borehole / Well Completion Log

Client NYSDEC **Well ID** *MW-NEMF-2-VD*

Project Aluminum Louvre OU2 RI/FS **Project No.** 147-147461

DEPTH (ft)	PID	Drill Method	WELL	SOIL	SOIL / ROCK DESCRIPTION & REMARKS
25					fine homogenous SAND with silt and clay; black organics
30					fine-medium homogenous miceous SAND with silty clay
35					tan fine-medium homogenous SAND with small mica flakes throughout
40					tan fine-medium SAND with dark gray and beige clay and silt; fining downward
45					
50					fine- medium SAND with dark gray bands of silty clay
55					
60				CLAY	

GROUT

Borehole / Well Completion Log

Client NYSDEC **Well ID** *MW-NEMF-2-VD*

Project Aluminum Louvre OU2 RI/FS **Project No.** 147-147461

DEPTH (ft)	PID	Drill Method	WELL	SOIL	SOIL / ROCK DESCRIPTION & REMARKS
				CLAY	tan CLAY with orange silt trace fine sand
65				SAND	fine SAND with silt and orange- beige clay and silt
70				CLAY	beige CLAY trace silt, fine sand, and black organic streaking. 20% screen recovery.
75			GROUT		
80				SILT	fine SILT with orange- tan silty clay and white clay trace fine sand
85				SAND	fine miceous SAND with silt trace beige clay
90					fine SAND and silt with orange- beige clay trace mm mica flakes
95					fine-medium SAND with silt and clay trace coarse sand. Rust observed in sediment.

Borehole / Well Completion Log

Client NYSDEC **Well ID** *MW-NEMF-2-VD*

Project Aluminum Louvre OU2 RI/FS **Project No.** 147-147461

DEPTH (ft)	PID	Drill Method	WELL	SOIL	SOIL / ROCK DESCRIPTION & REMARKS
100					tan fine- medium homogenous miceous SAND
105					tan fine- medium miceous SAND trace white- orange silty clay and black organic streaks
110					tan fine- medium SAND trace white- orange silty clay and coarse sand
115			GROUT		tan fine- medium homogenous miceous SAND
120					tan fine- medium SAND some white- yellowish orange clay and silt
125					tan fine- medium SAND some dark gray- white silty clay trace black organics
130					

Borehole / Well Completion Log

Client NYSDEC **Well ID** *MW-NEMF-2-VD*

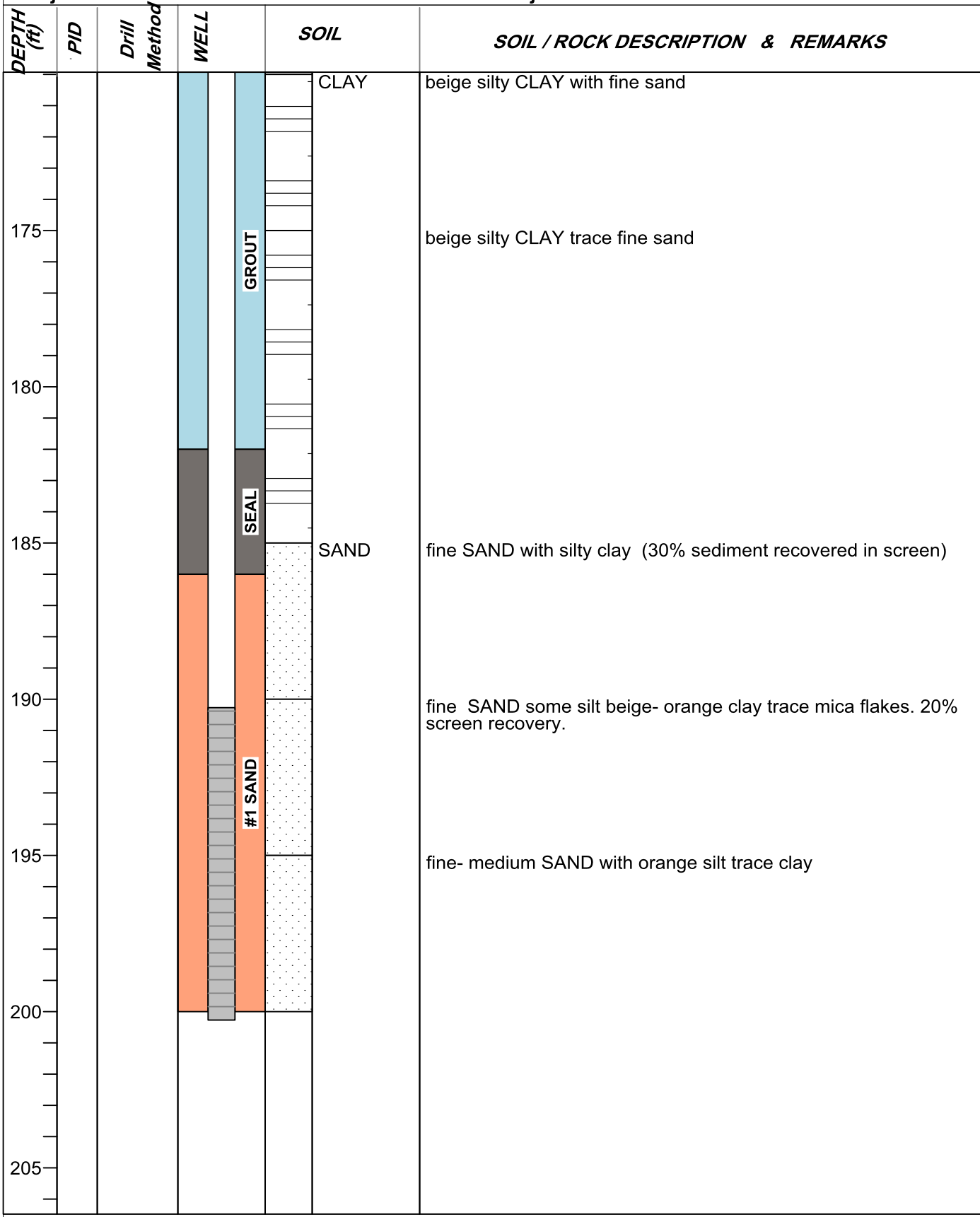
Project Aluminum Louvre OU2 RI/FS **Project No.** 147-147461

DEPTH (ft)	PID	Drill Method	WELL	SOIL	SOIL / ROCK DESCRIPTION & REMARKS
135				SILTY SAND	tan silty SAND with clay
140				SAND	fine- medium SAND some clay and silt, trace mica flakes
145					fine SAND trace silt and clay
150			GROUT		fine- medium miceous SAND with light beige silty clay
155					
160				SILTY SAND	fine silty SAND with light beige clay
165				SAND	tan fine- medium SAND trace silty clay

Borehole / Well Completion Log

Client NYSDEC **Well ID** *MW-NEMF-2-VD*

Project Aluminum Louvre OU2 RI/FS **Project No.** 147-147461



Borehole / Well Completion Log

Client NYSDEC **Well ID** *MW-NEMF-3-ED*

Project Aluminum Louvre OU2 RI/FS **Project No.** 147-147461

Drilling

Drilling Contractor	*AES*	Start Date	*11/21/2013*	Northing	*216614.6*
Drilled by	*RYAN*	Completion Date	*11/22/2013*	Easting	*1139046.8*
Logged By	*JB*	Borehole Depth (ft)	*260.0*	Surface Elev.(ft)	*137.2*
Drilling Method	*MUD ROTARY*	Borehole Dia. (in)	*3 7/8*	TOC Elev. (ft)	*136.9*

Samples

Sample Method	N/A	Sample Interval	N/A	Date:	12/2/2013
				DTW (ft. btoc)	73.0
				* DTW measured after well development	

Well

Well Depth (bgs)	250.0	Filter Material	SAND	Notes:	
Screen Interval (ft)	240-250	Filter Interval (ft)	196-250		
Screen Type	Sch. 40 PVC	Amount	8 Bags		
Slot Size (in)	0.0	Seal Material	BENTONITE PLUG		
Development	Hand Checked	Seal Interval (ft)	193-196		
Well Diameter (in)	2.0	Amount	1.75 gals		
		Grout Interval	0-193		
		Amount	3 Bags		

DEPTH (ft)	PID	Drill Method	WELL	SOIL	SOIL / ROCK DESCRIPTION & REMARKS
0		HSA		SAND	0-0.5 Asphalt. Dry tan SAND with fine- coarse gravel trace cobbles and silt
5					Dry tan/ orange silty SAND with fine- coarse subrounded gravel trace small cobbles. Hand cleared.
10			GROUT	SILTY SAND	Dry tan/ orange silty SAND and fine- coarse subrounded gravel
				GRAVEL	Dry tan fine- coarse GRAVEL some silty sand
15		MUD			
				SAND	fine SAND with orange- black silt trace beige clay
20					tan fine homogenous miceous SAND trace orange silt, black streaking

Borehole / Well Completion Log

Client NYSDEC **Well ID** *MW-NEMF-3-ED*

Project Aluminum Louvre OU2 RI/FS **Project No.** 147-147461

DEPTH (ft)	PID	Drill Method	WELL	SOIL	SOIL / ROCK DESCRIPTION & REMARKS
25					yellowish orange coarse miceous SAND with black and orange silt
30					tan homogenous miceous SAND with orange silt and trace beige/white clay
35					tan fine- medium SAND some orange silt
40					tan fine miceous SAND some orange and black silt
50				SILT	orange SILT with fine sand and white- gray clay
55				SAND	tan- beige silty SAND some orange silt trace mica flakes
60					

GROUT

Borehole / Well Completion Log

Client NYSDEC **Well ID** *MW-NEMF-3-ED*

Project Aluminum Louvre OU2 RI/FS **Project No.** 147-147461

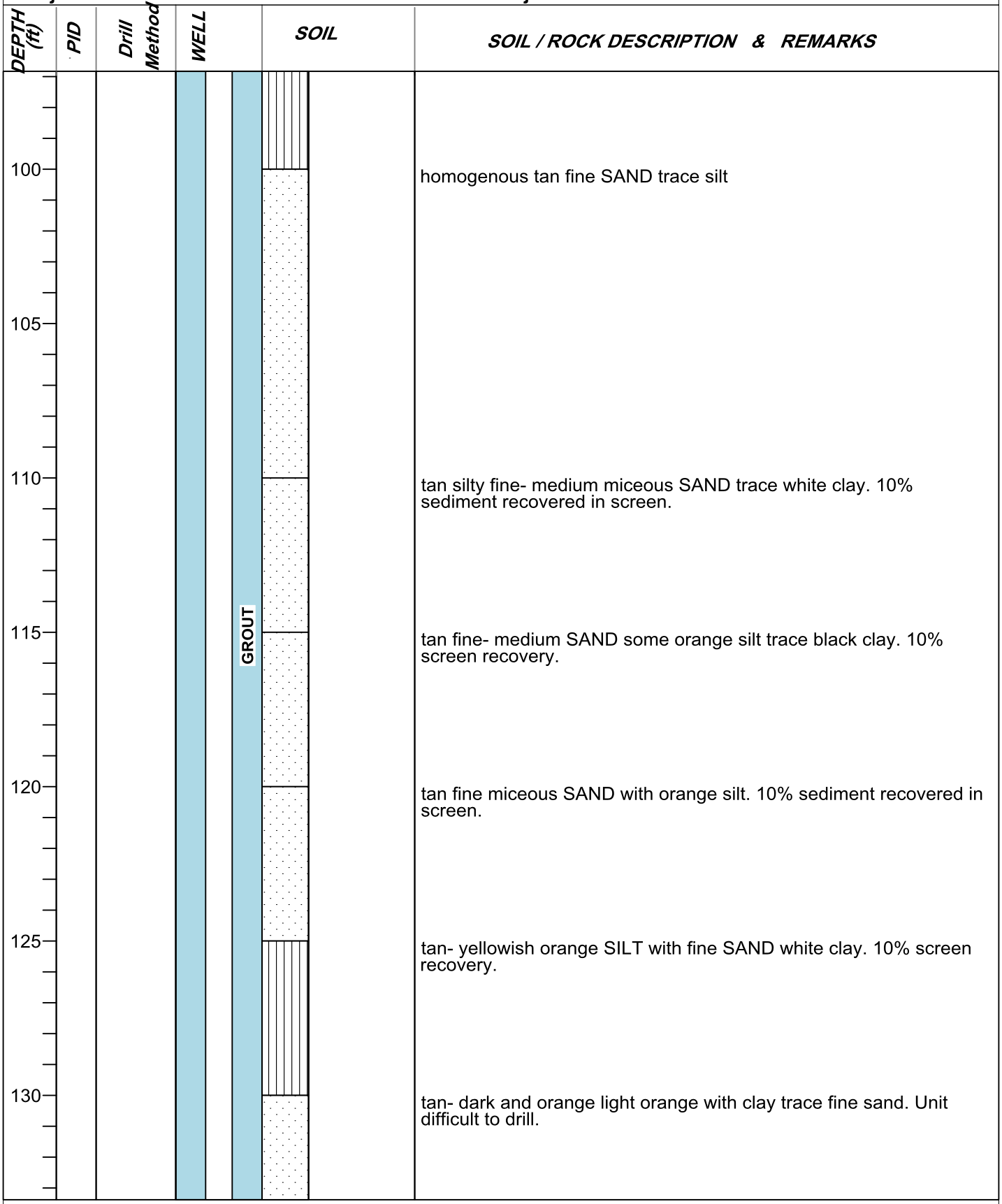
DEPTH (ft)	PID	Drill Method	WELL	SOIL	SOIL / ROCK DESCRIPTION & REMARKS
					tan fine miceous SAND tan- white silt
65					tan fine-medium SAND trace mica, with orange silt some black silt trace beige clay
70					yellowish orange SILT and clay trace fine sand and white clay
75			GROUT		white- orange CLAY with beige- orange silt
80					orange- tan SILT with fine sand and light clay. Sample grading coarser with depth
85					
90					beige CLAY some orange silt
95					beige- white SILT and clay some orange silt trace fine sand. 30% screen recovery.

Borehole / Well Completion Log

Client NYSDEC **Well ID** *MW-NEMF-3-ED*

Project Aluminum Louvre OU2 RI/FS **Project No.** 147-147461

HDR



Borehole / Well Completion Log

Client NYSDEC **Well ID** *MW-NEMF-3-ED*

Project Aluminum Louvre OU2 RI/FS **Project No.** 147-147461

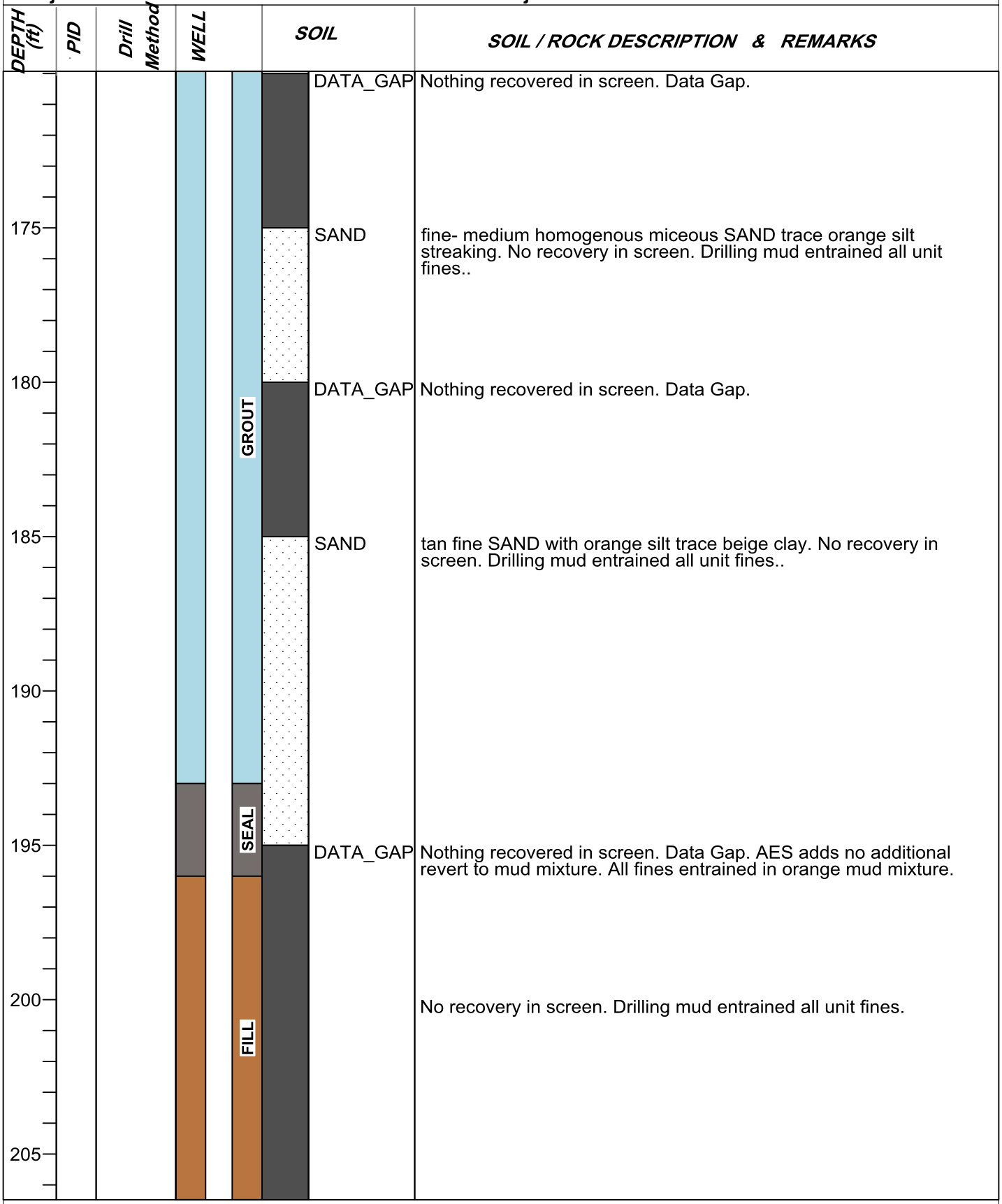
DEPTH (ft)	PID	Drill Method	WELL	SOIL	SOIL / ROCK DESCRIPTION & REMARKS
135					tan silty SAND some light clay
140					fine SAND with orange- tan silt and beige clay. 10% sediment recovered in screen.
145					light tan SILT and clay trace fine sand. 10% sediment recovered in screen.
150			GROUT		fine SAND some light tan silt trace clay. 15% sediment recovered in screen. 10% screen recovery.
155					fine homogenous miceous SAND some silt. 15% screen recovery.
160					fine homogenous SAND trace orange and reddish orange silt
165					fine- medium homogenous SAND trace red/ orange silt

Borehole / Well Completion Log

Client NYSDEC **Well ID** *MW-NEMF-3-ED*

Project Aluminum Louvre OU2 RI/FS **Project No.** 147-147461

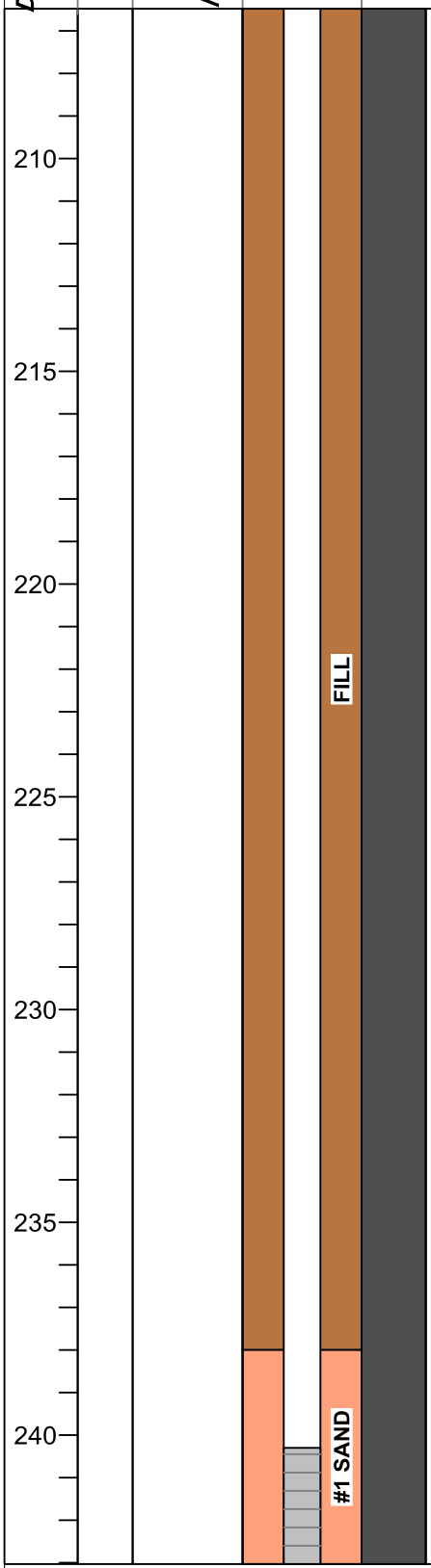
HDR



Borehole / Well Completion Log

Client NYSDEC **Well ID** *MW-NEMF-3-ED*

Project Aluminum Louvre OU2 RI/FS **Project No.** 147-147461



SOIL / ROCK DESCRIPTION & REMARKS

3% screen recovery

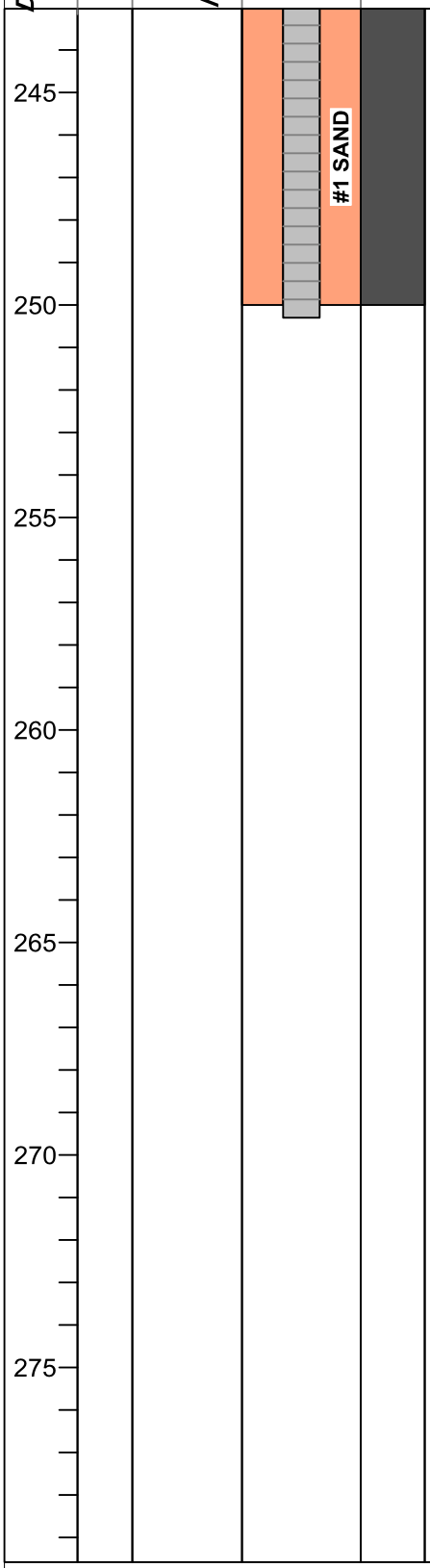
2% screen recovery

AES finishing Sandpack from 238-250 and fines from mud mixture begin to settle out. AES did not want bentonite chips settling into screen. Seal installed 193-196.

Borehole / Well Completion Log

Client NYSDEC **Well ID** *MW-NEMF-3-ED*

Project Aluminum Louvre OU2 RI/FS **Project No.** 147-147461



Borehole / Well Completion Log

Client NYSDEC **Well ID** MW-NEMF-3-VD

Project Aluminum Louvre OU2 RI/FS **Project No.** 147-147461

Drilling

Drilling Contractor	AES	Start Date	10/24/2013	Northing	216621.7
Drilled by	RYAN	Completion Date	10/25/2013	Easting	1139054.3
Logged By	JB	Borehole Depth (ft)	210.0	Surface Elev.(ft)	137.5
Drilling Method	MUD ROTARY	Borehole Dia. (in)	3 7/8	TOC Elev. (ft)	136.9

Samples

Sample Method	N/A	Sample Interval	N/A	Date:	12/2/2013
				DTW (ft. btoc)	73.8
				* DTW measured after well development	

Well

Well Depth (bgs)	200.0	Filter Material	SAND
Screen Interval (ft)	190-200	Filter Interval (ft)	185-200
		Amount	3 Bags
Screen Type	Sch. 40 PVC	Seal Material	BENTONITE PLUG
Slot Size (in)	0.0	Seal Interval (ft)	182-185
		Amount	1.25 gals
Development	Hydrolift	Grout Interval	0-182
Well Diameter (in)	2.0	Amount	4 Bags

Notes:

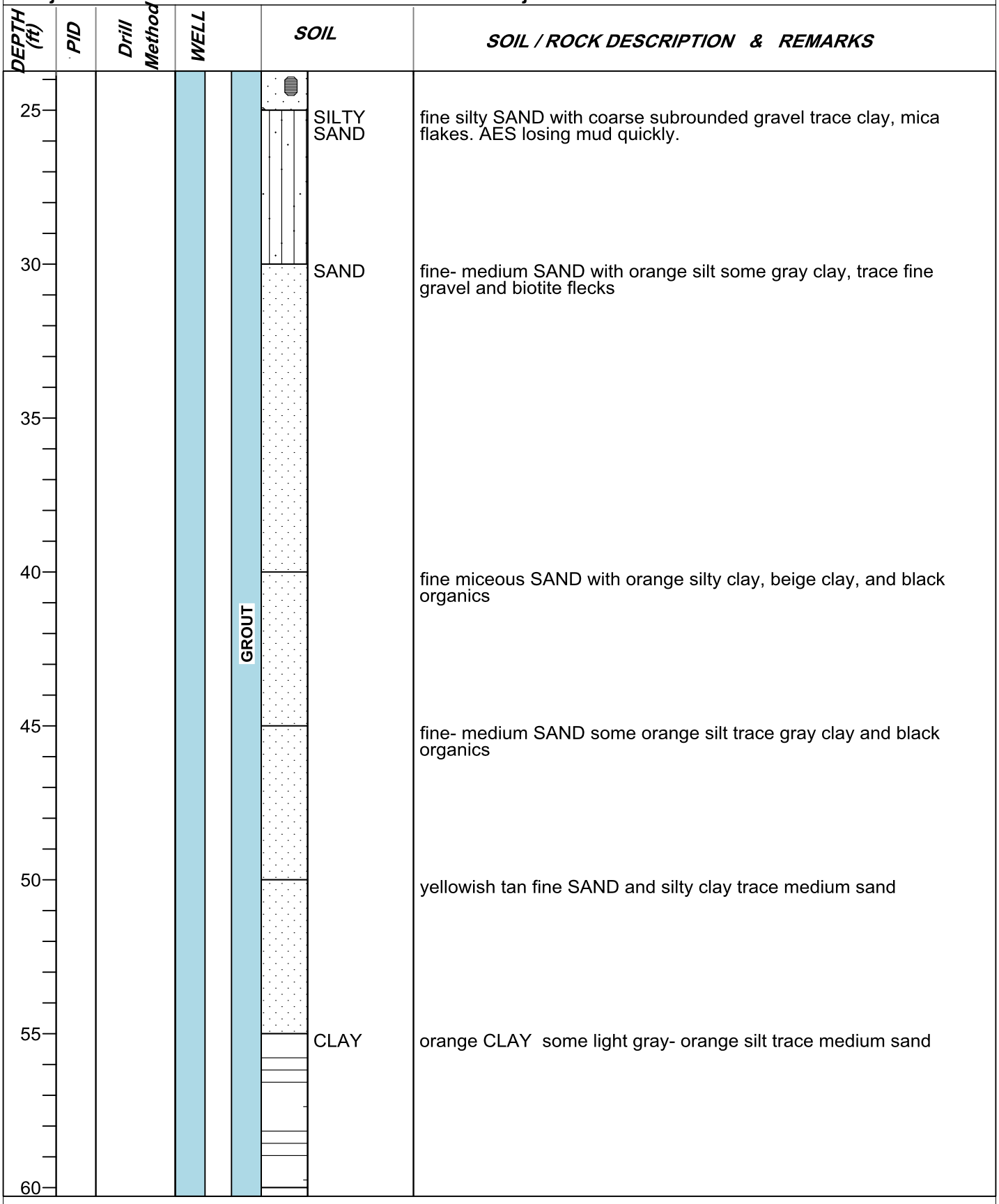
DEPTH (ft)	PID	Drill Method	WELL	SOIL	SOIL / ROCK DESCRIPTION & REMARKS
0	0.0	HSA		SAND	0-4" Asphalt. Dry Brown medium-coarse SAND with fine- coarse rounded gravel, and fill
					Dry fine SAND with silt and fine-coarse gravel
5		MUD			Moist light brown fine miceous SAND with silt, coarse gravel and rounded small cobbles clasts. Hand cleared.
10			GROUT	GRAVEL	Moist rounded- subrounded fine- coarse GRAVEL with fine sand and silt, trace small cobbles. Begin Mud Rotary.
15				SAND	fine-medium miceous SAND trace coarse sand, silt, and clay.
20				GRAVEL	fine subrounded GRAVEL light brown matrix of silty clay, trace fine sand. AES losing mud quickly.

Borehole / Well Completion Log

Client NYSDEC **Well ID** *MW-NEMF-3-VD*

Project Aluminum Louvre OU2 RI/FS **Project No.** 147-147461

HDR

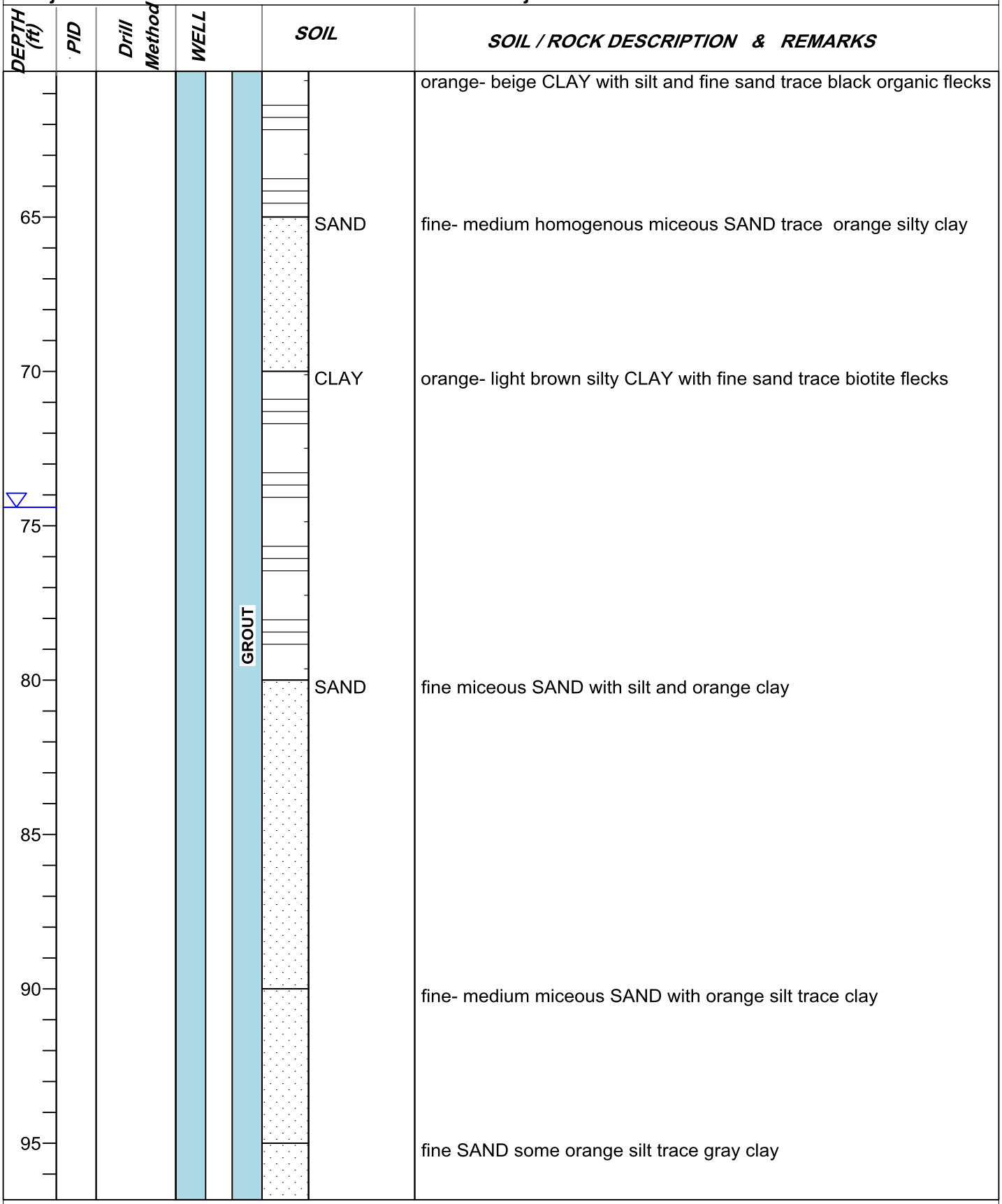


Borehole / Well Completion Log

Client NYSDEC **Well ID** *MW-NEMF-3-VD*

Project Aluminum Louvre OU2 RI/FS **Project No.** 147-147461

HDR

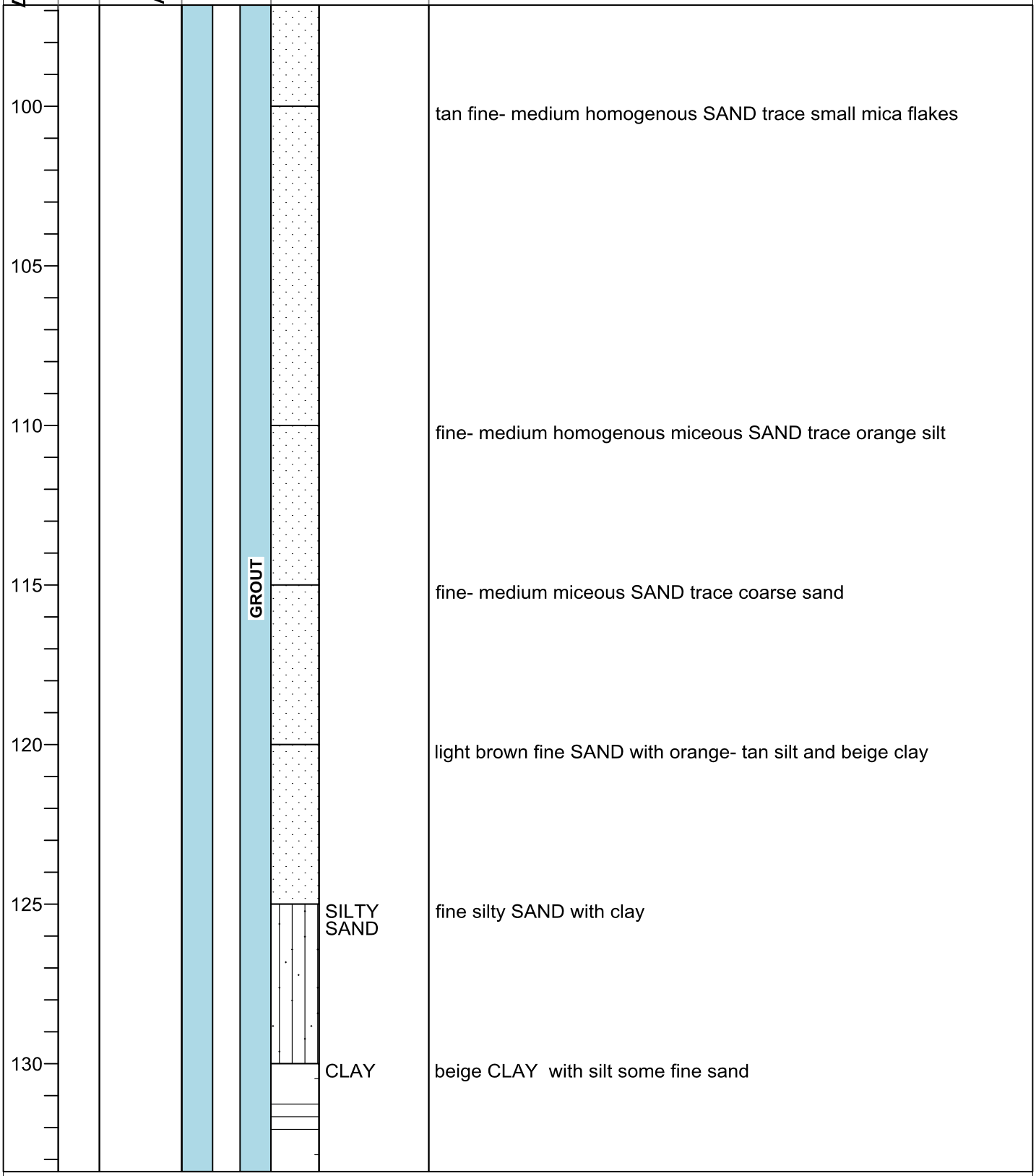


Borehole / Well Completion Log

Client NYSDEC **Well ID** *MW-NEMF-3-VD*

Project Aluminum Louvre OU2 RI/FS **Project No.** 147-147461

HDR



Borehole / Well Completion Log

Client NYSDEC **Well ID** *MW-NEMF-3-VD*

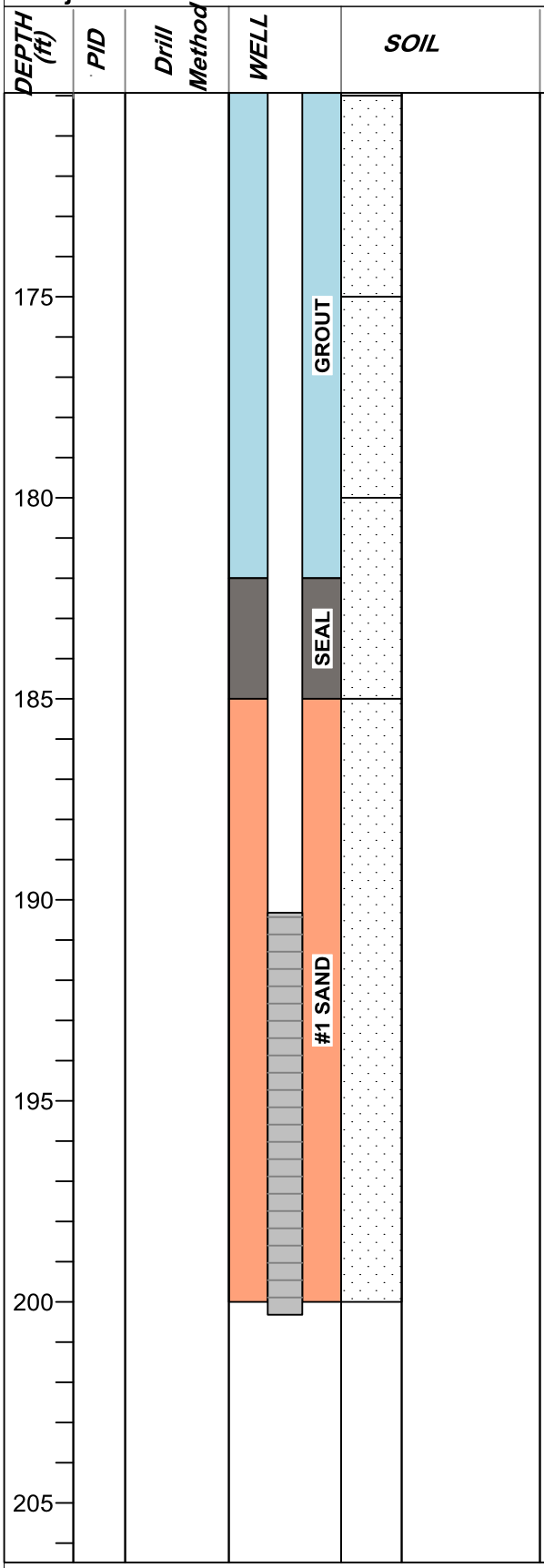
Project Aluminum Louvre OU2 RI/FS **Project No.** 147-147461

DEPTH (ft)	PID	Drill Method	WELL	SOIL	SOIL / ROCK DESCRIPTION & REMARKS
135				SAND	fine SAND some orange silt trace beige-gray clay
140				SILT	fine SILT with gray clay little fine sand
145				SAND	fine SAND with orange silt trace dark gray clay
150			GROUT		fine- medium miceous SAND some beige silty clay
155					fine- medium SAND trace orange silt trace biotite flecks
160					fine SAND some orange- tan silt trace beige clay
165					

Borehole / Well Completion Log

Client NYSDEC **Well ID** *MW-NEMF-3-VD*

Project Aluminum Louvre OU2 RI/FS **Project No.** 147-147461



SOIL / ROCK DESCRIPTION & REMARKS

fine- medium SAND trace orange silt and clay

fine- medium homogenous miceous SAND trace coarse sand and fines

fine- medium homogenous miceous SAND

fine SAND some orange silt trace light beige clay. AES losing mud quickly.

AES losing mud quickly

Borehole / Well Completion Log

Client NYSDEC **Well ID** *MW-NEMF-4-D*

Project Aluminum Louvre OU2 RI/FS **Project No.** 147-147461

Drilling

Drilling Contractor	*AES*	Start Date	*11/13/2013*	Northing	*216240.4*
Drilled by	*JOHN*	Completion Date	*11/15/2013*	Easting	*1138998.3*
Logged By	*JB*	Borehole Depth (ft)	*130.0*	Surface Elev.(ft)	*135.3*
Drilling Method	*HSA*	Borehole Dia. (in)	*4.25 ID/ 8.5 OD*	TOC Elev. (ft)	*134.9*

Samples

Sample Method	N/A	Sample Interval	N/A	Date:	12/2/2013
				DTW (ft. btoc)	73.0
				* DTW measured after well development	

Well

Well Depth (bgs)	125.0	Filter Material	SAND	Notes:	*AES moved borehole 5' west due to powerline obstruction.*
Screen Interval (ft)	115-125	Filter Interval (ft)	112-125		
Screen Type	Sch. 40 PVC	Amount	8 Bags		
Slot Size (in)	0.0	Seal Material	BENTONITE PLUG		
Development	Hand Checked	Seal Interval (ft)	110-112		
Well Diameter (in)	2.0	Amount	2 gals		
		Grout Interval	0-110		
		Amount	9 Bags		

DEPTH (ft)	PID	Drill Method	WELL	SOIL	SOIL / ROCK DESCRIPTION & REMARKS
0	0.0	HSA	GROUT	SAND	0-6" Asphalt. Tan fine- medium SAND with subrounded- rounded fine-coarse gravel trace small cobble and brick fragments
5	0.0				Dry orange- tan ,fine- medium SAND with fine rounded gravel trace silt and medium gravel. Hand cleared.
10	0.0				Dry orange- tan, fine- medium homogenous SAND trace subrounded fine gravel
15	0.0				Dry Dark Brown homogenous fine- medium SAND some mica flakes . AES too close to power lines after they switch to Mud rotary; move borehole 5' west.
20	0.0				Dry Dark tan homogenous fine- medium SAND trace silt. AES too clse to powerlines; move borehole 5' west..

Borehole / Well Completion Log

Client NYSDEC **Well ID** *MW-NEMF-4-D*

Project Aluminum Louvre OU2 RI/FS **Project No.** 147-147461

DEPTH (ft)	PID	Drill Method	WELL	SOIL	SOIL / ROCK DESCRIPTION & REMARKS
25	0.0				Dry Dark tan homogenous fine- medium SAND
30	0.0				Dry Dark Brown fine- medium miceous SAND traces fines
35	0.0				Dry Dark orange brown fine silty SAND some beige clay
40	0.0		GROUT		
45	0.0				Dry homogenous fine- medium SAND
50	0.0				Dry Dark Brown fine- medium SAND with silt trace clay
55	0.0				Dry tan fine- medium homogenous SAND
60	0.0				

Borehole / Well Completion Log

Client NYSDEC **Well ID** *MW-NEMF-4-D*

Project Aluminum Louvre OU2 RI/FS **Project No.** 147-147461

HDR

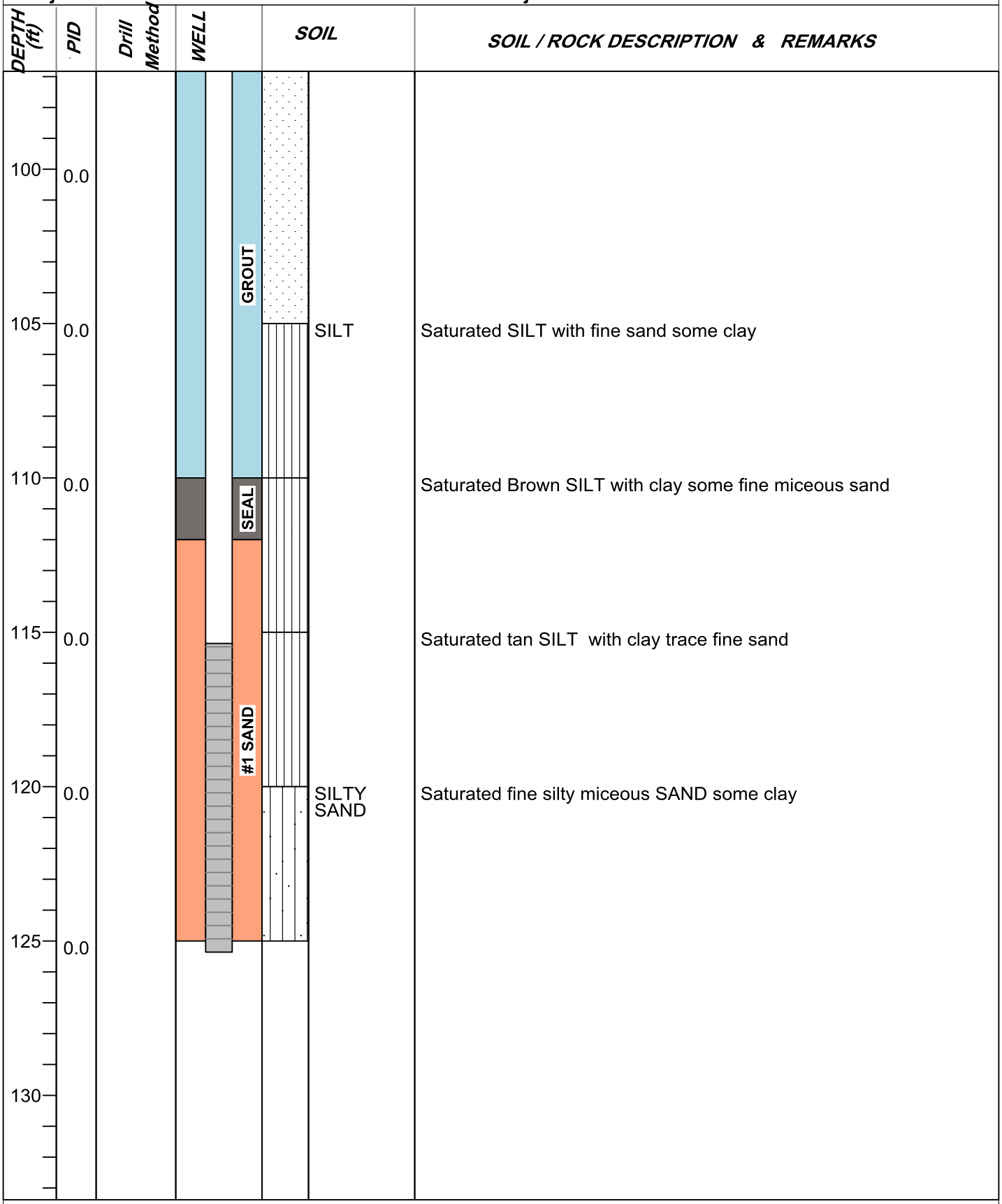
DEPTH (ft)	PID	Drill Method	WELL	SOIL	SOIL / ROCK DESCRIPTION & REMARKS
	0.0				Dry tan fine- medium homogenous miceous SAND trace silt
65	0.0				Moist Dark Brown fine- medium miceous SAND trace silt
70	0.0				
▽					
75	0.0				
80	0.0				Saturated Dark Brown fine- medium SAND with silt trace beige clay
85	0.0			SILTY SAND	Saturated Dark Brown fine silty SAND trace mica flakes
90	0.0				Saturated Orange brown miceous fine silty SAND trace clay
95	0.0			SAND	Saturated Orange- Brown fine silty miceous SAND some clay

GROUT

Borehole / Well Completion Log

Client NYSDEC **Well ID** *MW-NEMF-4-D*

Project Aluminum Louvre OU2 RI/FS **Project No.** 147-147461



Borehole / Well Completion Log

Client NYSDEC **Well ID** MW-NEMF-4-ED

Project Aluminum Louvre OU2 RI/FS **Project No.** 147-147461

Drilling

Drilling Contractor	AES	Start Date	12/2/2013	Northing	216231.6
Drilled by	RYAN	Completion Date	12/4/2013	Easting	1139006.9
Logged By	JB	Borehole Depth (ft)	265.0	Surface Elev.(ft)	135.2
Drilling Method	MUD ROTARY	Borehole Dia. (in)	3 7/8	TOC Elev. (ft)	135.0

Samples

Sample Method	N/A	Sample Interval	N/A	Date:	12/2/2013
				DTW (ft. btoc)	71.8
				* DTW measured after well development	

Well

Well Depth (bgs)	250.0	Filter Material	SAND
Screen Interval (ft)	240-250	Filter Interval (ft)	235-250
		Amount	6 Bags
Screen Type	Sch. 40 PVC	Seal Material	BENTONITE PLUG
Slot Size (in)	0.0	Seal Interval (ft)	231-235
		Amount	1.75 gals
Development	Hand Checked	Grout Interval	0-231
Well Diameter (in)	2.0	Amount	4 Bags

Notes:

DEPTH (ft)	PID	Drill Method	WELL	SOIL	SOIL / ROCK DESCRIPTION & REMARKS
0	0.0	HSA		SAND	0-3" Asphalt. 3-6" Brown medium- coarse SAND with fill fragments and subrounded gravel.
					yellow-orange medium-coarse SAND with fine- coarse gravel trace small cobbles
5	0.0				Dry yellowish orange fine- medium SAND some miceous coarse sand trace coarse rounded gravel and silt
10	0.0		GROUT		Dry yellowish orange fine- coarse gravelly SAND trace mica, small boulders, fines. (subrounded gravel)
15		MUD			Dry brown fine- medium SAND some silt trace fine rounded gravel. Begin mud rotary.
20					medium miceous SAND trace yellowish orange silt

Borehole / Well Completion Log

Client NYSDEC **Well ID** *MW-NEMF-4-ED*

Project Aluminum Louvre OU2 RI/FS **Project No.** 147-147461

DEPTH (ft)	PID	Drill Method	WELL	SOIL	SOIL / ROCK DESCRIPTION & REMARKS
25					fine SAND with orange silt some beige clay tan fine-medium miceous SAND trace orange silt lenses. Bentonite chips recovered in sample..
30					tan fine-medium miceous SAND with orange silt homogenous . Large mica flakes.
35					tan fine miceous SAND some orange silt. Orange silt more prevalent in bottom of screen.
40			GROUT		fine homogenous SAND trace orange silt. Black flecks throughout sample.
45					
50					tan fine SAND with black and orange silt trace clay; some mica flakes.
55					fine- medium miceous SAND trace black- orange silt
60					

Borehole / Well Completion Log

Client NYSDEC **Well ID** *MW-NEMF-4-ED*

Project Aluminum Louvre OU2 RI/FS **Project No.** 147-147461

DEPTH (ft)	PID	Drill Method	WELL	SOIL	SOIL / ROCK DESCRIPTION & REMARKS
					fine- coarse SAND trace dark brown- beige- orange silt and clay
65				CLAY	orange- beige- yellowish orange CLAY some silt trace fine sand
70					
▽					
75					orange, brown, gray CLAY some silt
80				SILT	orange- tan SILT some clay and fine silt. Coarsening downward.
85				SAND	tan fine SAND some silt trace beige clay.
90					tan fine-medium SAND some mica flakes with tan- orange silt trace beige clay. Clay in chunks toward screen surface
95					tan fine- medium miceous SAND some silt

GROUT

Borehole / Well Completion Log

Client NYSDEC **Well ID** *MW-NEMF-4-ED*

Project Aluminum Louvre OU2 RI/FS **Project No.** 147-147461

DEPTH (ft)	PID	Drill Method	WELL	SOIL	SOIL / ROCK DESCRIPTION & REMARKS
100					tan fine homogenous SAND trace mica flakes trace yellow orange silt
105					
110					tan fine- medium SAND some yellowish orange- black silt trace mica flakes
115			GROUT		tan fine SAND with yellowish orange silt trace clay
120					tan- gray fine silty SAND trace clay.
125					tan fine- medium homogenous miceous SAND trace silt
130					

Borehole / Well Completion Log

Client NYSDEC **Well ID** MW-NEMF-4-ED

Project Aluminum Louvre OU2 RI/FS **Project No.** 147-147461

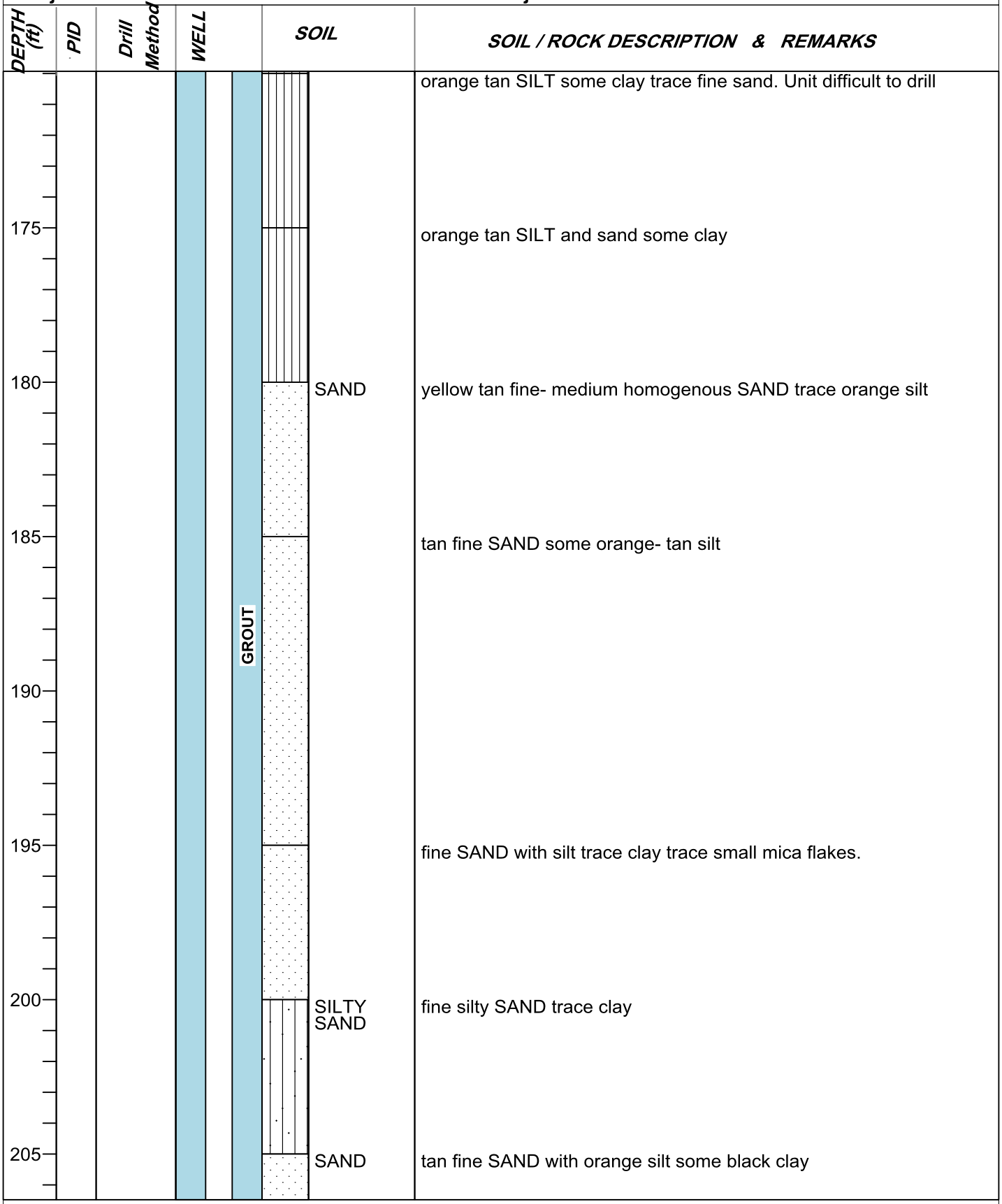
DEPTH (ft)	PID	Drill Method	WELL	SOIL	SOIL / ROCK DESCRIPTION & REMARKS
135					tan fine- medium homogenous SAND trace small mica flakes
140					tan fine- medium SAND trace dark orange silt. Trace black specs.
145					tan silty fine SAND orange- yellowish orange, black silt some clay . Black specs throughout sample.
150			GROUT		fine SAND with orange, black silt trace beige, yellowish orange clay
155					tan silty fine SAND some orange, beige clay
160					tan fine SAND some mica with silty clay
165				SILT	yellowish orange SILT some fine sand and clay

Borehole / Well Completion Log

Client NYSDEC **Well ID** *MW-NEMF-4-ED*

Project Aluminum Louvre OU2 RI/FS **Project No.** 147-147461

HDR



Borehole / Well Completion Log

Client NYSDEC **Well ID** *MW-NEMF-4-ED*

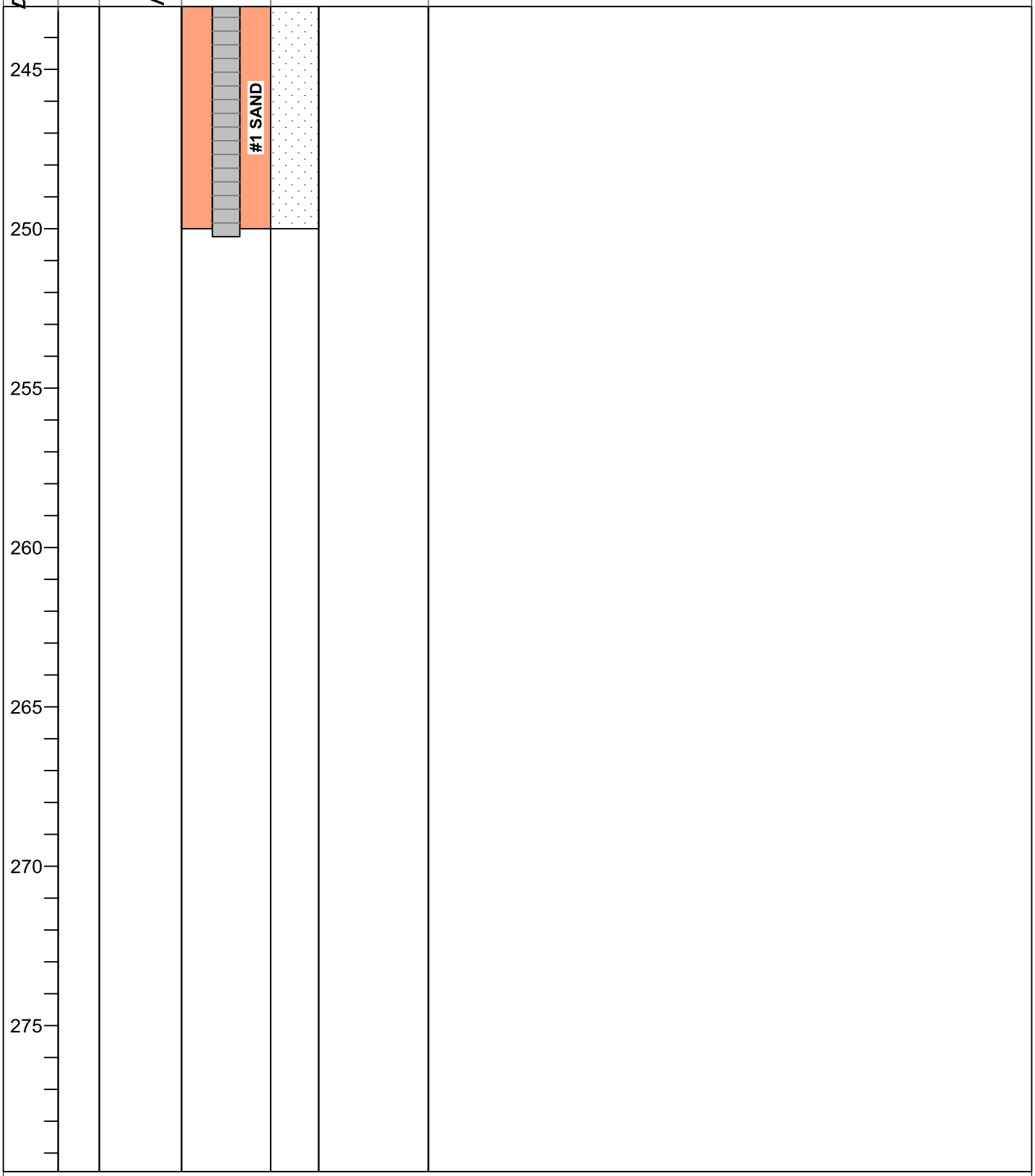
Project Aluminum Louvre OU2 RI/FS **Project No.** 147-147461

DEPTH (ft)	PID	Drill Method	WELL	SOIL	SOIL / ROCK DESCRIPTION & REMARKS
210					tan fine- medium homogenous miceous SAND trace orange silt
215			GROUT		
220					tan- orange fine SAND some orange silt trace white clay
225					fine homogenous miceous SAND trace orange silt
230			SEAL		
235			#1 SAND		fine SAND with orange silt trace mica flakes
240					fine homogenous SAND trace silt

Borehole / Well Completion Log

Client NYSDEC **Well ID** *MW-NEMF-4-ED*

Project Aluminum Louvre OU2 RI/FS **Project No.** 147-147461



Borehole / Well Completion Log

Client NYSDEC **Well ID** MW-NEMF-4-VD

Project Aluminum Louvre OU2 RI/FS **Project No.** 147-147461

Drilling

Drilling Contractor AES | Start Date 11/15/2013 | Northing 216246.5

Drilled by RYAN | Completion Date 11/19/2013 | Easting 1138986.9

Logged By JB | Borehole Depth (ft) 206.0 | Surface Elev.(ft) 135.2

Drilling Method MUD ROTARY | Borehole Dia. (in) 3 7/8 | TOC Elev. (ft) 135.0

Samples

Sample Method N/A | Sample Interval N/A | Date: 12/2/2013

DTW (ft. btoc) 71.5

* DTW measured after well development

Well

Well Depth (bgs) 200.0 | Filter Material SAND

Screen Interval (ft) 190-200 | Filter Interval (ft) 188-200

Amount 3 Bags

Screen Type Sch. 40 PVC | Seal Material BENTONITE PLUG

Slot Size (in) 0.0 | Seal Interval (ft) 185-188

Amount 1.75 gals

Development Hand Checked | Grout Interval 0-185

Well Diameter (in) 1.0 | Amount 5 Bags

Notes:

DEPTH (ft)	PID	Drill Method	WELL	SOIL	SOIL / ROCK DESCRIPTION & REMARKS
0	0.0	HSA		SAND	0-6"- Asphalt. Tan fine- coarse SAND with fine gravel trace subrounded coarse gravel and angular brick clasts
5	0.0				Dry orange fine- medium SAND with fine subrounded gravel trace fill (cement fragments). Hand cleared.
10	0.0		GROUT		Dry Light Brown fine- medium homogenous SAND with subrounded-rounded fine gravel throughout
15	0.0				Dry light brown fine miceous SAND with silt some rounded fine gravel. Begin mud rotary.
20		MUD			Orange fine- medium SAND some silt trace coarse sand

Borehole / Well Completion Log

Client NYSDEC **Well ID** *MW-NEMF-4-VD*

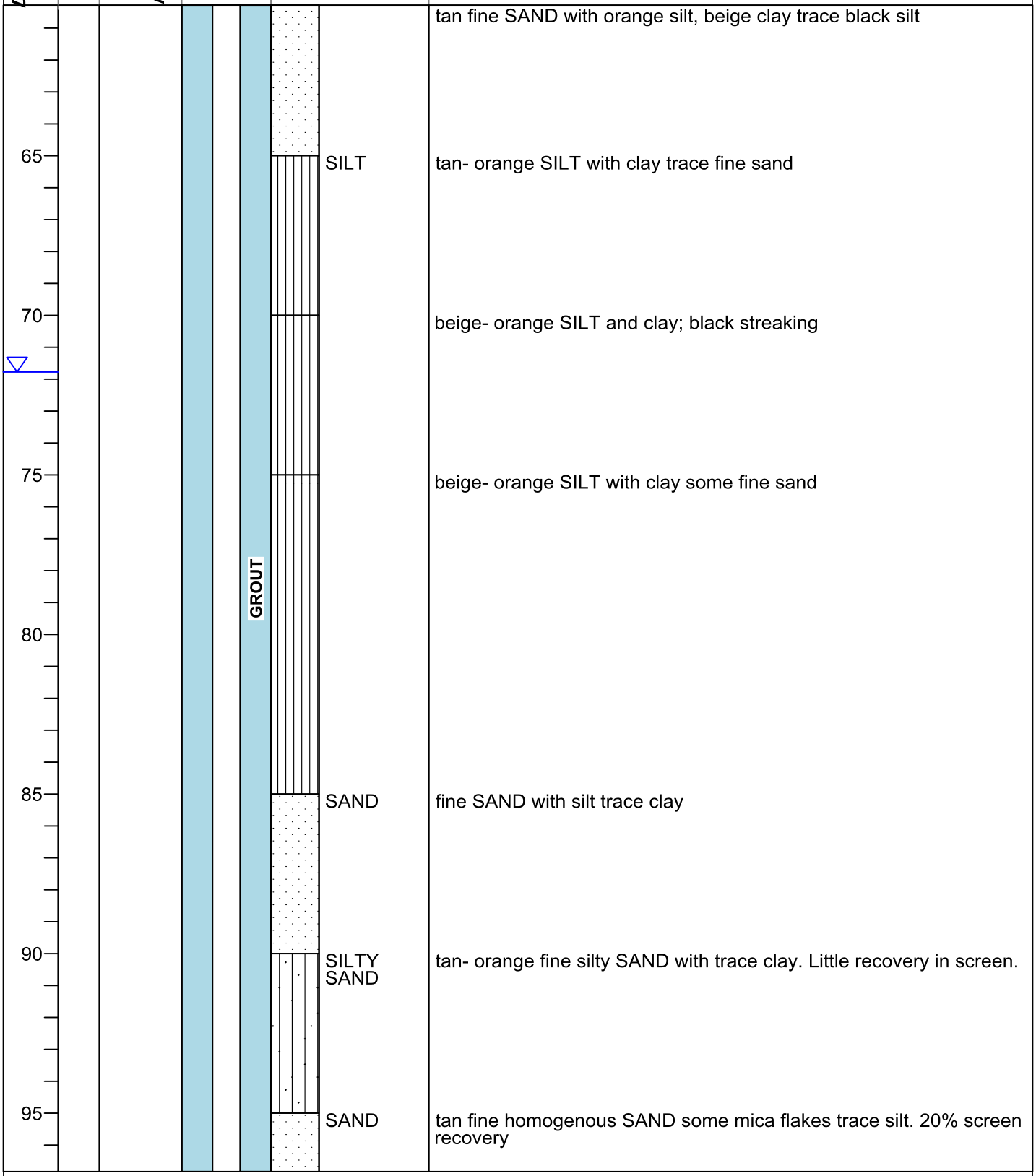
Project Aluminum Louvre OU2 RI/FS **Project No.** 147-147461

DEPTH (ft)	PID	Drill Method	WELL	SOIL	SOIL / ROCK DESCRIPTION & REMARKS
25					tan miceous fine SAND some coarse sand with orange silt
30					tan fine- medium homogenous miceous SAND some orange silt
35					tan fine- medium homogenous SAND
40			GROUT		tan fine- medium homogenous miceous SAND
45					tan fine SAND trace beige silt
50					tan fine homogenous miceous SAND some beige and orange silt
55					tan fine SAND some black- beige silt trace medium sand
60					

Borehole / Well Completion Log

Client NYSDEC **Well ID** *MW-NEMF-4-VD*

Project Aluminum Louvre OU2 RI/FS **Project No.** 147-147461



DEPTH (ft)	PID	Drill Method	WELL	SOIL	SOIL / ROCK DESCRIPTION & REMARKS
					tan fine SAND with orange silt, beige clay trace black silt
65				SILT	tan- orange SILT with clay trace fine sand
70					beige- orange SILT and clay; black streaking
75					beige- orange SILT with clay some fine sand
80					
85				SAND	fine SAND with silt trace clay
90				SILTY SAND	tan- orange fine silty SAND with trace clay. Little recovery in screen.
95				SAND	tan fine homogenous SAND some mica flakes trace silt. 20% screen recovery

Borehole / Well Completion Log

Client NYSDEC **Well ID** *MW-NEMF-4-VD*

Project Aluminum Louvre OU2 RI/FS **Project No.** 147-147461

DEPTH (ft)	PID	Drill Method	WELL	SOIL	SOIL / ROCK DESCRIPTION & REMARKS
100			GROUT		tan fine SAND some silt trace beige clay. Little recovery in screen.
105					tan fine homogenous SAND with silt trace medium sand. Little recovery in screen. 20% screen recovery.
110					tan-orange/brown fine homogenous SAND with silt. Little recovery in screen. Mix more revert into mud. 20% screen recovery.
115					tan fine miceous SAND some orange- beige silt. 20% screen recovery.
120					tan-gray fine-medium miceous homogenous SAND
125					
130					tan fine miceous SAND some orange silt

Borehole / Well Completion Log

Client NYSDEC **Well ID** *MW-NEMF-4-VD*

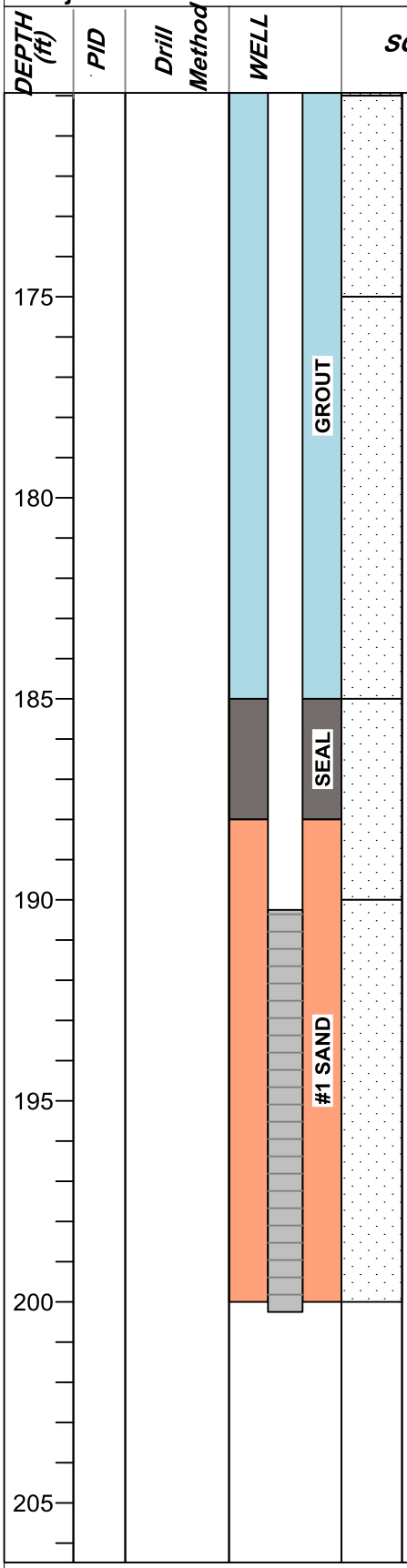
Project Aluminum Louvre OU2 RI/FS **Project No.** 147-147461

DEPTH (ft)	PID	Drill Method	WELL	SOIL	SOIL / ROCK DESCRIPTION & REMARKS
135					tan fine miceous SAND and beige- orange silt. Large mica flakes.
140					fine- medium SAND some tan- orange silt.
145				SILT	tan SILT some fine sand trace clay
150			GROUT	SAND	tan fine- medium homogenous miceous SAND
155					tan fine- medium miceous SAND some beige- tan silt trace beige clay
160					
165				SILT	tan- light beige fine SILT some fine sand and clay

Borehole / Well Completion Log

Client NYSDEC **Well ID** *MW-NEMF-4-VD*

Project Aluminum Louvre OU2 RI/FS **Project No.** 147-147461



MONITORING WELL COMPLETION LOG

PROJECT NUMBER: 147-147461

PROJECT NAME: Aluminum Louvre

WELL No.: **MW-175-1-S/I/D**

CLIENT: NYSDEC

LOCATION: Old Bethpage, NY

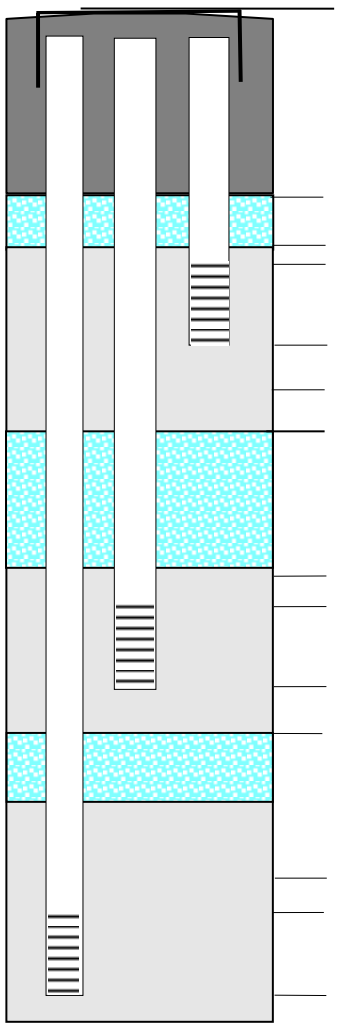
DATE DRILLED: October 7, 2013

DATE DEVELOPED: 10/25/2013
11/25/2013

CONSTRUCTION COMPLETED: 10/8/2013

DEVELOPING METHOD: Hand Checked

GRADE ELEVATION



NOT TO SCALE

INSPECTOR: Jennifer Becker

DRILLING CONTRACTOR: Associated Enviromental

TYPE OF WELL: Overburden

STATIC WATER LEVEL: DATE:

MEASURING POINT:

TOTAL DEPTH OF WELL: TOTAL DEPTH OF BORING:

DRILLING METHOD

TYPE: Hollow Stem Auger

DIAMETER: 8 inch CASING: 4.25

SAMPLING METHOD

TYPE:

DIAMETER: N/A WEIGHT:

FALL: INTERVAL:

RISER PIPE LEFT IN PLACE

MATERIAL: Sch. 40 PVC

DIAMETER: 1 inch LENGTH: 125 JOINT TYPE: Flush Thread

SCREEN

MATERIAL: PVC

INTERVAL: 125-115; 95-85; 70-60 DIAMETER: 1 inch

STRATIGRAPHIC UNITS SCREENED: SLOT SIZE: 0.010

FILTER PACK

GRADE:

SAND: W.G. #1 GRAVEL: NATURAL:

AMOUNT: 9; 8; 6 Bags INTERVAL: 125-103; 100-82; 80-63

SEAL(s)

NOTES:

Three nested 1 inch wells in single boring.

9/16" socket

Portland Cement	INTERVAL:	0-56	AMOUNT:	9-Portland 6- Grout
Bentonite Slurry	INTERVAL:		AMOUNT:	
Bentonite Pellets	INTERVAL:	60-63 82-85 100-103	AMOUNT:	2 buckets ~10 gals

LOCKING CASING: ☐ YES ■ NO KEY NO:

MONITORING WELL COMPLETION LOG

PROJECT NUMBER: 147-147461

PROJECT NAME: Former Aluminum Louvre

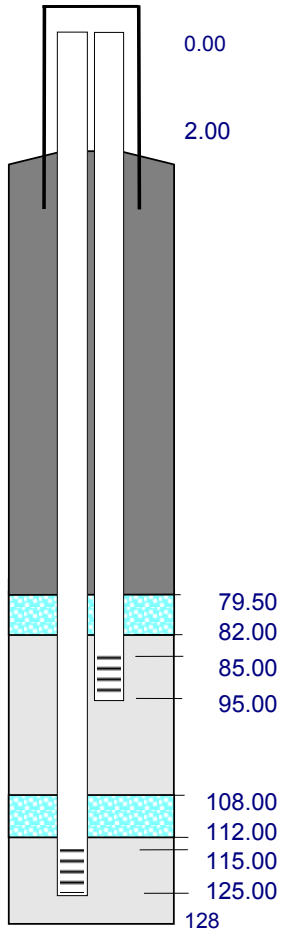
WELL No.: MW-303-1-I/D

CLIENT: NYSDEC

LOCATION: Old Bethpage, NY

DATE DRILLED: October 14, 2013 | DATE DEVELOPED: 10/24/13 | CONSTRUCTION COMPLETED: 10/15/13

DEVELOPING METHOD: Hand Checked



NOT TO SCALE

INSPECTOR: Jennifer Becker

DRILLING CONTRACTOR: Associated Enviromental

TYPE OF WELL: Overburden

STATIC WATER LEVEL: | DATE: 10/14/13

MEASURING POINT:

TOTAL DEPTH OF WELL: 95; 125 | TOTAL DEPTH OF BORING: 128

DRILLING METHOD | TYPE: H.S.A

DIAMETER: 8 | CASING: 4.25

SAMPLING METHOD | TYPE:

DIAMETER: N/A | WEIGHT:

FALL: | INTERVAL:

RISER PIPE LEFT IN PLACE | MATERIAL: Sch. 40 PVC

DIAMETER: 1" | LENGTH: 95; 125 | JOINT TYPE: Flush Thread

SCREEN | MATERIAL: PVC

INTERVAL: 85-95 115-125 | DIAMETER: 1"

STRATIGRAPHIC UNITS SCREENED: | SLOT SIZE: 10.000

FILTER PACK | GRADE:

SAND: W.G #1 | GRAVEL: | NATURAL:

AMOUNT: 4 bags; 6 bags | INTERVAL: 82-108; 112-125

SEAL(s)

NOTES:

9/16" socket

Two nested 1 inch wells in single boring.

STEEL CASING	INTERVAL:		AMOUNT:
CONCRETE MIX	INTERVAL:		AMOUNT:
CEMENT GROUT	INTERVAL:	2-79.5	AMOUNT: 10-Portland 7- Grout
BENTONITE SLURRY	INTERVAL:		AMOUNT:
BENTONITE PELLETS	INTERVAL:	108-112 79.5-82	AMOUNT: 0.5 Bucket 0.5 Bucket
OTHER			

LOCKING CASING: YES ■ NO KEY NO:

Appendix C
Monitoring Well Sampling Logs

Low Flow Sampling
Data Sheet

Site: NYSDEC Al Louvre 147-147461 **Consulting Firm:** HDR
Date: 9/17/2013 **Field Personnel:** JB, MP
Weather: Sunny Breezy 68 °F

Monitor Well #: __ MW-NEMF-3-D **Well Depth:** 125 ft. **Screened/Open Interval:** _____ 115-125
Well Diameter: ____1_____ Inches

PID/FID Readings (ppm):
Background: 0.0 **Pump Intake Depth:** 120
Reading in Casing: 0.0 **Depth to Water Before Pump Installation:** _____72.24_____ Ft below TOC
Make/Model of Pump: QED 0.75 Bladder Pump

TIME	Purging	Sampling	pH (pH Units) Reading	pH Change*	Specific Conductivity (mS/cm) Reading	Specific Conductivity Change*	Redox Potential (mv) Reading	Redox Potential Change*	Dissolved Oxygen (mg/L) Reading	Dissolved Oxygen Change*	Turbidity (NTU) Reading	Turbidity Change*	Temperature (degrees C) Reading	Temperature Change*	Pumping Rate (mL/min)	Depth To Water (ft below TOC)
1425	x															72.24
1430	x		5.24		0.185		266		5.92		84.6		23.40		64	N/A
1435	x		5.19	0.05	0.183	0.002	287	-21	5.96	-0.04	43.3	41.3	21.75	1.65	64	N/A
1440	x		5.13	0.06	0.185	-0.002	291	-4	6.01	-0.05	50.0	-6.7	20.88	0.87	64	N/A
1445	x		5.11	0.02	0.186	-0.001	311	-20	6.03	-0.02	32.9	17.1	20.44	0.44	64	N/A
1450	x		5.09	0.02	0.187	-0.001	316	-5	5.96	0.07	17.6	15.3	20.32	0.12	64	N/A
1455	x		5.10	-0.01	0.189	-0.002	320	-4	6.05	-0.09	8.5	9.1	20.25	0.07	64	N/A
1500	x		5.10	0	0.189	0	322	-2	6.04	0.01	6.0	2.55	20.18	0.07	64	N/A
1505	x		5.11	-0.01	0.189	0	324	-2	6.09	-0.05	3.9	2.03	20.18	0	64	N/A
1510	x		5.11	0	0.189	0	322	2	6.00	0.09	13.0	-9.08	20.13	0.05	64	N/A
1515	x		5.11	0	0.190	-0.001	324	-2	5.96	0.04	1.2	11.8	20.03	0.1	64	N/A
1520	x		5.11	0	0.190	0	325	-1	5.95	0.01	0.5	0.7	20.00	0.03	64	N/A
1525	x		5.11	0	0.189	0.001	326	-1	5.96	-0.01	0.3	0.2	20.06	-0.06	64	N/A
1530	x	x	5.12	-0.01	0.189	0	313	13	5.69	0.27	3.5	-3.2	20.87	-0.81	64	72.13

Comments: Fill/ Refill= 7.5; 4CPM; Slight solvent odor in purge water.

*** INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ±0.1 FOR Ph; ±3% for Specific Conductivity and Temperature; ±10 mv for Redox Potential; and ±10% for Dissolved Oxygen and Turbidity.**

Low Flow Sampling
Data Sheet

Sheet ___1___ of ____1__

Site: NYSDEC Al Louvre 147-147461
Date: 9/17/2013
Weather: Sunny Breezy 60 °F

Consulting Firm: HDR
Field Personnel: JB, MP

Monitor Well #: __ MW-195-1-I
Well Depth: ___100'_ ft.
Well Diameter: ____1_____ Inches

Screened/Open Interval: _____ 90-100

PID/FID Readings (ppm):
Background: 0.0
Reading in Casing: 0.0

Pump Intake Depth: _____95
Depth to Water Before Pump Installation: _____74.10_____ Ft below TOC
Make/Model of Pump: QED 0.75 Bladder Pump

TIME	Purging	Sampling	pH (pH Units) Reading	pH Change*	Specific Conductivity (mS/cm) Reading	Specific Conductivity Change*	Redox Potential (mv) Reading	Redox Potential Change*	Dissolved Oxygen (mg/L) Reading	Dissolved Oxygen Change*	Turbidity (NTU) Reading	Turbidity Change*	Temperature (degrees C) Reading	Temperature Change*	Pumping Rate (mL/min)	Depth To Water (ft below TOC)
1110	X															74.1
1115	X		4.94		0.137		303		7.00		8.6		20.90		66	n/a
1120	X		5.12	-0.18	0.153	-0.016	289	14	6.24	0.76	3.4	5.2	21.06	-0.16	66	n/a
1125	X		5.14	-0.02	0.193	-0.04	287	2	6.03	0.21	1.3	2.1	21.29	-0.23	66	n/a
1130	X		5.14	0	0.216	-0.023	292	-5	5.87	0.16	0.0	1.3	21.46	-0.17	66	n/a
1135	X		5.15	-0.01	0.220	-0.004	296	-4	5.83	0.04	0.0	0	21.42	0.04	66	n/a
1140	X		5.16	-0.01	0.223	-0.003	301	-5	5.80	0.03	0.0	0	21.56	-0.14	66	n/a
1145	X		5.17	-0.01	0.220	0.003	307	-6	5.80	0	0.0	0	21.53	0.03	66	n/a
1150	X		5.17	0	0.223	-0.003	304	3	5.84	-0.04	0.0	0	21.54	-0.01	66	n/a
1205		X	5.14	0.03	0.232	-0.009	297	7	6.43	-0.59	0.0	0	21.16	0.38	66	74.09

Comments:
Pump set at 75 psi 6CPM 3 fill/ 17 refill

* INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ±0.1 FOR Ph; ±3% for Specific Conductivity and Temperature; ±10 mv for Redox Potential; and ±10% for Dissolved Oxygen and Turbidity.

Low Flow Sampling
Data Sheet

Site: NYSDEC Al Louvre 147-147461 **Consulting Firm:** HDR
Date: 9/18/2013 **Field Personnel:** JB, CM
Weather: Sunny 70 °F

Monitor Well #: __ EW-7C **Well Depth:** 199 ft. **Screened/Open Interval:** _____ 189-199
Well Diameter: ___2.5_____ Inches

PID/FID Readings (ppm):
Background: 0.0
Reading in Casing: 0.0

Pump Intake Depth: 194
Depth to Water Before Pump Installation: _____88.11_____ Ft below TOC
Make/Model of Pump: Well Wizard Bladder Pump

TIME	Purging	Sampling	pH (pH Units)		Specific Conductivity (mS/cm)		Redox Potential (mv)		Dissolved Oxygen (mg/L)		Turbidity (NTU)		Temperature (degrees C)		Pumping Rate (mL/min)	Depth To Water (ft below TOC)
			Reading	Change*	Reading	Change*	Reading	Change*	Reading	Change*	Reading	Change*	Reading	Change*		
1345	x															8.11
1350	x		6.58		0.286		241		5.28		0.0		17.53		240	8.12
1355	x		6.16	0.42	0.540	-0.254	244	-3	2.84	2.44	0.0	0	16.65	0.88	240	88.12
1400	x		5.86	0.3	0.700	-0.16	249	-5	2.61	0.23	0.4	-0.4	17.42	-0.77	240	88.11
1405	x		5.62	0.24	0.806	-0.106	261	-12	3.07	-0.46	2.5	-2.1	17.44	-0.02	240	88.11
1410	x		5.36	0.26	0.952	-0.146	283	-22	3.94	-0.87	12.7	-10.2	17.10	0.34	240	88.11
1415	x		5.08	0.28	1.080	-0.128	305	-22	4.81	-0.87	10.8	1.9	17.05	0.05	240	88.11
1420	x		4.98	0.1	1.160	-0.08	318	-13	5.27	-0.46	12.8	-2	16.96	0.09	240	88.11
1425	x		4.92	0.06	1.180	-0.02	329	-11	5.32	-0.05	13.5	-0.7	17.00	-0.04	240	88.11
1430	x		4.89	0.03	1.200	-0.02	339	-10	5.71	-0.39	12.0	1.5	16.84	0.16	240	88.11
1435	x		4.89	0	1.210	-0.01	343	-4	5.69	0.02	10.7	1.3	16.66	0.18	240	88.11
1440	x		4.89	0	1.210	0	321	22	6.00	-0.31	8.8	1.9	16.66	0	240	88.11
1445	x		4.86	0.03	1.240	-0.03	332	-11	5.87	0.13	7.4	1.4	16.59	0.07	240	88.11
1450	x		4.85	0.01	1.270	-0.03	340	-8	5.78	0.09	6.5	0.9	16.62	-0.03	240	88.11
1455	x		4.84	0.01	1.300	-0.03	344	-4	5.87	-0.09	6.4	0.1	16.42	0.2	240	88.11
1500		x	4.85	-0.01	1.310	-0.01	350	-6	6.00	-0.13	5.7	0.7	16.47	-0.05	240	88.11
1515		x	4.86	-0.01	1.310	0	352	-2	5.96	0.04	0.1	5.6	16.00	0.47	240	88.09

Comments:

*** INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ±0.1 FOR Ph; ±3% for Specific Conductivity and Temperature; ±10 mv for Redox Potential; and ±10% for Dissolved Oxygen and Turbidity.**

Low Flow Sampling
Data Sheet

Site: NYSDEC Al Louvre 147-147461
Date: 9/18/2013
Weather: Sunny 68 °F

Consulting Firm: HDR
Field Personnel: JB, CM

Monitor Well #: __ MW-NEMF-2-D
Well Depth: 125 ft.
Well Diameter: ___1_____ Inches

Screened/Open Interval: _____ 115-125

PID/FID Readings (ppm):
Background: 0.0
Reading in Casing: 0.0

Pump Intake Depth: _____120
Depth to Water Before Pump Installation: _____60.61_____ Ft below TOC
Make/Model of Pump: QED 0.75 Bladder Pump

TIME	Purging	Sampling	pH (pH Units) Reading	pH (pH Units) Change*	Specific Conductivity (mS/cm) Reading	Specific Conductivity (mS/cm) Change*	Redox Potential (mv) Reading	Redox Potential (mv) Change*	Dissolved Oxygen (mg/L) Reading	Dissolved Oxygen (mg/L) Change*	Turbidity (NTU) Reading	Turbidity (NTU) Change*	Temperature (degrees C) Reading	Temperature (degrees C) Change*	Pumping Rate (mL/min)	Depth To Water (ft below TOC)
1025	x		5.64		0.795		263		8.72		682.0		20.50		62	60.61
1030	x		5.63	0.01	0.838	-0.043	267	-4	8.57	0.15	599.0	83	20.27	0.23	62	N/A
1035	x		5.61	0.02	0.877	-0.039	271	-4	8.58	-0.01	718.0	-119	20.24	0.03	62	N/A
1040	x		5.59	0.02	0.894	-0.017	272	-1	8.53	0.05	732.0	-14	19.18	1.06	62	N/A
1045	x		5.58	0.01	0.900	-0.006	282	-10	8.49	0.04	559.0	173	18.86	0.32	62	N/A
1050	x		5.58	0	0.905	-0.005	284	-2	8.46	0.03	425.0	134	18.71	0.15	62	N/A
1055	x		5.58	0	0.906	-0.001	285	-1	8.45	0.01	300.0	125	18.68	0.03	62	N/A
1100	x		5.57	0.01	0.909	-0.003	288	-3	8.55	-0.1	288.0	12	18.61	0.07	62	N/A
1105	x		5.57	0	0.909	0	288	0	8.26	0.29	200.0	88	18.78	-0.17	62	N/A
1110	x		5.57	0	0.908	0.001	287	1	8.08	0.18	73.3	126.7	18.82	-0.04	62	N/A
1115	x		5.57	0	0.905	0.003	286	1	7.95	0.13	54.8	18.5	19.00	-0.18	62	N/A
1120	x		5.57	0	0.909	-0.004	285	1	7.90	0.05	28.1	26.7	19.03	-0.03	62	N/A
1125	x		5.57	0	0.910	-0.001	284	1	7.80	0.1	22.0	6.1	19.11	-0.08	62	N/A
1130	x		5.56	0.01	0.909	0.001	283	1	7.69	0.11	17.5	4.5	19.31	-0.2	62	N/A
1135	x		5.56	0	0.909	0	281	2	7.59	0.1	16.3	1.2	19.50	-0.19	62	N/A
1140	x		5.56	0	0.909	0	281	0	7.54	0.05	14.0	2.3	19.54	-0.04	62	N/A
1145	x		5.56	0	0.909	0	280	1	7.52	0.02	10.6	3.4	19.57	-0.03	62	N/A
1150		x	5.59	-0.03	0.913	-0.004	275	5	6.70	0.82	12.8	-2.2	21.20	-1.63	62	Sample

Comments:
ID: 108; 70psi

* INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ±0.1 FOR Ph; ±3% for Specific Conductivity and Temperature; ±10 mv for Redox Potential; and ±10% for Dissolved Oxygen and Turbidity.

Low Flow Sampling
Data Sheet

Sheet ___1___ of ___1___

Site: NYSDEC Al Louvre 147-147461
Date: 9/19/2013
Weather: Sunny 70 °F

Consulting Firm: HDR
Field Personnel: JB, BM

Monitor Well #: __ MW-301-1-S
Well Depth: 65 ft.
Well Diameter: ___1_____ Inches

Screened/Open Interval: _____ 55-65

PID/FID Readings (ppm):
Background: 2.0
Reading in Casing: 0.0

Pump Intake Depth: _____64
Depth to Water Before Pump Installation: _____61.98 Ft below TOC
Make/Model of Pump: QED 0.75 Bladder Pump

TIME	Purging	Sampling	pH (pH Units) Reading	pH (pH Units) Change*	Specific Conductivity (mS/cm) Reading	Specific Conductivity (mS/cm) Change*	Redox Potential (mv) Reading	Redox Potential (mv) Change*	Dissolved Oxygen (mg/L) Reading	Dissolved Oxygen (mg/L) Change*	Turbidity (NTU) Reading	Turbidity (NTU) Change*	Temperature (degrees C) Reading	Temperature (degrees C) Change*	Pumping Rate (mL/min)	Depth To Water (ft below TOC)
1315	x		4.81		0.152		314		4.78		682.0		33.43		55	61.98
1320	x		4.99	-0.18	0.175	-0.023	315	-1	4.01	0.77	546.0	136	31.38	2.05	55	N/A
1325	x		5.10	-0.11	0.129	0.046	312	3	3.16	0.85	218.0	328	28.43	2.95	55	N/A
1330	x		5.10	0	0.101	0.028	319	-7	2.64	0.52	95.1	122.9	27.30	1.13	55	N/A
1335	x		5.05	0.05	0.082	0.019	328	-9	2.31	0.33	59.9	35.2	26.61	0.69	55	N/A
1340	x		5.05	0	0.080	0.002	328	0	2.26	0.05	47.3	12.6	26.53	0.08	55	N/A
1345	x		5.03	0.02	0.078	0.002	331	-3	2.12	0.14	35.0	12.3	26.45	0.08	55	N/A
1350	x		5.00	0.03	0.077	0.001	333	-2	1.97	0.15	18.1	16.9	26.53	-0.08	55	N/A
1355	x		5.00	0	0.078	-0.001	333	0	1.94	0.03	16.1	2	26.62	-0.09	55	N/A
1400	x		5.00	0	0.078	0	332	1	1.91	0.03	13.2	2.9	26.78	-0.16	55	N/A
1405	x		4.98	0.02	0.079	-0.001	333	-1	1.84	0.07	7.9	5.3	27.08	-0.3	55	N/A
1407		x	4.99	-0.01	0.080	-0.001	332	1	1.81	0.03	7.2	0.7	27.25	-0.17	55	63.13

Comments:
ID: 103; 60psi

* INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ±0.1 FOR Ph; ±3% for Specific Conductivity and Temperature; ±10 mv for Redox Potential; and ±10% for Dissolved Oxygen and Turbidity.

Low Flow Sampling
Data Sheet

Site: NYSDEC Al Louvre 147-147461
Date: 9/19/2013- 9/20/2013
Weather: Sunny 65 °F; Sunny 69 °F

Consulting Firm: HDR
Field Personnel: JB

Monitor Well #: __ EW-7D
Well Depth: 283 ft.
Well Diameter: ___2.5_____ Inches
Screened/Open Interval: _____ 273-283

PID/FID Readings (ppm):
Background: 0.0
Reading in Casing: 0.0

Pump Intake Depth: 278
Depth to Water Before Pump Installation: 88.13 Ft below TOC
Make/Model of Pump: Well Wizard Bladder Pump; Bailer

TIME	Purging	Sampling	pH (pH Units) Reading	pH Change*	Specific Conductivity (mS/cm) Reading	Specific Conductivity Change*	Redox Potential (mv) Reading	Redox Potential Change*	Dissolved Oxygen (mg/L) Reading	Dissolved Oxygen Change*	Turbidity (NTU) Reading	Turbidity Change*	Temperature (degrees C) Reading	Temperature Change*	Pumping Rate (mL/min)	Depth To Water (ft below TOC)
1135	x		6.67		0.108		169		8.03		5.2		20.44		300	88.23
1140	x		6.61		0.116		109		8.19		51.3		17.31		200	88.23
1145	x		6.63	-0.02	0.117	-0.001	65	44	8.34	-0.15	427	-375.7	16.78	0.53	200	88.23
1150	x		6.04	0.59	0.082	0.035	51	14	7.58	0.76	500	-73	16.91	-0.13	200	88.23
1155	x		6.47	-0.43	0.260	-0.178	36	15	5.8	1.78	723	-223	17.98	-1.07	200	88.23
1200	x		6.52	-0.05	0.123	0.137	39	-3	5.92	-0.12	709	14	17.99	-0.01	100	88.23
1205	x		6.01	0.51	0.115	0.008	73	-34	6.93	-1.01	612	97	16.74	1.25	200	88.23
1300		x														9/20/2013

Comments: 9/19/13- Well Wizard pump not working. Pine will drop off 9/20/13
9/20/13- New pump delievered. Air in water line. Checked connections; unable to collect sample. HRP delievered bailer. Called PM Patricia Parvis.
Will collect sample mid screen using bailer.

* INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ±0.1 FOR Ph; ±3% for Specific Conductivity and Temperature; ±10 mv for Redox Potential; and ±10% for Dissolved Oxygen and Turbidity.

Low Flow Sampling
Data Sheet

Site: NYSDEC Al Louvre 147-147461
Date: 11/21/2013
Weather: Partly Cloudy 40 °F

Consulting Firm: HDR
Field Personnel: JB, AW

Monitor Well #: __ SW-1
Well Deptl 70 ft.
Well Diameter: ___4_____ Inches

Screened/Open Interval: _____ 65-70

PID/FID Readings (ppm):
Background: `
Reading in Casing: `

Pump Intake Depth: 69
Depth to Water Before Pump Installation: 67.71
Make/Model of Pump: Bladder Pump

TIME	Purging	Sampling	pH (pH Units) Reading	pH (pH Units) Change*	Specific Conductivity (mS/cm) Reading	Specific Conductivity (mS/cm) Change*	Redox Potential (mv) Reading	Redox Potential (mv) Change*	Dissolved Oxygen (mg/L) Reading	Dissolved Oxygen (mg/L) Change*	Turbidity (NTU) Reading	Turbidity (NTU) Change*	Temperature (degrees C) Reading	Temperature (degrees C) Change*	Pumping Rate (mL/min)	Depth To Water (ft below TOC)
736	x															67.65
755	x		4.09		0.304		299		4.84		1.5		11.97		50	67.80
800	x		4.14	-0.05	0.300	0.004	299	0	3.87	0.97	1.5	0	11.53	0.44	75	67.81
805	x		4.21	-0.07	0.291	0.009	296	3	3.07	0.8	1.8	-0.3	11.58	-0.05	150	67.85
810	x		4.26	-0.05	0.285	0.006	292	4	2.68	0.39	1.8	0	11.54	0.04	75	67.85
815	x		4.29	-0.03	0.279	0.006	291	1	2.49	0.19	2.1	-0.3	11.11	0.43	75	67.84
820	x		4.32	-0.03	0.279	0	290	1	2.42	0.07	2.4	-0.3	10.85	0.26	75	67.83
825	x		4.33	-0.01	0.279	0	290	0	2.32	0.1	1.8	0.6	10.87	-0.02	100	67.83
830	x		4.35	-0.02	0.277	0.002	289	1	2.25	0.07	1.8	0	10.66	0.21	100	67.84
835	x		4.37	-0.02	0.274	0.003	289	0	2.30	-0.05	1.5	0.3	10.45	0.21	100	67.84
840		x	4.38	-0.01	0.274	0	289	0	2.25	0.05	1.3	0.2	10.53	-0.08	100	67.84

Comments: 1 CPM 40/20 Refill/Discharge

* INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ±0.1 FOR Ph; ±3% for Specific Conductivity and Temperature; ±10 mv for Redox Potential; and ±10% for Dissolved Oxygen and Turbidity.

Low Flow Sampling
Data Sheet

Site: NYSDEC Al Louvre 147-147461
Date: 11/21/2013
Weather: Mostly Clear 50 °F

Consulting Firm: HDR
Field Personnel: AW

Monitor Well #: __ EW-14D
Well Deptl 195 ft.
Well Diameter: ___2.5_____ Inches

Screened/Open Interval: _____ 185-195

PID/FID Readings (ppm):
Background: 0.0
Reading in Casing: 0.0

Pump Intake Depth: _____190_____ Ft Below TOC
Depth to Water Before Pump Installation: _____43.71_ Ft below TOC
Make/Model of Pump: Bladder Pump

TIME	Purging	Sampling	pH (pH Units) Reading	pH Change*	Specific Conductivity (mS/cm) Reading	Specific Conductivity Change*	Redox Potential (mv) Reading	Redox Potential Change*	Dissolved Oxygen (mg/L) Reading	Dissolved Oxygen Change*	Turbidity (NTU) Reading	Turbidity Change*	Temperature (degrees C) Reading	Temperature Change*	Pumping Rate (mL/min)	Depth To Water (ft below TOC)
1030																43.71
1040																Pump Off
1140																43.7
1320																Pump On
1330	x		4.81		0.101		252		10.3		8.1		12.14		10	43.68
1335	x		5.22	-0.41	0.176	-0.075	247	5	11.03	-0.73	7.2	0.9	12.18	-0.04	10	43.68
1340	x		5.61	-0.39	0.159	0.017	259	-12	11.06	-0.03	7.4	-0.2	12.21	-0.03	10	43.68
1345	x		5.21	0.4	0.172	-0.013	276	-17	9.54	1.52	7	0.4	12.2	0.01	10	43.68
1350	x		4.72	0.49	0.155	0.017	289	-13	7.95	1.59	2.8	4.2	12.17	0.03	10	43.68
1355	x		4.57	0.15	0.151	0.004	298	-9	6.91	1.04	1.9	0.9	12.19	-0.02	10	43.68
1400	x		4.49	0.08	0.15	0.001	302	-4	6.42	0.49	1.7	0.2	12.23	-0.04	10	43.68
1405	x		4.46	0.03	0.149	0.001	304	-2	5.83	0.59	1.2	0.5	12.29	-0.06	10	43.68
1410	x		4.45	0.01	0.149	0	307	-3	5.74	0.09	1	0.2	12.17	0.12	10	43.68
1415	x		4.43	0.02	0.148	0.001	311	-4	5.8	-0.06	1.4	-0.4	11.94	0.23	10	43.68
1420		x	4.4	0.03	0.148	0	314	-3	5.77	0.03	1.5	-0.1	11.79	0.15	10	43.68

Comments: Pump on 2 CPM 20/10. No water to surface pump off to trouble shoot. Call Pine Enviromental to continue to troubleshoot. Pump working 1 CPM 30/30.

* INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ±0.1 FOR Ph; ±3% for Specific Conductivity and Temperature; ±10 mv for Redox Potential; and ±10% for Dissolved Oxygen and Turbidity.

Low Flow Sampling
Data Sheet

Site: NYSDEC Al Louvre 147-147461
Date: 12/13/2013
Weather: Overcast 30 °F

Consulting Firm: HDR
Field Personnel: JB, SQ

Monitor Well #: __ MW-NEMF-4-ED
Well Depth: 250 ft.
Well Diameter: ___2_____ Inches

Screened/Open Interval: _____ 240-250

PID/FID Readings (ppm):
Background: 0.0
Reading in Casing: 0.0

Pump Intake Depth: _____245_____ Ft Below TOC
Depth to Water Before Pump Installation: _____71.82_ Ft below TOC
Make/Model of Pump: QED Bladder Pump

TIME	Purging	Sampling	pH (pH Units) Reading	pH Change*	Specific Conductivity (mS/cm) Reading	Specific Conductivity Change*	Redox Potential (mv) Reading	Redox Potential Change*	Dissolved Oxygen (mg/L) Reading	Dissolved Oxygen Change*	Turbidity (NTU) Reading	Turbidity Change*	Temperature (degrees C) Reading	Temperature Change*	Pumping Rate (mL/min)	Depth To Water (ft below TOC)
920	x															71.82
930	x		6.5		0.336		205		error		672		5.99		100	71.82
935	x		7.21	-0.71	0.305	0.031	176	29	error		764	-92	6.93	0.94	100	71.82
940	x		7.26	-0.05	0.298	0.007	169	7	error		900	-136	7.36	0.43	100	71.82
945	x		7.34	-0.08	0.292	0.006	163	6	14.15		1000	-100	8	0.64	100	71.82
950	x														100	71.82
955	x		7.24	0.1	0.282	0.01	159	4	13.97	0.18	876	124	9.05	-1.05	100	71.82
1000	x		7.16	0.08	0.279	0.003	156	3	11.75	2.22	748	128	9.22	-0.17	100	71.82
1005	x		7.11	0.05	0.278	0.001	152	4	11.3	0.45	673	75	9.29	-0.07	100	71.82
1010	x		7	0.11	0.272	0.006	138	14	10.46	0.84	610	63	9.63	-0.34	100	71.82
1015	x		6.93	0.07	0.271	0.001	129	9	10.08	0.38	554	56	9.85	-0.22	100	71.82
1020	x		6.9	0.03	0.27	0.001	125	4	9.88	0.2	556	-2	9.91	-0.06	100	71.82
1025	x		6.84	0.06	0.268	0.002	118	7	9.57	0.31	522	34	10.11	-0.2	100	71.82
1030	x		6.81	0.03	0.268	0	119	-1	9.4	0.17	510	12	10.29	-0.18	100	71.82
1035	x		6.76	0.05	0.266	0.002	113	6	9.28	0.12	470	40	10.34	-0.05	100	71.82
1040	x		6.73	0.03	0.265	0.001	112	1	9.12	0.16	421	49	10.43	-0.09	100	71.82
1045	x		6.7	0.03	0.264	0.001	111	1	8.94	0.18	410	11	10.54	-0.11	100	71.82
1050	x		6.68	0.02	0.264	0	111	0	8.81	0.13	385	25	10.62	-0.08	100	71.82
1055	x		6.65	0.03	0.263	0.001	111	0	8.75	0.06	363	22	10.72	-0.1	100	71.82
1100	x		6.62	0.03	0.262	0.001	112	-1	8.69	0.06	338	25	10.74	-0.02	100	71.82
1105	x		6.59	0.03	0.261	0.001	114	-2	9.24	-0.55	357	-19	10.8	-0.06	100	71.82
1110	x		6.57	0.02	0.261	0	115	-1	8.82	0.42	293	64	10.8	0	100	71.82
1115	x		6.53	0.04	0.26	0.001	116	-1	8.72	0.1	277	16	10.84	-0.04	100	71.82
1120		x	6.49	0.04	0.26	0	119	-3	8.68	0.04	275	2	10.98	-0.14	100	71.82

Comments: 950- changed out U-52 batteries

* INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ±0.1 FOR Ph; ±3% for Specific Conductivity and Temperature; ±10 mv for Redox Potential; and ±10% for Dissolved Oxygen and Turbidity.

Low Flow Sampling
Data Sheet

Site: NYSDEC Al Louvre 147-147461
Date: 12/13/2013
Weather: Overcast 30 °F

Consulting Firm: HDR
Field Personnel: JB, BM

Monitor Well #: __ MW-175-1-S
Well Deptl 70 ft.
Well Diameter: ___1_____ Inches

Screened/Open Interval: _____ 60-70

PID/FID Readings (ppm):
Background: 0.0
Reading in Casing: 0.0

Pump Intake Depth: 69
Depth to Water Before Pump Installation: 69.2
Make/Model of Pump: Bailer

TIME	Purging	Sampling	pH (pH Units) Reading	pH (pH Units) Change*	Specific Conductivity (mS/cm) Reading	Specific Conductivity (mS/cm) Change*	Redox Potential (mv) Reading	Redox Potential (mv) Change*	Dissolved Oxygen (mg/L) Reading	Dissolved Oxygen (mg/L) Change*	Turbidity (NTU) Reading	Turbidity (NTU) Change*	Temperature (degrees C) Reading	Temperature (degrees C) Change*	Pumping Rate (mL/min)	Depth To Water (ft below TOC)
800		x														
1130		x														

Comments: 0.80 inches of water in well. Unable to use bladder pump to collect sample. As per NYSDEC Tara Diaz will use bailer to sample well as long as it does not touch the bottom.

* INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ±0.1 FOR Ph; ±3% for Specific Conductivity and Temperature; ±10 mv for Redox Potential; and ±10% for Dissolved Oxygen and Turbidity.

Well Sampling Log

Well ID No. MW-NEMF-3-VD

Well Casing Type	Flush Mount	Start SWL	73.31	Project	Al Louvre
Well Depth	199.49	Water Column Ht.	126.18	Date	12/4/2013
Screened Interval	189.49 - 199.49	Well Volume (gallons)	5.15	Crew	RC + PG
Well Elevation	N/A	SWL During Sampling	73.35	Purge Method	Low- Flow
Ground Elevation	N/A	Sample Time	1045	Meters Used	Horiba U-52
Well Condition	Good	Sample Method	Low-Flow	PID Headspace	0.0 ppm
Weather Conditions	48 °F, Clear	Sample Analysis	VOC 8260		

Time	Est. Gal Purged	Purge Rate (mL/min)	pH	Cond. (mS/cm)	Turbidity (NTU)	D.O. (mg/L)	Temp (C)	TDS (g/L)	ORP (mV)	Depth to Water	Comments
0825										73.30	Pump On; set @ 120 psi
0940		40	5.81	0.139	9.4	8.46	12.90	0.085	198	73.35	
0945		40	5.58	0.136	8.2	8.06	13.12	0.089	201	73.35	
0950		40	5.55	0.136	7.9	7.76	13.20	0.088	201	73.35	
0955		40	5.57	0.136	8.0	8.43	13.25	0.088	200	73.35	
1000		40	5.50	0.137	6.9	7.18	13.40	0.089	201	73.35	
1005		40	5.35	0.136	6.3	7.25	14.04	0.089	210	73.35	
1010		40	4.71	0.141	8.4	6.05	14.50	0.092	255	73.35	
1015		40	4.68	0.142	8.3	5.98	14.51	0.092	259	73.35	
1020		40	4.68	0.142	8.3	5.90	14.54	0.093	260	73.35	
1025		40	4.60	0.142	9.0	5.45	14.60	0.093	277	73.35	
1030		40	4.58	0.144	8.7	5.35	14.74	0.094	284	73.35	
1035		40	4.49	0.145	11.0	4.98	14.88	0.094	292	73.35	
1040		40	4.45	0.146	8.7	4.81	14.96	0.095	298	73.35	Final parameter
1045											Sample collected

Well Sampling Log

Well ID No. MW-NEMF-2-VD

Well Casing Type	Flush Mount	Start SWL	70.91	Project	Al Louvre
Well Depth	199.73	Water Column Ht.	128.82	Date	12/4/2013
Screened Interval	189.73 - 199.73	Well Volume (gallons)	21.01	Crew	RC + PG
Well Elevation	N/A	SWL During Sampling	70.92	Purge Method	Low- Flow
Ground Elevation	N/A	Sample Time	1535	Meters Used	Horiba U-52
Well Condition	Good	Sample Method	Low-Flow	PID Headspace	0.1 ppm
Weather Conditions	49 °F, Clear	Sample Analysis	VOC 8260		

Time	Est. Gal Purged	Purge Rate (mL/min)	pH	Cond. (mS/cm)	Turbidity (NTU)	D.O. (mg/L)	Temp (C)	TDS (g/L)	ORP (mV)	Depth to Water	Comments
1344										70.92	Pump On; set @ 110 psi
1430		40	5.93	0.450	5.3	11.55	13.61	0.293	82	70.92	
1435		40	5.85	0.453	5.6	8.70	13.61	0.295	69	70.92	
1440		40	5.81	0.454	5.5	8.35	13.61	0.295	59	70.92	
1445		40	5.78	0.455	5.2	8.12	16.60	0.295	54	70.92	
1450		40	5.74	0.457	5.1	7.85	16.61	0.297	46	70.92	
1455		40	5.72	0.459	4.9	7.62	13.61	0.299	45	70.92	
1500		40	5.42	0.469	4.9	6.80	13.61	0.305	75	70.92	
1505		40	5.11	0.469	4.9	5.96	13.61	0.313	98	70.92	
1510		40	5.08	0.480	11.7	5.58	16.62	0.313	100	70.92	
1515		40	4.84	0.495	18.4	4.16	13.73	0.322	99	70.92	
1520		40	4.81	0.501	20.1	3.72	13.73	0.321	100	70.92	
1525		40	4.75	0.507	23.1	3.36	13.76	0.324	101	70.92	
1530		40	4.68	0.511	23.0	2.98	13.70	0.330	105	70.92	Final parameter
1535											Sample collected

Well Sampling Log

Well ID No. MW-NEMF-2-ED

Well Casing Type	Flush Mount	Start SWL	70.70	Project	Al Louvre
Well Depth	250.22	Water Column Ht.	179.52	Date	12/3/2013
Screened Interval	240.22 - 250.22	Well Volume (gallons)	29.28	Crew	RC + PG
Well Elevation	N/A	SWL During Sampling	70.73	Purge Method	Low- Flow
Ground Elevation	N/A	Sample Time	1525	Meters Used	Horiba U-52
Well Condition	Good	Sample Method	Low-Flow	PID Headspace	1.3 ppm
Weather Conditions	50 °F, Overcast	Sample Analysis	VOC 8260		

Time	Est. Gal Purged	Purge Rate (mL/min)	pH	Cond. (mS/cm)	Turbidity (NTU)	D.O. (mg/L)	Temp (C)	TDS (g/L)	ORP (mV)	Depth to Water	Comments
1435										70.73	Pump On; set @ 40 psi
1440		150	5.54	0.238	13.5	4.90	15.13	0.155	-107	70.73	
1445		150	4.90	0.240	16.2	3.79	15.21	0.156	-80	70.73	
1450		150	4.81	0.243	49.4	3.38	15.24	0.158	-104	70.73	
1455		150	4.80	0.243	40.0	3.15	15.23	0.158	-76	70.73	
1500		150	4.70	0.243	29.7	2.88	15.24	0.158	-33	70.73	
1505		150	4.70	0.243	27.4	2.80	15.24	0.158	-29	70.73	
1510		150	4.69	0.243	24.5	2.70	15.25	0.158	-24	70.73	
1515		150	4.70	0.243	24.8	2.67	15.24	0.158	-21	70.73	
1520		150	4.71	0.244	22.1	2.68	15.24	0.158	-20	70.73	Final parameter
1525											Sample collected

Well Sampling Log

Well ID No. MW-NEMF-3-ED

Well Casing Type	Flush Mount	Start SWL	73.80	Project	Al Louvre
Well Depth	238.22	Water Column Ht.	164.42	Date	12/5/2013
Screened Interval	228.22 - 238.22	Well Volume (gallons)	26.82	Crew	RC + PG
Well Elevation	N/A	SWL During Sampling	73.80	Purge Method	Low- Flow
Ground Elevation	N/A	Sample Time	1740	Meters Used	Horiba U-52
Well Condition	Good	Sample Method	Low-Flow	PID Headspace	0.0 ppm
Weather Conditions	50 °F, Overcast	Sample Analysis	VOC 8260		

Time	Est. Gal Purged	Purge Rate (mL/min)	pH	Cond. (mS/cm)	Turbidity (NTU)	D.O. (mg/L)	Temp (C)	TDS (g/L)	ORP (mV)	Depth to Water	Comments
1630										73.80	Pump On; set @ 40 psi
1635		150	4.61	0.158	>1000	4.22	14.64	0.103	305	73.80	
1640		150	4.89	0.158	>1000	4.93	14.78	0.102	279	73.80	
1645		150	5.00	0.157	>1000	5.02	14.82	0.102	280	73.80	
1650		150	5.07	0.158	>1000	5.10	14.86	0.102	280	73.80	
1655		150	4.83	0.158	>1000	4.79	14.84	0.102	281	73.80	
1700		150	4.88	0.150	>1000	3.78	14.81	0.098	265	73.80	
1705		150	4.82	0.150	1000	3.42	14.93	0.093	208	73.80	
1710		150	4.75	0.142	1000	3.40	15.01	0.092	215	73.80	
1715		150	4.74	0.142	1000	3.50	15.02	0.092	216	73.80	
1720		150	4.73	0.140	1000	3.94	15.00	0.091	222	73.80	
1725		150	4.73	0.140	1000	3.96	15.02	0.091	221	73.80	
1730		150	4.70	0.140	1000	4.40	15.01	0.089	226	73.80	
1735		150	4.68	0.140	1000	4.45	15.01	0.089	227	73.80	Final parameter
1740											Sample collected

Well Sampling Log

Well ID No. MW-NEMF-4-D

Well Casing Type	Flush Mount	Start SWL	71.36	Project	Al Louvre
Well Depth	125.07	Water Column Ht.	53.71	Date	12/5/2013
Screened Interval	115.07 - 125.07	Well Volume (gallons)	2.19	Crew	RC + PG
Well Elevation	N/A	SWL During Sampling	70.92	Purge Method	Low- Flow
Ground Elevation	N/A	Sample Time	1145, 1150	Meters Used	Horiba U-52
Well Condition	Good	Sample Method	Low-Flow	PID Headspace	0.0 ppm
Weather Conditions	48 °F, Overcast	Sample Analysis	VOC 8260		

Time	Est. Gal Purged	Purge Rate (mL/min)	pH	Cond. (mS/cm)	Turbidity (NTU)	D.O. (mg/L)	Temp (C)	TDS (g/L)	ORP (mV)	Depth to Water	Comments
0815										71.45	Pump On; set @ 50 psi
1040		35	3.71	0.331	30.4	3.15	13.73	0.225	148	71.45	
1045		35	3.69	0.232	30.4	3.36	13.24	0.233	138	71.45	
1050		35	3.70	0.234	30.5	3.29	13.21	0.234	135	71.45	
1055		35	3.71	0.232	30.9	2.38	13.16	0.238	122	71.45	
1100		35	3.69	0.239	30.8	2.27	13.18	0.239	112	71.45	
1105		35	3.67	0.243	30.8	2.22	13.13	0.241	106	71.45	
1110		35	3.67	0.248	30.6	2.15	13.11	0.248	67	71.45	
1115		35	3.64	0.255	30.9	2.01	13.15	0.257	38	71.45	
1120		35	3.62	0.272	30.8	1.69	13.32	0.268	2	71.45	
1125		35	3.63	0.434	30.6	1.49	13.29	0.282	-30	71.45	
1130		35	3.63	0.441	30.4	1.41	13.34	0.289	-52	71.45	
1135		35	3.63	0.462	30.4	1.29	13.42	0.301	-82	71.45	
1140		35	3.61	0.469	30.3	1.23	13.48	0.304	-114	71.45	Final parameter
1145											Sample collected
1150											MS/MSD collected

Well Sampling Log

Well ID No. MW-NEMF-4-VD

Well Casing Type	Flush Mount	Start SWL	71.55	Project	Al Louvre
Well Depth	198.18	Water Column Ht.	126.63	Date	12/5/2013
Screened Interval	188.18 - 198.18	Well Volume (gallons)	5.17	Crew	RC + PG
Well Elevation	N/A	SWL During Sampling	70.92	Purge Method	Low- Flow
Ground Elevation	N/A	Sample Time	1340, 1345	Meters Used	Horiba U-52
Well Condition	Good	Sample Method	Low-Flow	PID Headspace	0.0 ppm
Weather Conditions	48 °F, Overcast	Sample Analysis	VOC 8260		

Time	Est. Gal Purged	Purge Rate (mL/min)	pH	Cond. (mS/cm)	Turbidity (NTU)	D.O. (mg/L)	Temp (C)	TDS (g/L)	ORP (mV)	Depth to Water	Comments
1227										71.60	Pump On; set @ 100 psi
1250		40	5.30	0.457	68.5	2.47	14.15	0.300	-71	71.60	
1255		40	5.30	0.457	68.0	2.43	14.14	0.298	-74	71.60	
1300		40	5.30	0.458	67.6	2.40	14.14	0.298	-79	71.60	
1305		40	5.24	0.461	67.7	2.11	14.11	0.300	-103	71.60	
1310		40	5.19	0.466	68.7	2.37	14.20	0.303	-117	71.60	
1315		40	5.18	0.472	68.9	2.14	14.22	0.301	-131	71.60	
1320		40	5.17	0.482	69.1	1.88	14.25	0.312	-155	71.60	
1325		40	5.16	0.488	66.2	1.61	14.31	0.317	-128	71.60	
1330		40	5.16	0.490	66.9	1.52	14.32	0.318	-135	71.60	
1335		40	5.16	0.491	64.4	1.44	14.35	0.319	-137	71.60	Final parameter
1340											Sample collected
1345											Duplicate collected: MW-NEMF-5-VD

Well Sampling Log

Well ID No. MW-175-1-I

Well Casing Type	Flush Mount	Start SWL	69.12	Project	Al Louvre
Well Depth	95.03	Water Column Ht.	25.91	Date	12/3/2013
Screened Interval	85.03 - 95.03	Well Volume (gallons)	1.06	Crew	RC + PG
Well Elevation	N/A	SWL During Sampling	70.92	Purge Method	Low- Flow
Ground Elevation	N/A	Sample Time	1210	Meters Used	Horiba U-52
Well Condition	Good	Sample Method	Low-Flow	PID Headspace	1.3 ppm
Weather Conditions	43 °F, Sunny	Sample Analysis	VOC 8260		

Time	Est. Gal Purged	Purge Rate (mL/min)	pH	Cond. (mS/cm)	Turbidity (NTU)	D.O. (mg/L)	Temp (C)	TDS (g/L)	ORP (mV)	Depth to Water	Comments
1028										68.95	Pump On; set @ 45 psi
1100		30	5.66	0.261	>1000	4.70	9.64	0.164	259	68.95	
1105		30	5.31	0.253	748	4.52	10.17	0.165	280	68.95	
1110		30	4.81	0.257	456	4.29	11.23	0.168	317	69.13	
115		30	4.69	0.259	422	3.90	12.04	0.169	337	69.13	
1120		30	4.69	0.262	393	3.53	12.22	0.170	342	69.13	
1125		30	4.62	0.264	353	3.10	12.70	0.171	356	69.13	
1130		30	4.58	0.264	297	2.83	12.91	0.172	367	69.13	
1135		30	4.56	0.264	271	2.82	13.02	0.172	368	69.13	
1140		30	4.56	0.264	280	2.64	13.16	0.172	370	69.13	
1145		30	4.56	0.264	222	2.56	13.35	0.172	372	69.13	
1150		30	4.57	0.260	214	2.53	13.39	0.171	372	69.13	
1155		30	4.58	0.263	205	2.46	133.44	0.171	3.73	69.13	
1200		30	4.59	0.262	187	2.50	13.50	0.171	3.72	69.13	
1205		30	4.61	0.264	167	2.55	13.60	0.171	3.69	69.13	Final parameter
1210											Sample collected

Well Sampling Log

Well ID No. MW-175-1-D

Well Casing Type	Flush Mount	Start SWL	69.35	Project	Al Louvre
Well Depth	124.88	Water Column Ht.	55.53	Date	12/3/2013
Screened Interval	114.88 - 124.88	Well Volume (gallons)	2.27	Crew	RC + PG
Well Elevation	N/A	SWL During Sampling	69.36	Purge Method	Low- Flow
Ground Elevation	N/A	Sample Time	0945	Meters Used	Horiba U-52
Well Condition	Good	Sample Method	Low-Flow	PID Headspace	1.3 ppm
Weather Conditions	43 °F, Sunny	Sample Analysis	VOC 8260		

Time	Est. Gal Purged	Purge Rate (mL/min)	pH	Cond. (mS/cm)	Turbidity (NTU)	D.O. (mg/L)	Temp (C)	TDS (g/L)	ORP (mV)	Depth to Water	Comments
0815										69.36	Pump On; set @ 65 psi
0850		40	5.13	0.246	63.7	4.53	9.98	0.162	282	69.36	Pump set @ 70 psi
0855		50	5.11	0.264	75.6	3.45	9.61	0.171	261	69.36	Pump set @ 75 psi
0900		60	4.15	0.277	64	2.22	9.14	0.179	363	69.30	
0905		60	4.11	0.275	53.2	1.89	9.18	0.179	374	69.30	
0910		60	4.15	0.275	63.5	1.49	9.78	0.180	384	69.28	
0915		60	4.11	0.273	68	1.08	10.32	0.178	386	69.28	
0920		60	4.11	0.275	67.3	0.99	10.43	0.180	390	69.28	
0925		60	4.08	0.274	67.3	0.91	10.81	0.179	396	69.28	
0930		60	4.10	0.273	54	0.85	10.99	0.178	400	69.28	
0935		60	4.08	0.271	49.8	0.82	11.03	0.176	405	69.28	
0940		60	4.07	0.271	47.1	0.79	11.10	0.176	408	69.28	Final parameter
0945											Sample collected

Well Sampling Log

Well ID No. MW-175-1-VD

Well Casing Type	Flush Mount	Start SWL	68.92	Project	Al Louvre
Well Depth	200.31	Water Column Ht.	131.39	Date	12/3/2013
Screened Interval	190.31 - 200.31	Well Volume (gallons)	21.43	Crew	RC + PG
Well Elevation	N/A	SWL During Sampling	69.36	Purge Method	Low- Flow
Ground Elevation	N/A	Sample Time	0945	Meters Used	Horiba U-52
Well Condition	Good	Sample Method	Low-Flow	PID Headspace	1.3 ppm
Weather Conditions	43 °F, Sunny	Sample Analysis	VOC 8260		

Time	Est. Gal Purged	Purge Rate (mL/min)	pH	Cond. (mS/cm)	Turbidity (NTU)	D.O. (mg/L)	Temp (C)	TDS (g/L)	ORP (mV)	Depth to Water	Comments
1335										68.99	Pump On; set @ 110 psi
1600		40	5.38	0.225	0.8	3.60	14.41	0.147	134	68.99	
1605		40	5.17	0.229	0	3.70	14.16	0.149	148	68.99	Pump set @ 115 psi
1610		40	5.01	0.235	0	3.84	13.82	0.153	186	68.99	
1615		40	4.85	0.234	0.1	3.05	13.77	0.152	211	68.99	
1620		40	4.82	0.233	0.2	2.97	13.74	0.152	215	68.99	
1625		40	4.79	0.233	0.3	3.33	13.56	0.152	185	68.99	
1630		40	4.81	0.232	0.8	2.89	13.31	0.151	196	68.99	
1635		40	4.78	0.232	0.9	2.98	13.31	0.151	199	68.99	
1640		40	4.75	0.232	0.9	3.55	13.14	0.151	215	68.99	
1645		40	4.85	0.230	0.9	3.80	12.90	0.151	201	68.99	
1650		40	4.85	0.240	0.9	4.62	12.73	0.160	201	68.99	Final parameter
1655		40	4.65	0.500	2	7.00	12.74	0.166	281	68.99	Sample collected
1700		40	4.37	0.251	1.9	6.68	13.08	0.163	299	68.99	
1705		40	4.32	0.251	2.1	6.54	13.35	0.163	304	68.99	
1710		40	4.31	0.250	2.6	6.65	13.34	0.162	310	68.99	
1715		40	4.31	0.250	3.0	6.70	13.35	0.163	314	68.99	
1720											

Well Sampling Log

Well ID No. MW-NEMF-2-S

Well Casing Type	Flush Mount	Start SWL	70.31	Project	Al Louvre
Well Depth	75.30	Water Column Ht.	4.99	Date	11/4/2013
Screened Interval	65.30-75.30	Well Volume (gallons)	0.20	Crew	MV + RC
Well Elevation	N/A	SWL During Sampling	70.49	Purge Method	Low- Flow
Ground Elevation	N/A	Sample Time	1650	Meters Used	Horiba U-52
Well Condition	Good	Sample Method	Low-Flow	PID Headspace	0.0 ppm
Weather Conditions	45 °F, Clear	Sample Analysis	VOC 8260B		

Time	Est. Gal Purged	Purge Rate (mL/min)	pH	Cond. (mS/cm)	Turbidity (NTU)	D.O. (mg/L)	Temp (C)	TDS (g/L)	ORP (mV)	Depth to Water	Comments
1600											Pump On; ID=165, tank @ 400 psi; set @ 70 psi
1610		60	5.42	0.872	112.0	10.83	13.00	0.557	295	70.50	
1615		60	5.26	0.877	105.0	8.43	13.23	0.561	303	70.50	
1620		60	5.15	0.881	73.3	7.26	13.41	0.561	313	70.51	
1625		60	5.11	0.884	89.4	6.66	13.63	0.566	319	70.51	
1630		60	5.08	0.886	53.3	6.15	13.63	0.568	321	70.50	
1635		60	5.07	0.886	44.0	6.50	13.72	0.567	325	70.50	
1640		60	5.05	0.891	33.7	6.14	13.76	0.570	329	70.49	
1645		60	5.04	0.897	29.5	6.12	13.75	0.574	332	70.50	Final parameter
1650										70.49	Sample collected

Well Sampling Log

Well ID No. MW-NEMF-1-D

Well Casing Type	Flush Mount	Start SWL	63.21	Project	Al Louvre
Well Depth	120.00	Water Column Ht.	56.79	Date	11/4/2013
Screened Interval	60.00-70.00	Well Volume (gallons)	2.27	Crew	MV + RC
Well Elevation	N/A	SWL During Sampling	63.21	Purge Method	Low- Flow
Ground Elevation	N/A	Sample Time	1235	Meters Used	Horiba U-52
Well Condition	Good	Sample Method	Low-Flow	PID Headspace	0.0 ppm
Weather Conditions	50 °F, Sunny	Sample Analysis	VOC 8260B		

Time	Est. Gal Purged	Purge Rate (mL/min)	pH	Cond. (mS/cm)	Turbidity (NTU)	D.O. (mg/L)	Temp (C)	TDS (g/L)	ORP (mV)	Depth to Water	Comments
1138											Pump On; ID=139, tank @ 900 psi; set @ 70 psi
1140		80	5.56	1.37	10.9	2.11	12.94	0.878	162	63.21	
1145		80	5.56	1.39	8.8	1.76	13.05	0.888	180	63.21	
1150		80	5.57	1.39	7.6	1.75	13.12	0.893	194	63.21	
1155		80	5.56	1.40	6.0	1.45	13.32	0.893	201	63.21	
1200		80	5.56	1.40	6.8	1.33	13.30	0.896	210	63.21	
1205		80	5.56	1.40	3.3	1.23	13.33	0.895	216	63.21	
1210		80	5.56	1.40	3.3	1.16	13.35	0.895	220	63.21	
1215		80	5.56	1.40	1.7	1.10	13.42	0.895	228	63.21	
1220		80	5.56	1.40	2.1	1.03	13.41	0.895	232	63.21	
1225		80	5.56	1.40	1.0	1.05	13.46	0.890	235	63.21	
1230		80	5.56	1.40	0.9	1.03	13.46	0.890	236	63.21	Final parameter
1235										63.21	Sample collected

Well Sampling Log

Well ID No. MW-NEMF-1-I

Well Casing Type	Flush Mount	Start SWL	63.05	Project	Al Louvre
Well Depth	95.00	Water Column Ht.	31.95	Date	11/4/2013
Screened Interval	60.00-70.00	Well Volume (gallons)	1.28	Crew	MV + RC
Well Elevation	N/A	SWL During Sampling	63.1	Purge Method	Low- Flow
Ground Elevation	N/A	Sample Time	1400	Meters Used	Horiba U-52
Well Condition	Good	Sample Method	Low-Flow	PID Headspace	0.1 ppm
Weather Conditions	50 °F, Sunny	Sample Analysis	VOC 8260B		

Time	Est. Gal Purged	Purge Rate (mL/min)	pH	Cond. (mS/cm)	Turbidity (NTU)	D.O. (mg/L)	Temp (C)	TDS (g/L)	ORP (mV)	Depth to Water	Comments
1215											Pump On; ID=139, tank @ 700 psi
1230											Fixed stuck check valve
1320		75	5.84	0.551	0.0	8.81	13.20	0.352	258	63.06	Pump restarted; tank @ 500 psi, set @ 85 psi
1325		75	6.05	0.546	686.0	3.66	13.55	0.349	243	63.06	
1330		75	6.08	0.544	793.0	2.90	13.68	0.348	236	63.08	
1335		75	6.10	0.543	450.0	2.27	13.96	0.348	231	63.09	
1340		75	6.11	0.542	222.0	1.88	14.03	0.347	226	63.09	
1345		75	6.12	0.542	138.0	1.75	14.12	0.346	225	63.09	
1350		75	6.12	0.541	76.4	1.62	14.09	0.347	223	63.09	
1355		75	6.12	0.541	40.4	1.74	14.13	0.346	225	63.10	Final parameter
1400										63.10	Sample collected

Well Sampling Log

Well ID No. MW-NEMF-1-S

Well Casing Type	Flush Mount	Start SWL	63.06	Project	Al Louvre
Well Depth	70.00	Water Column Ht.	6.94	Date	11/4/2013
Screened Interval	60.00-70.00	Well Volume (gallons)	0.28	Crew	MV + RC
Well Elevation	N/A	SWL During Sampling	63.07	Purge Method	Low- Flow
Ground Elevation	N/A	Sample Time	1425	Meters Used	Horiba U-52
Well Condition	Good	Sample Method	Low-Flow	PID Headspace	0.0 ppm
Weather Conditions	52 °F, Sunny	Sample Analysis	VOC 8260B		

Time	Est. Gal Purged	Purge Rate (mL/min)	pH	Cond. (mS/cm)	Turbidity (NTU)	D.O. (mg/L)	Temp (C)	TDS (g/L)	ORP (mV)	Depth to Water	Comments
1332											Pump On; ID=139, tank @ 500 psi; set @ 70 psi
1345		50	5.91	0.339	16.2	5.44	12.89	0.220	225	63.07	
1350		50	5.91	0.339	12.4	5.13	12.94	0.220	231	63.07	
1355		50	5.91	0.340	11.0	6.00	12.94	0.220	233	63.07	
1400		50	5.91	0.340	10.3	5.11	12.95	0.221	238	63.07	
1405		50	5.91	0.341	9.7	4.69	12.85	0.222	242	63.07	
1410		50	5.91	0.341	9.9	4.34	12.79	0.222	243	63.07	
1415		50	5.90	0.342	9.8	4.41	12.79	0.222	245	63.07	
1420		50	5.90	0.342	9.5	4.12	12.65	0.223	250	63.07	Final parameter
1425											Sample collected

Well Sampling Log

Well ID No. MW-NEMF-2-I

Well Casing Type	Flush Mount	Start SWL	76.33	Project	Al Louvre
Well Depth	105.00	Water Column Ht.	28.67	Date	11/4/2013
Screened Interval	95.00-105.00	Well Volume (gallons)	1.15	Crew	MV + RC
Well Elevation	N/A	SWL During Sampling	70.34	Purge Method	Low- Flow
Ground Elevation	N/A	Sample Time	1705	Meters Used	Horiba U-52
Well Condition	Good	Sample Method	Low-Flow	PID Headspace	0.0 ppm
Weather Conditions	45 °F, Clear	Sample Analysis	VOC 8260B		

Time	Est. Gal Purged	Purge Rate (mL/min)	pH	Cond. (mS/cm)	Turbidity (NTU)	D.O. (mg/L)	Temp (C)	TDS (g/L)	ORP (mV)	Depth to Water	Comments
1610											Pump On; ID=139, tank @ 450 psi; set @ 70 psi
1622										70.34	Increased to 80 psi
1630		60	5.48	0.373	77.1	7.46	12.73	0.243	258	70.34	
1635		60	5.46	0.382	57.0	7.27	13.01	0.248	271	70.34	
1640		60	5.45	0.389	41.0	7.04	13.27	0.253	283	70.34	
1645		60	5.44	0.394	41.7	6.98	13.38	0.257	292	70.34	
1650		60	5.44	0.396	41.5	6.88	13.41	0.257	297	70.34	
1655		60	5.44	0.398	40.3	6.85	13.42	0.258	300	70.34	
1700		60	5.43	0.400	35.3	6.78	13.46	0.260	308	70.34	Final parameter
1705										70.34	Sample collected

Well Sampling Log

Well ID No. MW-NEMF-2-D

Well Casing Type	Flush Mount	Start SWL	70.33	Project	Al Louvre
Well Depth	125.00	Water Column Ht.	54.67	Date	11/5/2013
Screened Interval	115.00-125.00	Well Volume (gallons)	2.19	Crew	MV + RC
Well Elevation	N/A	SWL During Sampling	70.35	Purge Method	Low- Flow
Ground Elevation	N/A	Sample Time	0940	Meters Used	Horiba U-52
Well Condition	Good	Sample Method	Low-Flow	PID Headspace	0.0 ppm
Weather Conditions	45 °F, Sunny	Sample Analysis	VOC 8260B		

Time	Est. Gal Purged	Purge Rate (mL/min)	pH	Cond. (mS/cm)	Turbidity (NTU)	D.O. (mg/L)	Temp (C)	TDS (g/L)	ORP (mV)	Depth to Water	Comments
0820											Pump On; ID=139, tank @ 400 psi; set @ 70 psi
0830		70	5.57	0.542	33.1	6.38	12.58	0.347	70	70.35	Increased pressure to 75 psi
0835		70	5.56	0.550	47.2	5.73	12.97	0.654	92	70.35	
0840		70	5.59	0.571	42.6	6.12	12.86	0.365	87	70.35	
0845		70	5.58	0.609	25.5	6.37	13.44	0.390	104	70.34	changed CO_2 tank; new tank @ 700 psi
0850		70	5.58	0.617	25.4	6.58	13.49	0.394	112	70.35	
0855		70	5.58	0.623	21.8	6.34	13.64	0.399	121	70.35	
0900		70	5.59	0.628	20.2	6.24	13.82	0.403	140	70.35	
0905		70	5.59	0.636	14.9	6.18	14.04	0.407	164	70.35	
0910		70	5.59	0.637	15.8	6.16	14.05	0.407	167	70.35	
0915		70	5.59	0.637	15.1	6.15	14.07	0.408	183	70.35	
0920		70	5.58	0.638	14.0	6.61	14.13	0.408	201	70.35	Horiba shuts off; DO reading increases but gradually drops
0925		70	5.59	0.633	5.7	6.39	14.27	0.405	191	70.35	
0930		70	5.59	0.634	3.1	6.11	14.29	0.406	181	70.35	
0935		70	5.59	0.634	2.3	6.06	14.30	0.406	187	70.35	Final parameter
0940										70.35	Sample collected

Well Sampling Log

Well ID No. MW-195-1-S

Well Casing Type	Flush Mount	Start SWL	74.94	Project	Al Louvre
Well Depth	78.70	Water Column Ht.	3.76	Date	11/5/2013
Screened Interval	68.70-78.70	Well Volume (gallons)	0.15	Crew	MA + MV + RC
Well Elevation	N/A	SWL During Sampling	74.75	Purge Method	Low- Flow
Ground Elevation	N/A	Sample Time	1705	Meters Used	Horiba U-52
Well Condition	Good	Sample Method	Low-Flow	PID Headspace	none taken
Weather Conditions	45 °F, Fair	Sample Analysis	VOC 8260B		

Time	Est. Gal Purged	Purge Rate (mL/min)	pH	Cond. (mS/cm)	Turbidity (NTU)	D.O. (mg/L)	Temp (C)	TDS (g/L)	ORP (mV)	Depth to Water	Comments
1600											Pump On; ID=139, tank @ 500 psi; set @ 70 psi
1610		60	5.15	0.084	607.0	5.33	15.60	0.055	291	74.75	
1615		60	5.16	0.084	752.0	4.73	16.11	0.055	313	74.75	
1620		60	5.07	0.084	381.0	4.66	16.15	0.055	321	74.75	
1625		60	5.10	0.085	607.0	4.22	16.22	0.055	331	74.75	
1630		60	5.06	0.084	290.0	4.14	16.33	0.055	337	74.75	
1635		60	5.05	0.084	215.0	3.91	16.29	0.055	340	74.75	
1640		60	5.00	0.085	90.3	3.31	16.29	0.055	350	74.75	
1645											
1650		60	4.99	0.086	52.1	3.63	15.75	0.056	352	74.75	
1655		60	4.99	0.086	42.0	3.71	16.05	0.056	353	74.75	
1700		60	4.98	0.086	37.7	4.00	16.11	0.056	356	74.75	Final parameter
1705										74.75	Sample collected

Well Sampling Log

Well ID No. MW-195-1-I

Well Casing Type	Flush Mount	Start SWL	74.74	Project	Al Louvre
Well Depth	98.41	Water Column Ht.	23.67	Date	11/5/2013
Screened Interval	88.41-98.41	Well Volume (gallons)	0.95	Crew	MA + MV + RC
Well Elevation	N/A	SWL During Sampling	74.75	Purge Method	Low- Flow
Ground Elevation	N/A	Sample Time	1635	Meters Used	Horiba U-52
Well Condition	Good	Sample Method	Low-Flow	PID Headspace	0.1 ppm
Weather Conditions	45 °F, Clear	Sample Analysis	VOC 8260B		

Time	Est. Gal Purged	Purge Rate (mL/min)	pH	Cond. (mS/cm)	Turbidity (NTU)	D.O. (mg/L)	Temp (C)	TDS (g/L)	ORP (mV)	Depth to Water	Comments
1545											Pump On; ID=139, tank @ 250 psi; set @ 65 psi
1555		60	5.61	0.190	94.8	8.43	12.71	0.142	179	74.75	
1600		60	5.31	0.192	18.5	6.21	13.73	0.125	302	74.75	
1605		60	5.25	0.193	63.6	5.60	13.96	0.125	312	74.75	
1610		60	5.21	0.194	49.8	5.40	14.17	0.127	318	74.75	
1615		60	5.18	0.200	32.0	5.23	14.36	0.131	327	74.75	
1620		60	5.17	0.203	24.1	5.17	14.48	0.132	330	74.75	
1625		60	5.16	0.204	22.5	5.14	14.55	0.133	333	74.75	
1630		60	5.15	0.205	19.9	5.15	14.59	0.134	336	74.75	Final parameter
1635										74.75	Sample collected

Well Sampling Log

Well ID No. MW-NEMF-3-S

Well Casing Type	Flush Mount	Start SWL	72.84	Project	Al Louvre
Well Depth	78.78	Water Column Ht.	5.94	Date	11/5/2013
Screened Interval	68.78-78.78	Well Volume (gallons)	0.24	Crew	MA + MV + RC
Well Elevation	N/A	SWL During Sampling	72.75	Purge Method	Low- Flow
Ground Elevation	N/A	Sample Time	1100	Meters Used	Horiba U-52
Well Condition	Good	Sample Method	Low-Flow	PID Headspace	1.6 ppm
Weather Conditions	43 °F, Sunny	Sample Analysis	VOC 8260B		

Time	Est. Gal Purged	Purge Rate (mL/min)	pH	Cond. (mS/cm)	Turbidity (NTU)	D.O. (mg/L)	Temp (C)	TDS (g/L)	ORP (mV)	Depth to Water	Comments
0940											Pump On; ID=165, tank @ 490 psi; set @ 70 psi
1000		70	4.58	0.109	443.0	4.03	14.40	0.071	356	72.75	
1005		70	4.59	0.111	331.0	3.61	14.56	0.072	370	72.75	
1010		70	4.61	0.113	229.0	3.39	14.88	0.074	377	72.75	
1015		70	4.63	0.114	170.0	3.07	15.18	0.074	382	72.75	
1020		70	4.66	0.116	124.0	2.86	15.43	0.075	3873	72.75	
1025		70	4.67	0.116	117.0	3.81	15.39	0.076	387	72.75	
1030		70	4.69	0.117	87.4	3.66	15.42	0.076	389	72.75	
1035		70	4.70	0.118	86.5	3.54	15.61	0.078	391	72.75	
1040		70	4.71	0.118	75.2	3.43	15.67	0.077	393	72.75	
1045		70	4.72	0.119	64.7	3.32	15.88	0.077	393	72.75	
1050		70	4.73	0.119	50.0	3.23	15.87	0.078	394	72.75	
1055		70	4.74	0.119	50.0	2.57	16.10	0.078	395	72.75	Final parameter
1100										72.75	Sample collected

Well Sampling Log

Well ID No. MW-NEMF-3-D

Well Casing Type	Flush Mount	Start SWL	72.95	Project	Al Louvre
Well Depth	125.00	Water Column Ht.	52.05	Date	11/5/2013
Screened Interval	115.00-125.00	Well Volume (gallons)	2.08	Crew	MA + MV + RC
Well Elevation	N/A	SWL During Sampling	73	Purge Method	Low- Flow
Ground Elevation	N/A	Sample Time	1110	Meters Used	Horiba U-52
Well Condition	Good	Sample Method	Low-Flow	PID Headspace	0.0 ppm
Weather Conditions	50 °F, Fair	Sample Analysis	VOC 8260B		

Time	Est. Gal Purged	Purge Rate (mL/min)	pH	Cond. (mS/cm)	Turbidity (NTU)	D.O. (mg/L)	Temp (C)	TDS (g/L)	ORP (mV)	Depth to Water	Comments
1025											Pump On; ID=139, tank @ 650 psi; set @ 75 psi
1035		70	5.41	0.181	18.4	9.88	16.06	0.118	279	73.00	
1040		70	5.20	0.186	32.9	4.68	16.11	0.121	296	73.00	
1045		70	5.20	0.185	27.4	4.61	16.15	0.121	300	73.00	
1050		70	5.18	0.185	19.4	4.71	16.12	0.120	304	73.00	
1055		70	5.17	0.186	11.6	4.55	16.13	0.121	307	73.00	
1100		70	5.16	0.187	4.7	4.39	16.05	0.121	309	73.00	
1105		70	5.15	0.188	3.1	4.31	16.05	0.122	312	73.00	Final parameter
1110										73.00	Sample collected; MS/MSD collected

Well Sampling Log

Well ID No. MW-NEMF-3-I

Well Casing Type	Flush Mount	Start SWL	72.90	Project	Al Louvre
Well Depth	103.55	Water Column Ht.	30.65	Date	11/5/2013
Screened Interval	93.55-103.55	Well Volume (gallons)	1.23	Crew	MA + MV + RC
Well Elevation	N/A	SWL During Sampling	72.92	Purge Method	Low- Flow
Ground Elevation	N/A	Sample Time	1245	Meters Used	Horiba U-52
Well Condition	Good	Sample Method	Low-Flow	PID Headspace	0.1 ppm
Weather Conditions	50 °F, Sunny	Sample Analysis	VOC 8260B		

Time	Est. Gal Purged	Purge Rate (mL/min)	pH	Cond. (mS/cm)	Turbidity (NTU)	D.O. (mg/L)	Temp (C)	TDS (g/L)	ORP (mV)	Depth to Water	Comments
1140											Pump On; ID=165, tank @ 700 psi; set @ 70 psi
1155											Horiba leaking, fixed O-Ring and restarted pump
1210		60	5.29	0.131	184.0	4.37	16.29	0.085	309	72.94	
1215		60	5.28	0.130	75.8	4.79	16.27	0.085	319	72.91	
1220		60	5.28	0.130	38.1	4.59	16.23	0.085	320	72.91	
1225		60	5.28	0.130	30.1	4.49	16.19	0.084	322	72.92	
1230		60	5.28	0.129	17.8	4.15	16.11	0.084	327	72.92	
1235		60	5.27	0.129	13.1	3.97	16.06	0.084	330	72.92	
1240		60	5.27	0.129	7.5	3.97	16.03	0.084	334	72.92	Final parameter
1245										72.92	Sample collected

Well Sampling Log

Well ID No. MW-195-1-D

Well Casing Type	Flush Mount	Start SWL	74.84	Project	Al Louvre
Well Depth	118.45 (120)	Water Column Ht.	43.61	Date	11/6/2013
Screened Interval	108.45-118.45	Well Volume (gallons)	1.74	Crew	MV + RC
Well Elevation	N/A	SWL During Sampling	72.31	Purge Method	Low- Flow
Ground Elevation	N/A	Sample Time	0920	Meters Used	Horiba U-52
Well Condition	Good	Sample Method	Low-Flow	PID Headspace	1.1 ppm
Weather Conditions	50 °F, Clear	Sample Analysis	VOC 8260B		

Time	Est. Gal Purged	Purge Rate (mL/min)	pH	Cond. (mS/cm)	Turbidity (NTU)	D.O. (mg/L)	Temp (C)	TDS (g/L)	ORP (mV)	Depth to Water	Comments
0805										74.85	Pump On; ID=136, tank @ 800 psi; set @ 75 psi
0820		50	5.39	0.167	0.7	8.08	14.12	0.109	285	74.85	
0825		50	5.45	0.163	0.9	7.12	15.57	0.106	286	74.85	
0830		50	5.44	0.161	1.1	6.31	15.84	0.105	290	74.85	
0835		50	5.43	0.161	1.1	6.20	15.98	0.105	291	74.85	
0840		50	5.42	0.161	1.6	5.79	16.12	0.105	292	74.85	
0845		50	5.40	0.163	2.1	5.56	16.32	0.106	295	74.85	
0850		50	5.35	0.167	2.0	5.66	16.46	0.109	308	74.85	
0855		50	5.30	0.720	1.7	5.92	16.54	0.112	314	74.85	
0900		50	5.25	0.770	1.8	6.20	16.60	0.115	321	74.85	
0905		50	5.21	0.180	2.0	6.49	16.63	0.119	322	74.85	
0910		50	5.18	0.186	2.0	6.83	16.66	0.120	331	74.85	
0915		50	5.16	0.187	1.9	7.05	16.68	0.122	334	74.85	Final parameter
0920										74.85	Sample collected
0925										74.85	Field duplicate collected: MW-206-2-D

Well Sampling Log

Well ID No. MW-303-1-I

Well Casing Type	Flush Mount	Start SWL	62.41	Project	Al Louvre
Well Depth	124.73	Water Column Ht.	62.32	Date	11/6/2013
Screened Interval	114.73-124.73	Well Volume (gallons)	2.49	Crew	MV + RC
Well Elevation	N/A	SWL During Sampling	62.43	Purge Method	Low- Flow
Ground Elevation	N/A	Sample Time	1150	Meters Used	Horiba U-52
Well Condition	Good	Sample Method	Low-Flow	PID Headspace	0.1 ppm
Weather Conditions	54 °F, Sunny	Sample Analysis	VOC 8260B		

Time	Est. Gal Purged	Purge Rate (mL/min)	pH	Cond. (mS/cm)	Turbidity (NTU)	D.O. (mg/L)	Temp (C)	TDS (g/L)	ORP (mV)	Depth to Water	Comments
1045										62.43	Pump On; ID=144, tank @ 650 psi; set @ 70 psi
1110		50	5.38	0.555	34.2	6.50	16.76	0.355	272	62.43	
1115		50	5.34	0.551	11.9	5.99	16.86	0.352	284	62.43	
1120		50	5.21	0.542	7.5	10.18*	17.20	0.347	304	62.43	*Took initial reading after Horiba powered on
1125		50	5.13	0.536	6.1	5.98	17.39	0.343	314	62.43	
1130		50	5.10	0.532	3.6	5.59	17.48	0.340	317	62.43	
1135		50	5.11	0.527	4.2	5.30	17.48	0.337	315	62.43	
1140		50	5.09	0.524	5.4	5.12	17.39	0.335	322	62.43	
1145		50	5.07	0.524	6.1	5.10	17.30	0.335	321	62.43	Final parameter
1150										62.43	Sample collected

Well Sampling Log

Well ID No. MW-303-1-S

Well Casing Type	Flush Mount	Start SWL	62.28	Project	Al Louvre
Well Depth	94.71	Water Column Ht.	32.43	Date	11/6/2013
Screened Interval	84.71-94.71	Well Volume (gallons)	1.30	Crew	MV + RC
Well Elevation	N/A	SWL During Sampling	62.25	Purge Method	Low- Flow
Ground Elevation	N/A	Sample Time	1350	Meters Used	Horiba U-52
Well Condition	Good	Sample Method	Low-Flow	PID Headspace	0.1 ppm
Weather Conditions	59 °F, Sunny	Sample Analysis	VOC 8260B		

Time	Est. Gal Purged	Purge Rate (mL/min)	pH	Cond. (mS/cm)	Turbidity (NTU)	D.O. (mg/L)	Temp (C)	TDS (g/L)	ORP (mV)	Depth to Water	Comments
1225										62.28	Pump On; ID=139, tank @ 500 psi; set @ 60 psi
1245											Removed SamplePro pump to fix leaky seal
1250										62.25	Restart pump; set @ 70 psi
1300		60	5.78	0.790	154.0	7.27	18.31	0.506	235	62.25	
1305		60	5.74	0.813	100.0	6.78	17.50	0.520	236	62.25	
1310		60	5.74	0.849	36.3	6.76	17.09	0.543	238	62.25	
1315		60	5.74	0.869	24.7	6.76	16.73	0.556	240	62.25	
1320		60	5.74	0.834	14.7	6.69	16.63	0.535	242	62.25	
1325		60	5.73	0.826	11.6	6.69	16.57	0.527	243	62.25	
1330		60	5.72	0.810	12.1	6.66	16.56	0.517	245	62.25	
1335		60	5.70	0.792	8.4	6.65	16.50	0.507	247	62.25	
1340		60	5.69	0.783	6.6	6.63	16.42	0.500	249	62.25	
1345		60	5.69	0.773	6.7	6.78	16.38	0.495	250	62.25	Final parameter
1350										62.25	Sample collected

Well Sampling Log

Well ID No. MW-303-1-D

Well Casing Type	Flush Mount	Start SWL	62.01	Project	Al Louvre
Well Depth	200	Water Column Ht.	137.99	Date	11/6/2013
Screened Interval	190-200	Well Volume (gallons)	5.52	Crew	MV + RC
Well Elevation	N/A	SWL During Sampling	62.08	Purge Method	Low- Flow
Ground Elevation	N/A	Sample Time	1225	Meters Used	Horiba U-52
Well Condition	Good	Sample Method	Low-Flow	PID Headspace	0.4 ppm
Weather Conditions	60 °F, Sunny	Sample Analysis	VOC 8260B		

Time	Est. Gal Purged	Purge Rate (mL/min)	pH	Cond. (mS/cm)	Turbidity (NTU)	D.O. (mg/L)	Temp (C)	TDS (g/L)	ORP (mV)	Depth to Water	Comments
1040										62.04	Pump On; ID=144. Removed pump to check O-ring; returned pump & set @ 110 psi
1105		50	5.57	0.240	0.1	5.36	19.54	0.156	52	62.04	
1110		50	5.68	0.242	0.0	3.63	19.85	0.157	24	62.04	
1115		50	5.74	0.254	0.2	3.40	18.95	0.164	26	62.05	
1120		50	5.76	0.250	0.5	3.83	19.94	0.162	46	62.05	
1125		50	5.76	0.252	0.5	3.65	20.17	0.164	39	62.05	
1130		50	5.79	0.253	1.1	3.44	20.61	0.165	18	62.05	
1135		50	5.74	0.252	1.1	2.89	20.82	0.164	9	62.05	
1140		50	5.74	0.255	1.1	2.61	20.91	0.164	-2	62.05	
1145		50	5.73	0.253	1.3	2.36	21.05	0.164	-6	62.05	
1150		50	5.73	0.253	1.6	2.21	21.15	0.164	-12	62.08	
1155		50	5.72	0.254	1.6	2.09	21.33	0.164	-20	62.08	
1200		50	5.69	0.258	2.2	2.03	21.14	0.168	-26	62.08	
1205		50	5.68	0.259	2.2	2.04	21.23	0.169	-28	62.08	
1210		50	5.69	0.263	2.4	1.88	21.29	0.170	-36	62.08	
1215		50	5.69	0.267	2.9	1.69	20.73	0.176	-52	62.08	
1220		50	5.70	0.269	3.2	1.70	21.16	0.175	-58	62.08	
1225		50	5.70	0.272	3.4	1.60	21.20	0.177	-57	62.08	Final parameter
1230										62.08	Sample collected

Appendix D
Soil Vapor & Ambient Air Sampling Logs and Inspection Sheets

HDR | ONE COMPANY *Many Solutions®*

SOIL VAPOR SAMPLING LOG

Project Name:	Former Aluminum Louvre OU2
Client:	NYSDEC
Drilling/Boring Method:	Hammer Drill
Purging Method:	PAS Pump
Boring Location:	175 Bethpage- Sweethollow Rd. - West wall in center area of warehouse
Monitoring Instrument:	PID

Crew:	MP & KH		
Sheet:	1	**of**	1
Project No.:	147-147461		
Date:	11/18/2013	Start Time	1504
	11/19/2013	Finish Time	615
Pump ID #:			
DTW:	NA		
Surf. Elev.:			
Hole Dia.:	1"		

Sample ID	Start Time (24 hr)	End Time (24 hr)	Total Time (hr:mins.) / (tot. min.)	Start Vacuum (in Hg)	End Vacuum (in Hg)	Sample Rate (LPM)	Sample Depth (ft above/ below g.s.)	Cannister ID No.	Regulator ID No.	Remarks and Observations
175-W-IA	1504	0615	15/9	30+	8		3.5'	366	438	
175-W-SS	1505	0615	15/8	27.5	7		-8"	217	308	

General Notes:

1. Start Time end Time refers to Start and end time for sample collection only.
2. All sub-slab sampling locations purged into 1-liter Tedlar bag prior to sampling
3. All sub-slab vapor and indoor air samples collected with 1-liter summa canisters.
4. Purge rate 2L/min. Helium test passed.
5. PID Backround: 0 ppm

SS - Sub-slab vapor sample
IA - Indoor air sample

HDR | ONE COMPANY *Many Solutions®*

SOIL VAPOR SAMPLING LOG

Project Name:	Former Aluminum Louvre OU2
Client:	NYSDEC
Drilling/Boring Method:	Hammer Drill
Purging Method:	PAS Pump
Boring Location:	303 Winding Rd.- Shamrock trucking repair; east side of building near office area
Monitoring Instrument:	PID

Crew:	MP & KH		
Sheet:	1	**of**	1
Project No.:	147-147461		
Date:	11/18/2013	Start Time	1521
	11/19/2013	Finish Time	756
Pump ID #:			
DTW:	NA		
Surf. Elev.:			
Hole Dia.:	1"		

Sample ID	Start Time (24 hr)	End Time (24 hr)	Total Time (hr:mins.) / (tot. min.)	Start Vacuum (in Hg)	End Vacuum (in Hg)	Sample Rate (LPM)	Sample Depth (ft above/ below g.s.)	Cannister ID No.	Regulator ID No.	Remarks and Observations
303-E-IA	1521	0756	16/35	28	2		3.0'	94	390	
303-E-SS	1627	0756	15/29	27	0-/-1		-8"	365	436	0 vaccum on can in field. Cans started close of business, & stopped when opened in A.M.
303-E-SSD	1620	0756	15/36	27	0-/-1		-8"	406	436	0 vaccum on can in field. Cans started close of business, & stopped when opened in A.M.

General Notes:

1. Start Time end Time refers to Start and end time for sample collection only.
2. All sub-slab sampling locations purged into 1-liter Tedlar bag prior to sampling
3. All sub-slab vapor and indoor air samples collected with 1-liter summa canisters.
4. Purge rate 2L/min. Helium test passed.
5. PID Backround: 0 ppm

SS - Sub-slab vapor sample
IA - Indoor air sample

HDR | ONE COMPANY *Many Solutions®*

SOIL VAPOR SAMPLING LOG

Project Name:	Former Aluminum Louvre OU2
Client:	NYSDEC
Drilling/Boring Method:	Hammer Drill
Purging Method:	PAS Pump
Boring Location:	303 Winding Rd.- Vacant lot; north west side of building in warehouse space
Monitoring Instrument:	PID

Crew:	MP & KH		
Sheet:	1	**of**	1
Project No.:	147-147461		
Date:	11/18/2013	Start Time	1538
	11/19/2013	Finish Time	626
Pump ID #:			
DTW:	NA		
Surf. Elev.:			
Hole Dia.:	1"		

Sample ID	Start Time (24 hr)	End Time (24 hr)	Total Time (hr:mins.) / (tot. min.)	Start Vacuum (in Hg)	End Vacuum (in Hg)	Sample Rate (LPM)	Sample Depth (ft above/ below g.s.)	Cannister ID No.	Regulator ID No.	Remarks and Observations
303-W-IA	1538	0626	14/48	27	0		3'	174	455	0 vaccum on can in field. Cans started close of business, & stopped when opened in A.M.
303-W-SS	1539	0626	14/47	27	7		-8"	133	384	

General Notes:

1. Start Time end Time refers to Start and end time for sample collection only.
2. All sub-slab sampling locations purged into 1-liter Tedlar bag prior to sampling
3. All sub-slab vapor and indoor air samples collected with 1-liter summa canisters.
4. Purge rate 2L/min. Helium test passed.
5. PID Backround: 0 ppm

SS - Sub-slab vapor sample
IA - Indoor air sample

HDR | ONE COMPANY *Many Solutions®*

SOIL VAPOR SAMPLING LOG

Project Name:	Former Aluminum Louvre OU2
Client:	NYSDEC
Drilling/Boring Method:	Hammer Drill
Purging Method:	PAS Pump
Boring Location:	South east parking lot of 175 B- SH Rd along fence; adjacent to property 303 Winding Rd.
Monitoring Instrument:	PID

Crew:	MP & KH		
Sheet:	1	**of**	1
Project No.:	147-147461		
Date:	11/18/2013	Start Time	1508
	11/19/2013	Finish Time	610
Pump ID #:			
DTW:	NA		
Surf. Elev.:			
Hole Dia.:	1"		

Sample ID	Start Time (24 hr)	End Time (24 hr)	Total Time (hr:mins.) / (tot. min.)	Start Vacuum (in Hg)	End Vacuum (in Hg)	Sample Rate (LPM)	Sample Depth (ft above/ below g.s.)	Cannister ID No.	Regulator ID No.	Remarks and Observations
OA-11-2013	1508	610	15/2	26	6		3'	190	373	

General Notes:

1. Start Time end Time refers to Start and end time for sample collection only.
2. All sub-slab sampling locations purged into 1-liter Tedlar bag prior to sampling
3. All sub-slab vapor and indoor air samples collected with 1-liter summa canisters.
4. PID Backround: 0 ppm

OA - Outdoor air sample

NEW YORK STATE DEPARTMENT OF HEALTH
INDOOR AIR QUALITY QUESTIONNAIRE AND BUILDING INVENTORY
CENTER FOR ENVIRONMENTAL HEALTH

This form must be completed for each residence involved in indoor air testing.

Preparer's Name Andrew Wadden Date/Time Prepared 11/13/12 1300

Preparer's Affiliation HDR Engineering, Inc. Phone No. 845 735-8300

Purpose of Investigation RI.

1. OCCUPANT:

Interviewed: (Y) / N

Last Name: _____ First Name: Scott (Shamrock), Bob (Bldg. Mgnt.)

Address: 303 Winding Rd

County: Nassau

Home Phone: — Office Phone: (516) 777-3700

Number of Occupants/persons at this location 3-6 Age of Occupants N/A

2. OWNER OR LANDLORD: (Check if same as occupant ___)

Interviewed: Y / (N)

Last Name: Northeast Equity First Name: Contact: Jared Barett

Address: 26 Harbor Park Dr. Port Washington, NY

County: Nassau

Home Phone: — Office Phone: 516-625-1900

3. BUILDING CHARACTERISTICS

Type of Building: (Circle appropriate response)

Residential	School	Commercial/Multi-use
Industrial	Church	Other: Warehouse, Showroom, Truck repair

If the property is residential, type? (Circle appropriate response)

Ranch	2-Family	3-Family
Raised Ranch	Split Level	Colonial
Cape Cod	Contemporary	Mobile Home
Duplex	Apartment House	Townhouses/Condos
Modular	Log Home	Other:_____

If multiple units, how many? Ø

If the property is commercial, type?

Business Type(s) Warehouse, showroom (Alside), Const., Truck repair

Does it include residences (i.e., multi-use)? Y / (N) If yes, how many? _____

Other characteristics:

Number of floors 1 Building age_____

Is the building insulated? Y / (N) How air tight? Tight / (Average) / Not Tight

Some broken windows, open bay doors

4. AIRFLOW

Use air current tubes or tracer smoke to evaluate airflow patterns and qualitatively describe:

Airflow between floors

_____

_____

_____

Airflow near source

_____

_____

_____

Outdoor air infiltration

_____

_____

_____

Infiltration into air ducts

_____

_____

_____

5. BASEMENT AND CONSTRUCTION CHARACTERISTICS (Circle all that apply)

a. Above grade construction:	wood frame	concrete	stone	brick
b. Basement type:	full	crawlspace	slab	other _____
c. Basement floor:	concrete	dirt	stone	other _____
d. Basement floor:	uncovered	covered	covered with _____	
e. Concrete floor:	unsealed	sealed	sealed with _____	
f. Foundation walls:	poured	block	stone	other _____
g. Foundation walls:	unsealed	sealed	sealed with _____	
h. The basement is:	wet	damp	dry	moldy
i. The basement is:	finished	unfinished	partially finished	
j. Sump present?	Y (N)			
k. Water in sump?	Y / N / not applicable			

Basement/Lowest level depth below grade: _____(feet)

Identify potential soil vapor entry points and approximate size (e.g., cracks, utility ports, drains)

_____

_____

6. HEATING, VENTING and AIR CONDITIONING (Circle all that apply)

Type of heating system(s) used in this building: (circle all that apply – note primary)

Hot air circulation	Heat pump	Hot water baseboard	
Space Heaters	Stream radiation	Radiant floor	
Electric baseboard	Wood stove	Outdoor wood boiler	Other Overhead Nat. gas OH (waste oil, Shamrock)

The primary type of fuel used is:

Natural Gas	Fuel Oil	Kerosene
Electric	Propane	Solar
Wood	Coal	

Domestic hot water tank fueled by: _____

Boiler/furnace located in:	Basement	Outdoors	Main Floor	Other OH
Air conditioning:	Central Air	Window units	Open Windows	None

Are there air distribution ducts present? Y (N)

Describe the supply and cold air return ductwork, and its condition where visible, including whether there is a cold air return and the tightness of duct joints. Indicate the locations on the floor plan diagram.

7. OCCUPANCY

Is basement/lowest level occupied? (Full-time) Occasionally Seldom Almost Never

Level	**General Use of Each Floor (e.g., familyroom, bedroom, laundry, workshop, storage)**
Basement	
1st Floor	See page 1 & 2
2nd Floor	
3rd Floor	
4th Floor	

8. FACTORS THAT MAY INFLUENCE INDOOR AIR QUALITY

a. Is there an attached garage? Y / (N)

b. Does the garage have a separate heating unit? Y / N / (NA)

c. Are petroleum-powered machines or vehicles stored in the garage (e.g., lawnmower, atv, car) Y / N / (NA) Please specify_____

d. Has the building ever had a fire? Y / N When?_____

e. Is a kerosene or unvented gas space heater present? Y (N) Where?_____

f. Is there a workshop or hobby/craft area? (Y) / N Where & Type? _____

g. Is there smoking in the building? (Y) / N How frequently? _____

h. Have cleaning products been used recently? Y / (N) When & Type? _____

i. Have cosmetic products been used recently? Y / (N) When & Type? _____

j. Has painting/staining been done in the last 6 months? Y / (N) Where & When? _____

k. Is there new carpet, drapes or other textiles? Y (N) Where & When? _____

l. Have air fresheners been used recently? Y / (N) When & Type? _____

m. Is there a kitchen exhaust fan? Y / N If yes, where vented? _____

n. Is there a bathroom exhaust fan? (Y) / N If yes, where vented? _____

o. Is there a clothes dryer? Y / (N) If yes, is it vented outside? Y / N

p. Has there been a pesticide application? Y / N When & Type? _____

Are there odors in the building? (Y) / N
If yes, please describe: Oil in Shamrock

Do any of the building occupants use solvents at work? (Y) / N
(e.g., chemical manufacturing or laboratory, auto mechanic or auto body shop, painting, fuel oil delivery, boiler mechanic, pesticide application, cosmetologist

If yes, what types of solvents are used? Auto Mech.

If yes, are their clothes washed at work? Y / N

Do any of the building occupants regularly use or work at a dry-cleaning service? (Circle appropriate response)

Yes, use dry-cleaning regularly (weekly) (No)
Yes, use dry-cleaning infrequently (monthly or less) Unknown
Yes, work at a dry-cleaning service

Is there a radon mitigation system for the building/structure? Y / N Date of Installation: _____
Is the system active or passive? Active/Passive

9. WATER AND SEWAGE

Water Supply:	Public Water	Drilled Well	Driven Well	Dug Well	Other: _____
Sewage Disposal:	Public Sewer	Septic Tank	Leach Field	Dry Well	Other: _____

10. RELOCATION INFORMATION (for oil spill residential emergency)

N/A

a. Provide reasons why relocation is recommended: _____

b. Residents choose to: remain in home relocate to friends/family relocate to hotel/motel

c. Responsibility for costs associated with reimbursement explained? Y / N

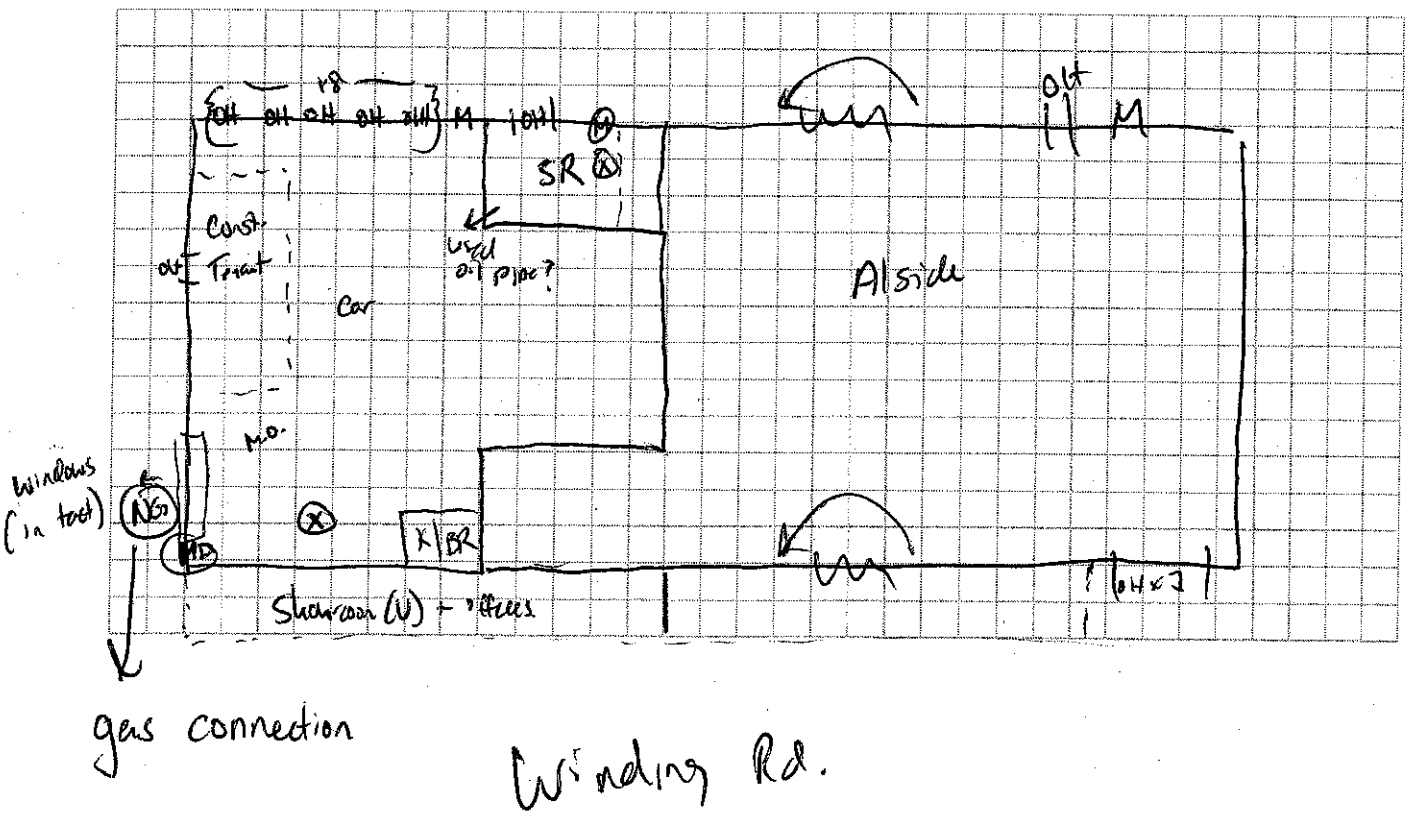
d. Relocation package provided and explained to residents? Y / N

11. FLOOR PLANS

Draw a plan view sketch of the basement and first floor of the building. Indicate air sampling locations, possible indoor air pollution sources and PID meter readings. If the building does not have a basement, please note.

Basement:

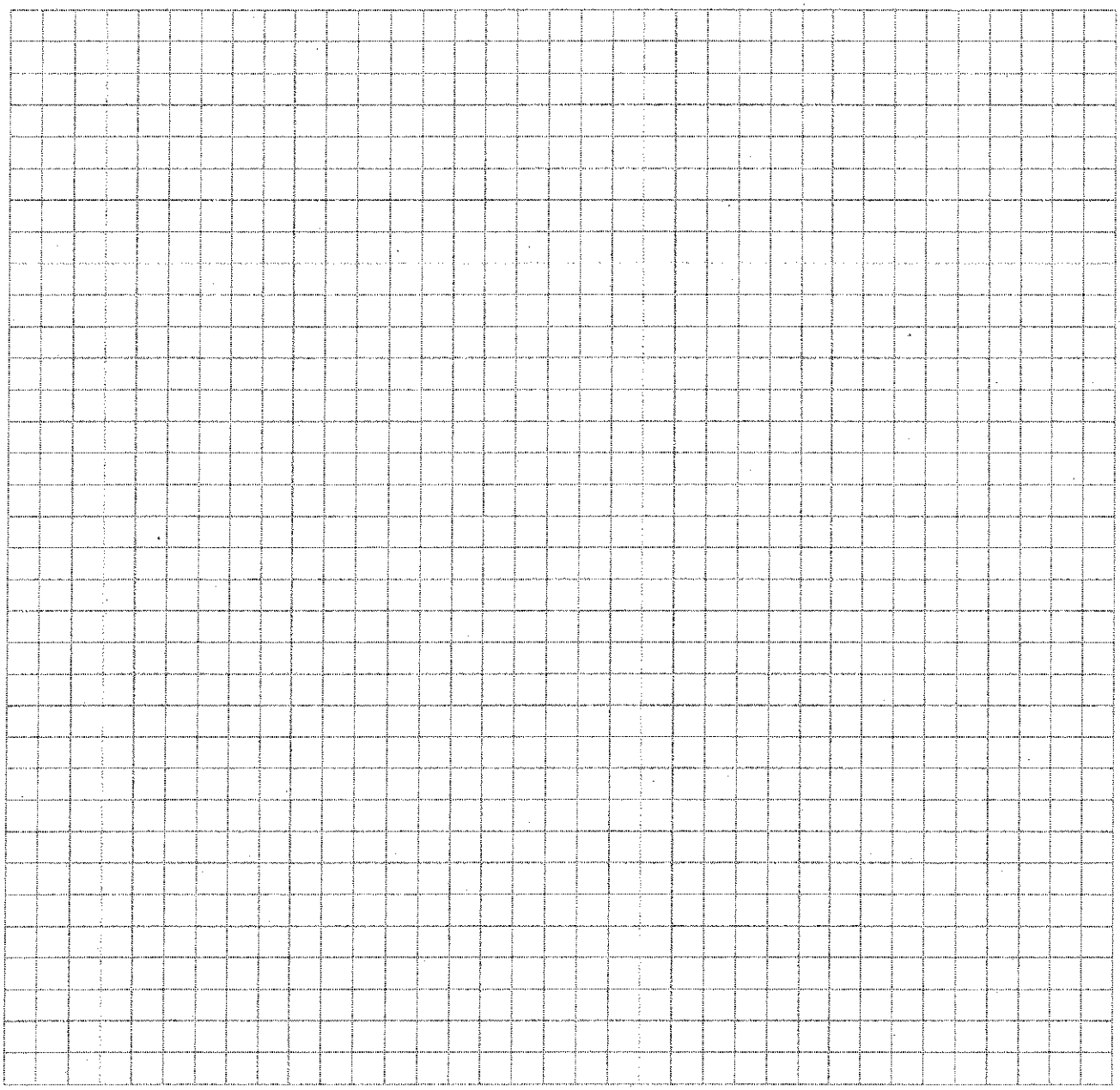
First Floor:



12. OUTDOOR PLOT

Draw a sketch of the area surrounding the building being sampled. If applicable, provide information on spill locations, potential air contamination sources (industries, gas stations, repair shops, landfills, etc.), outdoor air sampling location(s) and PID meter readings.

Also indicate compass direction, wind direction and speed during sampling, the locations of the well and septic system, if applicable, and a qualifying statement to help locate the site on a topographic map.



13. PRODUCT INVENTORY FORM

Make & Model of field instrument used: _____

List specific products found in the residence that have the potential to affect indoor air quality.

Location	Product Description	Size (units)	Condition*	Chemical Ingredients	Field Instrument Reading (units)	Photo** Y / N
Sham	Trans. Fluid	30	UO		Amb	Y
	Motor oil	30	UO			
	15/40 M.O. Tank	100gal				
	Spr. Paint	30can	UO			
	Brake fluids	20gal	UO			
	Waste oil	300gal	D			
	gas	50gal				
	Ar, O_2, Acetylene	8 cyl.				
	Paint Booth	25g	D		140	
	Ambient @ SR				5.6	
Mason Dept	Motor oil	5g	D			
Const.	Carpet adhesive	5g				
	Paint	30g				
	WD-40	2cans				
	Spray paint	30c				
	Paint thinner	10g				

* Describe the condition of the product containers as **Unopened (UO), Used (U),** or **Deteriorated (D)**
** Photographs of the **front and back** of product containers can replace the handwritten list of chemical ingredients. However, the photographs must be of good quality and ingredient labels must be legible.

NEW YORK STATE DEPARTMENT OF HEALTH
INDOOR AIR QUALITY QUESTIONNAIRE AND BUILDING INVENTORY
CENTER FOR ENVIRONMENTAL HEALTH

This form must be completed for each residence involved in indoor air testing.

Preparer's Name Andrew Wadden Date/Time Prepared 11/15/13 / 1200

Preparer's Affiliation HDR Engineering, Inc. Phone No. (845) 735-8300

Purpose of Investigation Remedial Investigation

1. OCCUPANT:

Interviewed: (Y) / N

Last Name: _____ First Name: Gerard

Address: 175 Winding Road.

County: Nassau

Home Phone: _____ Office Phone: 516-313-8681

Number of Occupants/persons at this location 1-6 Age of Occupants _____

2. OWNER OR LANDLORD: (Check if same as occupant ___)

Interviewed: Y / (N)

Last Name: Yorkshire Foods Plaza First Name: —

Address: 2000 Ave New Hyde Park

County: Nassau

Home Phone: _____ Office Phone: 516-328-1400

3. BUILDING CHARACTERISTICS

Type of Building: (Circle appropriate response)

Residential	School	(Commercial) Multi-use
Industrial	Church	Other: _____

If the property is residential, type? (Circle appropriate response)

Ranch	2-Family	3-Family
Raised Ranch	Split Level	Colonial
Cape Cod	Contemporary	Mobile Home
Duplex	Apartment House	Townhouses/Condos
Modular	Log Home	Other:_____

If multiple units, how many? 2

If the property is commercial, type?

Business Type(s) Yorkshire Foods (Warehouse) Emerg. Responder Products (office)

Does it include residences (i.e., multi-use)? Y / (N) If yes, how many? _____

Other characteristics:

Number of floors 1 Building age_____

Is the building insulated? Y / (N) How air tight? Tight / (Average) / Not Tight

by bay doors usually open otherwise building tight - few broken windows < 10%

4. AIRFLOW

Use air current tubes or tracer smoke to evaluate airflow patterns and qualitatively describe:

Airflow between floors

N/A

Airflow near source

Outdoor air infiltration

Infiltration into air ducts

5. BASEMENT AND CONSTRUCTION CHARACTERISTICS (Circle all that apply)

a. Above grade construction:	wood frame	concrete	stone	brick
b. Basement type: N/A	full	crawlspace	slab	other _____
c. Basement floor:	concrete	dirt	stone	other _____
d. Basement floor:	uncovered	covered	covered with _____	
e. Concrete floor:	unsealed	sealed	sealed with _____	
f. Foundation walls: N/A	poured	block	stone	other _____
g. Foundation walls: N/A	unsealed	sealed	sealed with _____	
h. The basement is:	wet	damp	dry	moldy
i. The basement is:	finished	unfinished	partially finished	
j. Sump present?	Y / N			
k. Water in sump?	Y / N / not applicable			

Basement/Lowest level depth below grade: 0 (feet)

Identify potential soil vapor entry points and approximate size (e.g., cracks, utility ports, drains)

_____

_____

6. HEATING, VENTING and AIR CONDITIONING (Circle all that apply)

Type of heating system(s) used in this building: (circle all that apply – note primary)

Hot air circulation	Heat pump	Hot water baseboard	
Space Heaters	Stream radiation	Radiant floor	
Electric baseboard	Wood stove	Outdoor wood boiler	Other Overhead gas heaters

The primary type of fuel used is:

Natural Gas	Fuel Oil	Kerosene
Electric	Propane	Solar
Wood	Coal	

Domestic hot water tank fueled by: _____

Boiler/furnace located in:	Basement	Outdoors	Main Floor	Other_____
Air conditioning:	Central Air	Window units	Open Windows	None

Are there air distribution ducts present? Y (N) Only in office area ~~Floor~~ Abv. heat + exhaust

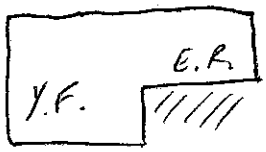
Describe the supply and cold air return ductwork, and its condition where visible, including whether there is a cold air return and the tightness of duct joints. Indicate the locations on the floor plan diagram.

Most warehouse space heated w/ O/H rad. gas heaters.
Office space has some overhead ducts.

7. OCCUPANCY

Is basement/lowest level occupied? (Full-time) Occasionally Seldom Almost Never

Level	**General Use of Each Floor (e.g., familyroom, bedroom, laundry, workshop, storage)**
Basement	Ø
1st Floor	Slab on-grade. Yorkshire Foods - Warehouse
2nd Floor	Slab on-grade. Emerg. Responder Office
3rd Floor	
4th Floor	



8. FACTORS THAT MAY INFLUENCE INDOOR AIR QUALITY

a. Is there an attached garage? Y / (N)

b. Does the garage have a separate heating unit? Y / N / (NA)

c. Are petroleum-powered machines or vehicles stored in the garage (e.g., lawnmower, atv, car) Y / N / (NA) Please specify_____

d. Has the building ever had a fire? Y / N When?_____

e. Is a kerosene or unvented gas space heater present? Y / (N) Where?_____

f. Is there a workshop or hobby/craft area? Y / (N) Where & Type? _____

g. Is there smoking in the building? (Y) / N How frequently? _____

h. Have cleaning products been used recently? Y / (N) When & Type? _____

i. Have cosmetic products been used recently? Y / (N) When & Type? _____

j. Has painting/staining been done in the last 6 months? Y (N) Where & When? _____

k. Is there new carpet, drapes or other textiles? Y (N) Where & When? _____

l. Have air fresheners been used recently? Y (N) When & Type? _____

m. Is there a kitchen exhaust fan? N/A Y / N If yes, where vented? _____

n. Is there a bathroom exhaust fan? Y (N) If yes, where vented? _____

o. Is there a clothes dryer? Y (N) If yes, is it vented outside? Y / N

p. Has there been a pesticide application? (Y) N When & Type? Monthly (cock-roach)

Are there odors in the building? Y (N)
If yes, please describe: _____

Do any of the building occupants use solvents at work? Y (N)
(e.g., chemical manufacturing or laboratory, auto mechanic or auto body shop, painting, fuel oil delivery, boiler mechanic, pesticide application, cosmetologist

If yes, what types of solvents are used? _____

If yes, are their clothes washed at work? Y / N

Do any of the building occupants regularly use or work at a dry-cleaning service? (Circle appropriate response)

Yes, use dry-cleaning regularly (weekly) — No
Yes, use dry-cleaning infrequently (monthly or less) — (Unknown)
Yes, work at a dry-cleaning service

Is there a radon mitigation system for the building/structure? Y / N Date of Installation: _____
Is the system active or passive? Active/Passive

9. WATER AND SEWAGE

Water Supply:	(Public Water)	Drilled Well	Driven Well	Dug Well	Other: _____
Sewage Disposal:	Public Sewer	Septic Tank	Leach Field	Dry Well	Other: _____

10. RELOCATION INFORMATION (for oil spill residential emergency)

N/A **a. Provide reasons why relocation is recommended:** _____

b. Residents choose to: remain in home relocate to friends/family relocate to hotel/motel

c. Responsibility for costs associated with reimbursement explained? Y / N

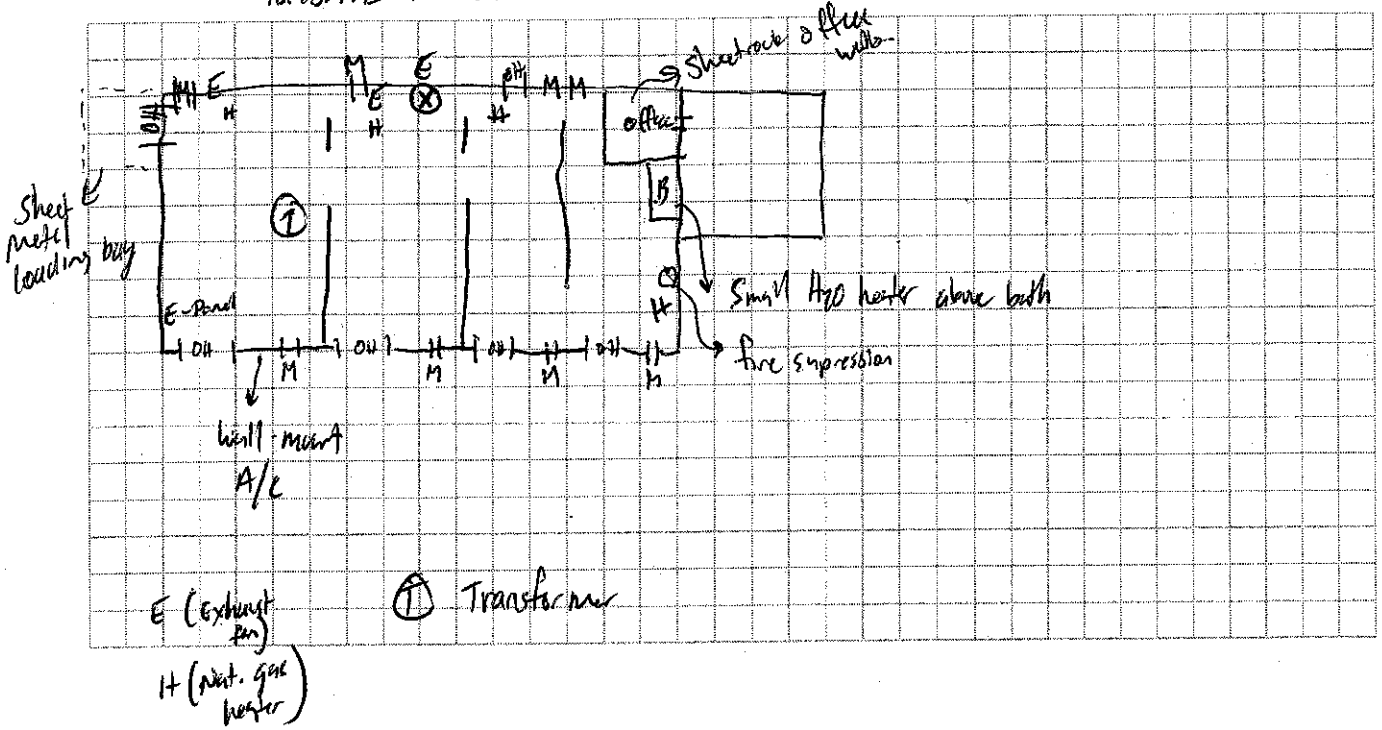
d. Relocation package provided and explained to residents? Y / N

11. FLOOR PLANS

Draw a plan view sketch of the basement and first floor of the building. Indicate air sampling locations, possible indoor air pollution sources and PID meter readings. If the building does not have a basement, please note.

Basement:

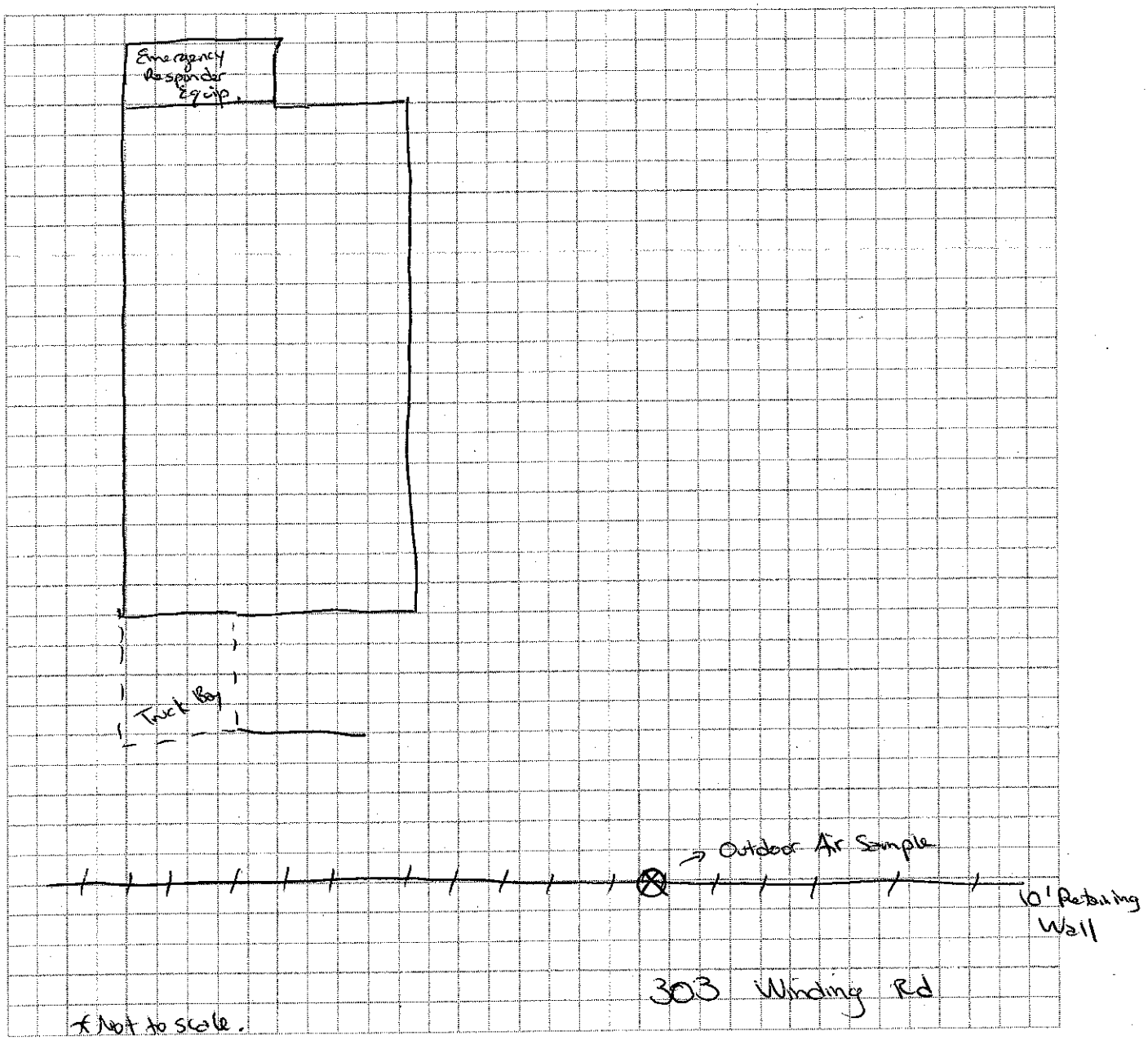
First Floor: Yorkshire Foods.



12. OUTDOOR PLOT

Draw a sketch of the area surrounding the building being sampled. If applicable, provide information on spill locations, potential air contamination sources (industries, gas stations, repair shops, landfills, etc.), outdoor air sampling location(s) and PID meter readings.

Also indicate compass direction, wind direction and speed during sampling, the locations of the well and septic system, if applicable, and a qualifying statement to help locate the site on a topographic map.



13. PRODUCT INVENTORY FORM

Make & Model of field instrument used: MiniRAE 3000

List specific products found in the residence that have the potential to affect indoor air quality.

Location	Product Description	Size (units)	Condition*	Chemical Ingredients	Field Instrument Reading (units)	Photo ** Y / N
Office	Fuel Therapy (Inj. clean)	888 ml x4	UO ~~UO~~	Pet. distillate, Stoddard solvent Naphthalene	0	N
↓	Motor oil	6	UO	Motor oil	0	N
	Car battery	1	N/A		0	
	WD/40	2 gal	UO		0	
	Anti-freeze	2 gal	UO		0	Y
	Re-Ver	1	UO		0	
	~~Propane Tanks~~	2	UO	2 x Elect. ~~Propane~~ pentil lifts.	0	

* Describe the condition of the product containers as **Unopened (UO), Used (U),** or **Deteriorated (D)**
** Photographs of the **front and back** of product containers can replace the handwritten list of chemical ingredients. However, the photographs must be of good quality and ingredient labels must be legible.

Appendix E
Analytical Data Packages for Groundwater Data

Report Date:
10-Oct-13 11:10

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

☑ Final Report
☐ Re-Issued Report
☐ Revised Report

Laboratory Report

HDR LMS, Inc.
One Blue Hill Plaza
Pearl River, NY 10965-

Work Order: M1749
Project : Aluminum Louvre
Project #:

Attn: Patricia Parvis

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
M1749-01	MW-195-1-I-CSIA	Aqueous	17-Sep-13 11:55	18-Sep-13 09:15
M1749-02	MW-NEMF-3-D	Aqueous	17-Sep-13 15:30	18-Sep-13 09:15
M1749-03	TB091713	Aqueous	17-Sep-13 00:00	18-Sep-13 09:15
M1749-04	MW-NEMF-2-D	Aqueous	18-Sep-13 11:50	19-Sep-13 09:13
M1749-05	EW-7C-CSIA	Aqueous	18-Sep-13 15:05	19-Sep-13 09:13
M1749-06	TB091813	Aqueous	18-Sep-13 00:00	19-Sep-13 09:13
M1749-07	MW-301-1-S-CSIA	Aqueous	19-Sep-13 14:07	20-Sep-13 10:50
M1749-08	MW-412-1-S	Aqueous	19-Sep-13 14:10	20-Sep-13 10:50
M1749-09	TB091913	Aqueous	19-Sep-13 00:00	20-Sep-13 10:50
M1749-10	EW-7D-CSIA	Aqueous	20-Sep-13 13:00	21-Sep-13 09:10
M1749-11	FB092013	Aqueous	20-Sep-13 13:05	21-Sep-13 09:10
M1749-12	TB092013	Aqueous	20-Sep-13 00:00	21-Sep-13 09:10

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. The results relate only to the samples(s) as received. This report may not be reproduced, except in full, without written approval from Spectrum Analytical.

All applicable NELAC or USEPA CLP requirments have been meet.

Spectrum Analytical (Rhode Island) is accredited under the National Environmental Laboratory Approval Program (NELAP) and DoD Environmental Laboratory Accreditation Program (ELAP), holds Organic and Inorganic contracts under the USEPA CLP Program and is certified under several states. The current list of our laboratory approvals and certifications is available on the Certifications page on our web site at www.spectrum-analytical.com.

Please contact the Laboratory or Technical Director at 401-732-3400 with any questions regarding the data contained in the laboratory report.

Department of Defense	N/A
Connecticut	PH-0153
Delaware	N/A
Florida	E87664
Maine	2007037
Massachusetts	M-RI907
New Hampshire	2631
New Jersey	RI001
New York	11522
North Carolina	581
Rhode Island	LAI00301
USDA	P330-08-00023
USEPA - ISM	EP-W-09-039
USEPA - SOM	EP-W-11-033

NELAP ACCREDITED TNI LABORATORY

LABORATORY ACCREDITATION BUREAU ACCREDITED
Certificate # L2247 Testing

Authorized by:

Yihai Ding
Laboratory Director

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

* Data Summary Pack *

175 Metro Center Boulevard · Warwick, RI 02886-1755 · 401-732-3400 · FAX 401-732-3499
www.spectrum-analytical.com

Spectrum Analytical Inc. - North Kingstown RI -- Rhode Island Division

New York State Department of Environmental Conservation
Sample Identification and Analytical Requirements Summary

Project Name : Aluminum Louvre **SDG :** M1749

Customer Sample ID	Laboratory Sample ID	Analytical Requirements				
		MSVOA Method #	MSSEMI Method #	GC* Method #	ME	Other
MW-195-1-I-CSIA	M1749-01	SW8260_W				
MW-NEMF-3-D	M1749-02	SW8260_W				
TB091713	M1749-03	SW8260_W				
MW-NEMF-2-D	M1749-04	SW8260_W				
EW-7C-CSIA	M1749-05	SW8260_W				
TB091813	M1749-06	SW8260_W				
MW-301-1-S-CSIA	M1749-07	SW8260_W				
MW-412-1-S	M1749-08	SW8260_W				
TB091913	M1749-09	SW8260_W				
EW-7D-CSIA	M1749-10	SW8260_W				
FB092013	M1749-11	SW8260_W				
TB092013	M1749-12	SW8260_W				

Spectrum Analytical Inc. - North Kingstown RI -- Rhode Island Division

New York State Department of Environmental Conservation
Sample Preparation and Analysis Summary MSVOA

Project Name : Aluminum Louvre **SDG :** M1749

Laboratory Sample ID	Matrix	Date Collected	Date Received By Lab	Date Extracted	Date Analyzed
SW8260_W					
M1749-01A	AQ	9/17/2013	9/18/2013	NA	9/28/2013
M1749-02A	AQ	9/17/2013	9/18/2013	NA	9/28/2013
M1749-03A	AQ	9/17/2013	9/18/2013	NA	9/28/2013
M1749-04A	AQ	9/18/2013	9/19/2013	NA	9/28/2013
M1749-05A	AQ	9/18/2013	9/19/2013	NA	9/28/2013
M1749-05ADL	AQ	9/18/2013	9/19/2013	NA	10/1/2013
M1749-05AMS	AQ	9/18/2013	9/19/2013	NA	10/1/2013
M1749-05AMSD	AQ	9/18/2013	9/19/2013	NA	10/1/2013
M1749-06A	AQ	9/18/2013	9/19/2013	NA	9/28/2013
M1749-07A	AQ	9/19/2013	9/20/2013	NA	9/28/2013
M1749-07ADL	AQ	9/19/2013	9/20/2013	NA	10/1/2013
M1749-08A	AQ	9/19/2013	9/20/2013	NA	9/29/2013
M1749-08ADL	AQ	9/19/2013	9/20/2013	NA	10/1/2013
M1749-09A	AQ	9/19/2013	9/20/2013	NA	9/30/2013
M1749-10A	AQ	9/20/2013	9/21/2013	NA	9/30/2013
M1749-11A	AQ	9/20/2013	9/21/2013	NA	10/1/2013
M1749-12A	AQ	9/20/2013	9/21/2013	NA	10/1/2013

Spectrum Analytical Inc. - North Kingstown RI -- Rhode Island Division

New York State Department of Environmental Conservation
Sample Preparation and Analysis Summary MSVOA

Project Name : Aluminum Louvre **SDG :** M1749

Laboratory Sample ID	Matrix	Analytical Protocol	Extraction Method	Low/Medium Level	Dil/Conc Factor
SW8260_W					
M1749-01A	AQ	SW8260_W	NA	LOW	1
M1749-02A	AQ	SW8260_W	NA	LOW	1
M1749-03A	AQ	SW8260_W	NA	LOW	1
M1749-04A	AQ	SW8260_W	NA	LOW	1
M1749-05A	AQ	SW8260_W	NA	LOW	1
M1749-05ADL	AQ	SW8260_W	NA	LOW	4
M1749-05AMS	AQ	SW8260_W	NA	LOW	1
M1749-05AMSD	AQ	SW8260_W	NA	LOW	1
M1749-06A	AQ	SW8260_W	NA	LOW	1
M1749-07A	AQ	SW8260_W	NA	LOW	1
M1749-07ADL	AQ	SW8260_W	NA	LOW	50
M1749-08A	AQ	SW8260_W	NA	LOW	1
M1749-08ADL	AQ	SW8260_W	NA	LOW	50
M1749-09A	AQ	SW8260_W	NA	LOW	1
M1749-10A	AQ	SW8260_W	NA	LOW	1
M1749-11A	AQ	SW8260_W	NA	LOW	1
M1749-12A	AQ	SW8260_W	NA	LOW	1

Spectrum Analytical Inc. - North Kingstown RI -- Rhode Island Division

WorkOrder: M1749

Client ID: HDR
Project: Aluminum Louvre
WO Name: Aluminum Louvre
Location: HDR_ALUMINUM,

Case:
SDG:

HC Due: 10/03/13
Fax Due:
Fax Report: ☐

Report Level: ASP-B
Special Program:
EDD: EQUIIS_4_NYSDEC

PO: D006129, WA-10, 130195

Comments: Sample Ids changed for 01, 02, 04, 05, 07 and 10. Paperless to HDR. Hardcopy of DSP(and PDF of DP and DSP on CD) to Judy Harry, Data Validation Services, 120 Cobble Creek Rd, North Creek, NY 12853.

Lab Samp ID	Client Sample ID	Collection Date	Date Recv'd	Matrix	Test Code	Samp / Lab Test Comments	HF	HT	MS	SEL	Storage
M1749-01A	MW-195-1-I-CSIA	09/17/2013 11:55	09/18/2013	Aqueous	SW8260_W	/ +TICs, 1ppb ICAL				Y	VOA
M1749-02A	MW-NEMF-3-D	09/17/2013 15:30	09/18/2013	Aqueous	SW8260_W	/ +TICs, 1ppb ICAL				Y	VOA
M1749-03A	TB091713	09/17/2013 00:00	09/18/2013	Aqueous	SW8260_W	/ +TICs, 1ppb ICAL				Y	VOA
M1749-04A	MW-NEMF-2-D	09/18/2013 11:50	09/19/2013	Aqueous	SW8260_W	/ +TICs, 1ppb ICAL				Y	VOA
M1749-05A	EW-7C-CSIA	09/18/2013 15:05	09/19/2013	Aqueous	SW8260_W	/ +TICs, 1ppb ICAL			Y	Y	VOA
M1749-06A	TB091813	09/18/2013 00:00	09/19/2013	Aqueous	SW8260_W	/ +TICs, 1ppb ICAL				Y	VOA
M1749-07A	MW-301-1-S-CSIA	09/19/2013 14:07	09/20/2013	Aqueous	SW8260_W	/ +TICs, 1ppb ICAL				Y	VOA
M1749-08A	MW-412-1-S	09/19/2013 14:10	09/20/2013	Aqueous	SW8260_W	/ +TICs, 1ppb ICAL				Y	VOA
M1749-09A	TB091913	09/19/2013 00:00	09/20/2013	Aqueous	SW8260_W	/ +TICs, 1ppb ICAL				Y	VOA
M1749-10A	EW-7D-CSIA	09/20/2013 13:00	09/21/2013	Aqueous	SW8260_W	/ +TICs, 1ppb ICAL				Y	VOA
M1749-11A	FB092013	09/20/2013 13:05	09/21/2013	Aqueous	SW8260_W	/ +TICs, 1ppb ICAL				Y	VOA
M1749-12A	TB092013	09/20/2013 00:00	09/21/2013	Aqueous	SW8260_W	/ +TICs, 1ppb ICAL				Y	VOA

HF = Fraction logged in but all tests have been placed on hold

HT = Test logged in but has been placed on hold

10/07/2013 09:19

Lab Client Rep: Agnes R Huntley

* Volatiles *

REPORT NARRATIVE

Spectrum Analytical, Inc. Featuring Hanibal Technology, RI Division.

Client : HDR LMS, Inc.

Project: Aluminum Louvre

Laboratory Workorder / SDG #: M1749

SW846 8260C, VOC by GC-MS

I. SAMPLE RECEIPT

No exceptions or unusual conditions were encountered unless a Sample Condition Notification Form, or other record of communication is included with the Sample Receipt Documentation.

II. HOLDING TIMES

A. Sample Preparation:

All samples were prepared within the method-specified holding times.

B. Sample Analysis:

All samples were analyzed within the method-specified holding times.

III. METHODS

Samples were analyzed following procedures in laboratory test code: SW846 8260C

IV. PREPARATION

Aqueous Samples were prepared following procedures in laboratory test code: SW5030B

V. INSTRUMENTATION

The following instrumentation was used

Instrument Code: V10
Instrument Type: GCMS-VOA

Description: HP7890A
Manufacturer: Agilent
Model: 7890A / 5975C
GC Column used: 30 m X 0.25 mm ID [1.40 um thickness] DB-624 capillary column.

VI. ANALYSIS

A. Calibration:

Calibrations met the method/SOP acceptance criteria.

B. Blanks:

All method blanks were within the acceptance criteria.

C. Surrogates:

Surrogate standard percent recoveries were within the QC limits with the following exceptions. Please note that the acceptance criteria allow one surrogate recovery outside of the QC limits per fraction.

(LCS-73996), recovery is above criteria for Dibromofluoromethane at 118% with criteria of (85-115).

MW-195-1-I-CSIA (M1749-01A), recovery is above criteria for Dibromofluoromethane at 122% with criteria of (85-115).

MW-NEMF-3-D (M1749-02A), recovery is above criteria for Dibromofluoromethane at 121% with criteria of (85-115).

TB091713 (M1749-03A), recovery is above criteria for Dibromofluoromethane at 118% with criteria of (85-115).

MW-NEMF-2-D (M1749-04A), recovery is above criteria for Dibromofluoromethane at 119% with criteria of (85-115).

EW-7C-CSIA (M1749-05A), recovery is above criteria for Dibromofluoromethane at 119% with criteria of (85-115).

EW-7C-CSIA (M1749-05AMSD), recovery is above criteria for Dibromofluoromethane at 115% with criteria of (85-115).

TB091813 (M1749-06A), recovery is above criteria for Dibromofluoromethane at 120% with criteria of (85-115).

MW-301-1-S-CSIA (M1749-07A), recovery is above criteria for

Dibromofluoromethane at 121% with criteria of (85-115).

D. Spikes:

1. Laboratory Control Spikes (LCS):

Percent recoveries for lab control samples were within the QC limits with the following exceptions. Please note that most test procedures allow for several compounds outside of the QC limits for the LCS, although this may indicate a bias for this specific compound.

LCS-73996 in batch 73996, recovery is above criteria for 1,1,1-Trichloroethane at 136% with criteria of (65-130), 1,2-Dichloroethane at 141% with criteria of (70-130) and Carbon tetrachloride at 148% with criteria of (65-140).

LCS-74002 in batch 74002, recovery is below criteria for 1,2,3-Trichloropropane at 72% with criteria of (75-125) and 2,2-Dichloropropane at 62% with criteria of (70-135).

LCS-74070 in batch 74070, recovery is above criteria for Bromodichloromethane at 126% with criteria of (75-120).

LCSD-74002 in batch 74002, recovery is below criteria for 2,2-Dichloropropane at 60% with criteria of (70-135).

LCSD-74047 in batch 74047, recovery is above criteria for Bromodichloromethane at 120% with criteria of (75-120).

2. Matrix Spike / Matrix Spike Duplicate (MS/MSD):

Matrix spikes were performed on samples: EW-7C-CSIA (M1749-05AMS) and EW-7C-CSIA (M1749-05AMSD).

Percent recoveries were within the QC limits with the following exceptions:

EW-7C-CSIA (M1749-05AMS), recovery is below criteria for 1,2,3-Trichloropropane at 75% with criteria of (75-125), 1,2,4-Trimethylbenzene at 75% with criteria of (75-130), 1,3,5-Trimethylbenzene at 73% with criteria of (75-130), 1,3-Dichlorobenzene at 72% with criteria of (75-125), 1,4-Dichlorobenzene at 72% with criteria of (75-125), 2-Chlorotoluene at 72% with criteria of (75-125), 4-Chlorotoluene at 73% with criteria of (75-130), 4-Isopropyltoluene at 72% with criteria of (75-130), Bromobenzene at 71% with criteria of (75-125),

Chlorobenzene at 77% with criteria of (80-120), Iodomethane at 57% with criteria of (72-121), n-Propylbenzene at 67% with criteria of (70-130), Trichloroethene at 46% with criteria of (70-125) and Xylene (Total) at 80% with criteria of (81-121).

EW-7C-CSIA (M1749-05AMSD), recovery is below criteria for Trichloroethene at 65% with criteria of (70-125).

Replicate RPDs were within the advisory QC limits with the exception of the following:

EW-7C-CSIA (M1749-05AMSD), Relative Percent Difference is greater than RPD limit for Iodomethane.

E. Internal Standards:

Internal standard peak areas were within the QC limits.

F. Dilutions:

The following samples were analyzed at dilution:

EW-7C-CSIA (M1749-05ADL) : Dilution Factor: 4
MW-301-1-S-CSIA (M1749-07ADL) : Dilution Factor: 50
MW-412-1-S (M1749-08ADL) : Dilution Factor: 50

G. Samples:

No other unusual occurrences were noted during sample analysis.

H. Manual Integration

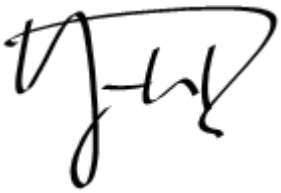
Where needed, manual integrations were performed to improve data quality. The corrections were reviewed and associated hardcopies generated and reported as required. Manual integrations are coded to provide the data reviewer justification for such action. The codes are labeled on the ion chromatogram signal (GC/MS signal) and chromatogram for GC based analysis as follows:

· M1 peak tailing or fronting
· M2 peak co-elution
· M3 rising or falling baseline
· M4 retention time shift
· M5 miscellaneous - under this category, the justification is explained
· M6 software did not integrate peak
· M7 partial peak integration

Manual integration was performed on the following:

MW-301-1-S-CSIA (M1749-07A) Trichloroethene due to M6

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Spectrum, both technically and for completeness, except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Signed:_____  _____

Date:_____10/9/13_____

Data Flag/Qualifiers:

U Not Detected. This compound was analyzed-for but not detected. For most analyses the reporting limit (lowest standard concentration) is the value listed. For Department of Defense programs, this is the Limit of Detection (LOD).

J This flag indicates an estimated value due to either
- the compound was detected below the reporting limit, or
- estimated concentration for Tentatively Identified Compound

B This flag indicates the compound was also detected in the associated Method Blank. The B flag has an alternative meaning for Inorganics analyses reported using CLP ILM-type metals forms, indicating a "trace" concentration below the reporting limit and equal to or above the detection limit.

D For Organics analysis, this flag indicates the compound concentration was obtained from a secondary dilution analysis

E This flag indicates the compound concentration exceeded the Calibration Range. The E flag has an alternative meaning for Inorganics analyses reported using CLP metals forms, indicating an estimated concentration due to the presence of interferences, as determined by the serial dilution analysis.

P This flag is used for pesticides/PCB/herbicide compound when there is a greater than 40% difference for detected concentration between the two GC columns used for primary and confirmation analyses. This difference typically indicates an interference, causing one value to be unusually high. The **lower** of the two values is generally reported on the Form 1, and both values reported on the Form 10.

A Used to flag semivolatile organic Tentatively Identified Compound library search results for compounds identified as aldol condensation byproducts.

N Used to flag results for volatile and semivolatile Organics analysis Tentatively Identified Compounds where an analyte has passed the identification criteria, and is considered to be positively identified. For Inorganics analysis the N flag indicates the matrix spike recovery falls outside of the control limit.

* For Inorganics analysis the * flag indicates Relative Percent Difference for duplicate analyses is outside of the control limit.

Sample ID Suffixes

DL Diluted analysis. The sample was diluted and reanalyzed. The DL may be followed by a digit if more than one diluted reanalysis is provided. The DL suffix is not attached to an analysis initially performed at dilution, only to reanalyses performed at dilution

RE Reanalysis. Appended to the client sample ID to indicate a reextraction and reanalysis or a reanalysis of the original sample extract.

RA Reanalysis. Appended to the laboratory sample ID indicates a reanalysis of the original sample extract.

RX Reextraction. Appended to the laboratory sample ID indicates a reextraction of the sample.

MS Matrix Spike.

MSD Matrix Spike Duplicate

DUP Duplicate analysis

SD Serial Dilution

PS Post-digestion or Post-distillation spike. For metals or inorganic analyses

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW-195-1-I-CSIA

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M1749-01A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D0938.D

Level: (TRACE/LOW/MED) LOW Date Received: 09/18/2013

% Moisture: not dec. Date Analyzed: 09/28/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	1.0	U
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl chloride	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene	11	
67-64-1	Acetone	5.0	U
74-88-4	Iodomethane	1.0	U
75-15-0	Carbon disulfide	1.0	U
75-09-2	Methylene chloride	1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-butyl ether	3.0	
75-34-3	1,1-Dichloroethane	5.2	
108-05-4	Vinyl acetate	1.0	U
78-93-3	2-Butanone	5.0	U
156-59-2	cis-1,2-Dichloroethene	1.5	
594-20-7	2,2-Dichloropropane	1.0	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform	1.0	U
71-55-6	1,1,1-Trichloroethane	37	
563-58-6	1,1-Dichloropropene	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
71-43-2	Benzene	1.0	U
79-01-6	Trichloroethene	74	
78-87-5	1,2-Dichloropropane	1.0	U
74-95-3	Dibromomethane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
142-28-9	1,3-Dichloropropane	1.0	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW-195-1-I-CSIA

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M1749-01A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D0938.D

Level: (TRACE/LOW/MED) LOW Date Received: 09/18/2013

% Moisture: not dec. Date Analyzed: 09/28/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
127-18-4	Tetrachloroethene	23	
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U
108-90-7	Chlorobenzene	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U
100-41-4	Ethylbenzene	1.0	U
179601-23-1	m,p-Xylene	1.0	U
95-47-6	o-Xylene	1.0	U
1330-20-7	Xylene (Total)	1.0	U
100-42-5	Styrene	1.0	U
75-25-2	Bromoform	1.0	U
98-82-8	Isopropylbenzene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
108-86-1	Bromobenzene	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
103-65-1	n-Propylbenzene	1.0	U
95-49-8	2-Chlorotoluene	1.0	U
108-67-8	1,3,5-Trimethylbenzene	1.0	U
106-43-4	4-Chlorotoluene	1.0	U
98-06-6	tert-Butylbenzene	1.0	U
95-63-6	1,2,4-Trimethylbenzene	1.0	U
135-98-8	sec-Butylbenzene	1.0	U
99-87-6	4-Isopropyltoluene	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
104-51-8	n-Butylbenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
87-68-3	Hexachlorobutadiene	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1.0	U
91-20-3	Naphthalene	1.0	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

MW-195-1-I-CSIA

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M1749-01A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D0938.D

Level: (TRACE or LOW/MED) LOW Date Received: 09/18/2013

% Moisture: not dec. Date Analyzed: 09/28/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Purge Volume: 5.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW-NEMF-3-D

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M1749-02A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D0939.D

Level: (TRACE/LOW/MED) LOW Date Received: 09/18/2013

% Moisture: not dec. Date Analyzed: 09/28/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	1.0	U
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl chloride	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene	1.0	U
67-64-1	Acetone	5.0	U
74-88-4	Iodomethane	1.0	U
75-15-0	Carbon disulfide	1.0	U
75-09-2	Methylene chloride	1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-butyl ether	1.0	U
75-34-3	1,1-Dichloroethane	1.0	U
108-05-4	Vinyl acetate	1.0	U
78-93-3	2-Butanone	5.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	
594-20-7	2,2-Dichloropropane	1.0	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
563-58-6	1,1-Dichloropropene	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
71-43-2	Benzene	1.0	U
79-01-6	Trichloroethene	39	
78-87-5	1,2-Dichloropropane	1.0	U
74-95-3	Dibromomethane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
142-28-9	1,3-Dichloropropane	1.0	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW-NEMF-3-D

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M1749-02A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D0939.D

Level: (TRACE/LOW/MED) LOW Date Received: 09/18/2013

% Moisture: not dec. Date Analyzed: 09/28/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
127-18-4	Tetrachloroethene	4.6	
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U
108-90-7	Chlorobenzene	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U
100-41-4	Ethylbenzene	1.0	U
179601-23-1	m,p-Xylene	1.0	U
95-47-6	o-Xylene	1.0	U
1330-20-7	Xylene (Total)	1.0	U
100-42-5	Styrene	1.0	U
75-25-2	Bromoform	1.0	U
98-82-8	Isopropylbenzene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
108-86-1	Bromobenzene	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
103-65-1	n-Propylbenzene	1.0	U
95-49-8	2-Chlorotoluene	1.0	U
108-67-8	1,3,5-Trimethylbenzene	1.0	U
106-43-4	4-Chlorotoluene	1.0	U
98-06-6	tert-Butylbenzene	1.0	U
95-63-6	1,2,4-Trimethylbenzene	1.0	U
135-98-8	sec-Butylbenzene	1.0	U
99-87-6	4-Isopropyltoluene	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
104-51-8	n-Butylbenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
87-68-3	Hexachlorobutadiene	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1.0	U
91-20-3	Naphthalene	1.0	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

MW-NEMF-3-D

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M1749-02A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D0939.D

Level: (TRACE or LOW/MED) LOW Date Received: 09/18/2013

% Moisture: not dec. Date Analyzed: 09/28/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Purge Volume: 5.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

TB091713

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M1749-03A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D0936.D

Level: (TRACE/LOW/MED) LOW Date Received: 09/18/2013

% Moisture: not dec. Date Analyzed: 09/28/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	1.0	U
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl chloride	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene	1.0	U
67-64-1	Acetone	5.0	U
74-88-4	Iodomethane	1.0	U
75-15-0	Carbon disulfide	1.0	U
75-09-2	Methylene chloride	40	
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-butyl ether	1.0	U
75-34-3	1,1-Dichloroethane	1.0	U
108-05-4	Vinyl acetate	1.0	U
78-93-3	2-Butanone	5.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
594-20-7	2,2-Dichloropropane	1.0	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
563-58-6	1,1-Dichloropropene	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
71-43-2	Benzene	1.0	U
79-01-6	Trichloroethene	1.0	U
78-87-5	1,2-Dichloropropane	1.0	U
74-95-3	Dibromomethane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
142-28-9	1,3-Dichloropropane	1.0	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

TB091713

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M1749-03A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D0936.D

Level: (TRACE/LOW/MED) LOW Date Received: 09/18/2013

% Moisture: not dec. Date Analyzed: 09/28/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
127-18-4	Tetrachloroethene	1.0	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U
108-90-7	Chlorobenzene	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U
100-41-4	Ethylbenzene	1.0	U
179601-23-1	m,p-Xylene	1.0	U
95-47-6	o-Xylene	1.0	U
1330-20-7	Xylene (Total)	1.0	U
100-42-5	Styrene	1.0	U
75-25-2	Bromoform	1.0	U
98-82-8	Isopropylbenzene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
108-86-1	Bromobenzene	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
103-65-1	n-Propylbenzene	1.0	U
95-49-8	2-Chlorotoluene	1.0	U
108-67-8	1,3,5-Trimethylbenzene	1.0	U
106-43-4	4-Chlorotoluene	1.0	U
98-06-6	tert-Butylbenzene	1.0	U
95-63-6	1,2,4-Trimethylbenzene	1.0	U
135-98-8	sec-Butylbenzene	1.0	U
99-87-6	4-Isopropyltoluene	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
104-51-8	n-Butylbenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
87-68-3	Hexachlorobutadiene	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1.0	U
91-20-3	Naphthalene	1.0	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

TB091713

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M1749-03A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D0936.D

Level: (TRACE or LOW/MED) LOW Date Received: 09/18/2013

% Moisture: not dec. Date Analyzed: 09/28/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Purge Volume: 5.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW-NEMF-2-D

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M1749-04A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D0940.D

Level: (TRACE/LOW/MED) LOW Date Received: 09/19/2013

% Moisture: not dec. Date Analyzed: 09/28/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	1.0	U
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl chloride	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene	1.0	U
67-64-1	Acetone	5.0	U
74-88-4	Iodomethane	1.0	U
75-15-0	Carbon disulfide	1.0	U
75-09-2	Methylene chloride	1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-butyl ether	5.7	
75-34-3	1,1-Dichloroethane	3.6	
108-05-4	Vinyl acetate	1.0	U
78-93-3	2-Butanone	5.0	U
156-59-2	cis-1,2-Dichloroethene	1.4	
594-20-7	2,2-Dichloropropane	1.0	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform	1.0	U
71-55-6	1,1,1-Trichloroethane	5.3	
563-58-6	1,1-Dichloropropene	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
71-43-2	Benzene	1.0	U
79-01-6	Trichloroethene	67	
78-87-5	1,2-Dichloropropane	1.0	U
74-95-3	Dibromomethane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
142-28-9	1,3-Dichloropropane	1.0	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW-NEMF-2-D

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M1749-04A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D0940.D

Level: (TRACE/LOW/MED) LOW Date Received: 09/19/2013

% Moisture: not dec. Date Analyzed: 09/28/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
127-18-4	Tetrachloroethene	41	
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U
108-90-7	Chlorobenzene	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U
100-41-4	Ethylbenzene	1.0	U
179601-23-1	m,p-Xylene	1.0	U
95-47-6	o-Xylene	1.0	U
1330-20-7	Xylene (Total)	1.0	U
100-42-5	Styrene	1.0	U
75-25-2	Bromoform	1.0	U
98-82-8	Isopropylbenzene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
108-86-1	Bromobenzene	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
103-65-1	n-Propylbenzene	1.0	U
95-49-8	2-Chlorotoluene	1.0	U
108-67-8	1,3,5-Trimethylbenzene	1.0	U
106-43-4	4-Chlorotoluene	1.0	U
98-06-6	tert-Butylbenzene	1.0	U
95-63-6	1,2,4-Trimethylbenzene	1.0	U
135-98-8	sec-Butylbenzene	1.0	U
99-87-6	4-Isopropyltoluene	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
104-51-8	n-Butylbenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
87-68-3	Hexachlorobutadiene	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1.0	U
91-20-3	Naphthalene	1.0	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

MW-NEMF-2-D

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M1749-04A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D0940.D

Level: (TRACE or LOW/MED) LOW Date Received: 09/19/2013

% Moisture: not dec. Date Analyzed: 09/28/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Purge Volume: 5.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EW-7C-CSIA

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M1749-05A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D0941.D

Level: (TRACE/LOW/MED) LOW Date Received: 09/19/2013

% Moisture: not dec. Date Analyzed: 09/28/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	1.0	U
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl chloride	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene	0.78	J
67-64-1	Acetone	5.0	U
74-88-4	Iodomethane	1.0	U
75-15-0	Carbon disulfide	1.0	U
75-09-2	Methylene chloride	1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-butyl ether	4.0	
75-34-3	1,1-Dichloroethane	1.0	U
108-05-4	Vinyl acetate	1.0	U
78-93-3	2-Butanone	5.0	U
156-59-2	cis-1,2-Dichloroethene	6.3	
594-20-7	2,2-Dichloropropane	1.0	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform	1.0	U
71-55-6	1,1,1-Trichloroethane	1.4	
563-58-6	1,1-Dichloropropene	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
71-43-2	Benzene	1.0	U
79-01-6	Trichloroethene	370	E
78-87-5	1,2-Dichloropropane	1.0	U
74-95-3	Dibromomethane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
142-28-9	1,3-Dichloropropane	1.0	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EW-7C-CSIA

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M1749-05A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D0941.D

Level: (TRACE/LOW/MED) LOW Date Received: 09/19/2013

% Moisture: not dec. Date Analyzed: 09/28/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
127-18-4	Tetrachloroethene	18	
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U
108-90-7	Chlorobenzene	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U
100-41-4	Ethylbenzene	1.0	U
179601-23-1	m,p-Xylene	1.0	U
95-47-6	o-Xylene	1.0	U
1330-20-7	Xylene (Total)	1.0	U
100-42-5	Styrene	1.0	U
75-25-2	Bromoform	1.0	U
98-82-8	Isopropylbenzene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
108-86-1	Bromobenzene	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
103-65-1	n-Propylbenzene	1.0	U
95-49-8	2-Chlorotoluene	1.0	U
108-67-8	1,3,5-Trimethylbenzene	1.0	U
106-43-4	4-Chlorotoluene	1.0	U
98-06-6	tert-Butylbenzene	1.0	U
95-63-6	1,2,4-Trimethylbenzene	1.0	U
135-98-8	sec-Butylbenzene	1.0	U
99-87-6	4-Isopropyltoluene	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
104-51-8	n-Butylbenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
87-68-3	Hexachlorobutadiene	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1.0	U
91-20-3	Naphthalene	1.0	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

EW-7C-CSIA

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M1749-05A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D0941.D

Level: (TRACE or LOW/MED) LOW Date Received: 09/19/2013

% Moisture: not dec. Date Analyzed: 09/28/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Purge Volume: 5.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EW-7C-CSIADL

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M1749-05ADL

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1049.D

Level: (TRACE/LOW/MED) LOW Date Received: 09/19/2013

% Moisture: not dec. Date Analyzed: 10/01/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 4.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	4.0	U
74-87-3	Chloromethane	4.0	U
75-01-4	Vinyl chloride	4.0	U
74-83-9	Bromomethane	4.0	U
75-00-3	Chloroethane	4.0	U
75-69-4	Trichlorofluoromethane	4.0	U
75-35-4	1,1-Dichloroethene	4.0	U
67-64-1	Acetone	20	U
74-88-4	Iodomethane	4.0	U
75-15-0	Carbon disulfide	4.0	U
75-09-2	Methylene chloride	4.0	U
156-60-5	trans-1,2-Dichloroethene	4.0	U
1634-04-4	Methyl tert-butyl ether	3.2	DJ
75-34-3	1,1-Dichloroethane	4.0	U
108-05-4	Vinyl acetate	4.0	U
78-93-3	2-Butanone	20	U
156-59-2	cis-1,2-Dichloroethene	5.4	D
594-20-7	2,2-Dichloropropane	4.0	U
74-97-5	Bromochloromethane	4.0	U
67-66-3	Chloroform	4.0	U
71-55-6	1,1,1-Trichloroethane	4.0	U
563-58-6	1,1-Dichloropropene	4.0	U
56-23-5	Carbon tetrachloride	4.0	U
107-06-2	1,2-Dichloroethane	4.0	U
71-43-2	Benzene	4.0	U
79-01-6	Trichloroethene	320	D
78-87-5	1,2-Dichloropropane	4.0	U
74-95-3	Dibromomethane	4.0	U
75-27-4	Bromodichloromethane	4.0	U
10061-01-5	cis-1,3-Dichloropropene	4.0	U
108-10-1	4-Methyl-2-pentanone	20	U
108-88-3	Toluene	4.0	U
10061-02-6	trans-1,3-Dichloropropene	4.0	U
79-00-5	1,1,2-Trichloroethane	4.0	U
142-28-9	1,3-Dichloropropane	4.0	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EW-7C-CSIADL

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M1749-05ADL

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1049.D

Level: (TRACE/LOW/MED) LOW Date Received: 09/19/2013

% Moisture: not dec. Date Analyzed: 10/01/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 4.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
127-18-4	Tetrachloroethene	15	D
591-78-6	2-Hexanone	20	U
124-48-1	Dibromochloromethane	4.0	U
106-93-4	1,2-Dibromoethane	4.0	U
108-90-7	Chlorobenzene	4.0	U
630-20-6	1,1,1,2-Tetrachloroethane	4.0	U
100-41-4	Ethylbenzene	4.0	U
179601-23-1	m,p-Xylene	4.0	U
95-47-6	o-Xylene	4.0	U
1330-20-7	Xylene (Total)	4.0	U
100-42-5	Styrene	4.0	U
75-25-2	Bromoform	4.0	U
98-82-8	Isopropylbenzene	4.0	U
79-34-5	1,1,2,2-Tetrachloroethane	4.0	U
108-86-1	Bromobenzene	4.0	U
96-18-4	1,2,3-Trichloropropane	4.0	U
103-65-1	n-Propylbenzene	4.0	U
95-49-8	2-Chlorotoluene	4.0	U
108-67-8	1,3,5-Trimethylbenzene	4.0	U
106-43-4	4-Chlorotoluene	4.0	U
98-06-6	tert-Butylbenzene	4.0	U
95-63-6	1,2,4-Trimethylbenzene	4.0	U
135-98-8	sec-Butylbenzene	4.0	U
99-87-6	4-Isopropyltoluene	4.0	U
541-73-1	1,3-Dichlorobenzene	4.0	U
106-46-7	1,4-Dichlorobenzene	4.0	U
104-51-8	n-Butylbenzene	4.0	U
95-50-1	1,2-Dichlorobenzene	4.0	U
96-12-8	1,2-Dibromo-3-chloropropane	4.0	U
120-82-1	1,2,4-Trichlorobenzene	4.0	U
87-68-3	Hexachlorobutadiene	4.0	U
87-61-6	1,2,3-Trichlorobenzene	4.0	U
91-20-3	Naphthalene	4.0	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

EW-7C-CSIADL

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M1749-05ADL

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1049.D

Level: (TRACE or LOW/MED) LOW Date Received: 09/19/2013

% Moisture: not dec. Date Analyzed: 10/01/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 4.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Purge Volume: 5.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

TB091813

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M1749-06A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D0937.D

Level: (TRACE/LOW/MED) LOW Date Received: 09/19/2013

% Moisture: not dec. Date Analyzed: 09/28/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	1.0	U
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl chloride	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene	1.0	U
67-64-1	Acetone	5.0	U
74-88-4	Iodomethane	1.0	U
75-15-0	Carbon disulfide	1.0	U
75-09-2	Methylene chloride	42	
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-butyl ether	1.0	U
75-34-3	1,1-Dichloroethane	1.0	U
108-05-4	Vinyl acetate	1.0	U
78-93-3	2-Butanone	5.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
594-20-7	2,2-Dichloropropane	1.0	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
563-58-6	1,1-Dichloropropene	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
71-43-2	Benzene	1.0	U
79-01-6	Trichloroethene	1.0	U
78-87-5	1,2-Dichloropropane	1.0	U
74-95-3	Dibromomethane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
142-28-9	1,3-Dichloropropane	1.0	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

TB091813

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M1749-06A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D0937.D

Level: (TRACE/LOW/MED) LOW Date Received: 09/19/2013

% Moisture: not dec. Date Analyzed: 09/28/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
127-18-4	Tetrachloroethene	1.0	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U
108-90-7	Chlorobenzene	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U
100-41-4	Ethylbenzene	1.0	U
179601-23-1	m,p-Xylene	1.0	U
95-47-6	o-Xylene	1.0	U
1330-20-7	Xylene (Total)	1.0	U
100-42-5	Styrene	1.0	U
75-25-2	Bromoform	1.0	U
98-82-8	Isopropylbenzene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
108-86-1	Bromobenzene	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
103-65-1	n-Propylbenzene	1.0	U
95-49-8	2-Chlorotoluene	1.0	U
108-67-8	1,3,5-Trimethylbenzene	1.0	U
106-43-4	4-Chlorotoluene	1.0	U
98-06-6	tert-Butylbenzene	1.0	U
95-63-6	1,2,4-Trimethylbenzene	1.0	U
135-98-8	sec-Butylbenzene	1.0	U
99-87-6	4-Isopropyltoluene	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
104-51-8	n-Butylbenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
87-68-3	Hexachlorobutadiene	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1.0	U
91-20-3	Naphthalene	1.0	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

TB091813

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M1749-06A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D0937.D

Level: (TRACE or LOW/MED) LOW Date Received: 09/19/2013

% Moisture: not dec. Date Analyzed: 09/28/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Purge Volume: 5.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW-301-1-S-CSIA

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M1749-07A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D0947.D

Level: (TRACE/LOW/MED) LOW Date Received: 09/20/2013

% Moisture: not dec. Date Analyzed: 09/28/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	1.0	U
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl chloride	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene	3.0	
67-64-1	Acetone	5.0	U
74-88-4	Iodomethane	1.0	U
75-15-0	Carbon disulfide	1.0	U
75-09-2	Methylene chloride	1.0	U
156-60-5	trans-1,2-Dichloroethene	0.87	J
1634-04-4	Methyl tert-butyl ether	1.0	U
75-34-3	1,1-Dichloroethane	3.2	
108-05-4	Vinyl acetate	1.0	U
78-93-3	2-Butanone	5.0	U
156-59-2	cis-1,2-Dichloroethene	73	
594-20-7	2,2-Dichloropropane	1.0	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform	1.2	
71-55-6	1,1,1-Trichloroethane	20	
563-58-6	1,1-Dichloropropene	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
71-43-2	Benzene	1.0	U
79-01-6	Trichloroethene	4500	E
78-87-5	1,2-Dichloropropane	1.0	U
74-95-3	Dibromomethane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
142-28-9	1,3-Dichloropropane	1.0	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW-301-1-S-CSIA

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M1749-07A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D0947.D

Level: (TRACE/LOW/MED) LOW Date Received: 09/20/2013

% Moisture: not dec. Date Analyzed: 09/28/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
127-18-4	Tetrachloroethene	160	
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U
108-90-7	Chlorobenzene	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U
100-41-4	Ethylbenzene	1.0	U
179601-23-1	m,p-Xylene	1.0	U
95-47-6	o-Xylene	1.0	U
1330-20-7	Xylene (Total)	1.0	U
100-42-5	Styrene	1.0	U
75-25-2	Bromoform	1.0	U
98-82-8	Isopropylbenzene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
108-86-1	Bromobenzene	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
103-65-1	n-Propylbenzene	1.0	U
95-49-8	2-Chlorotoluene	1.0	U
108-67-8	1,3,5-Trimethylbenzene	1.0	U
106-43-4	4-Chlorotoluene	1.0	U
98-06-6	tert-Butylbenzene	1.0	U
95-63-6	1,2,4-Trimethylbenzene	1.0	U
135-98-8	sec-Butylbenzene	1.0	U
99-87-6	4-Isopropyltoluene	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
104-51-8	n-Butylbenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
87-68-3	Hexachlorobutadiene	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1.0	U
91-20-3	Naphthalene	1.0	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

MW-301-1-S-CSIA

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M1749-07A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D0947.D

Level: (TRACE or LOW/MED) LOW Date Received: 09/20/2013

% Moisture: not dec. Date Analyzed: 09/28/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Purge Volume: 5.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW-301-1-S-CSIADL

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M1749-07ADL

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1050.D

Level: (TRACE/LOW/MED) LOW Date Received: 09/20/2013

% Moisture: not dec. Date Analyzed: 10/01/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 50.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	50	U
74-87-3	Chloromethane	50	U
75-01-4	Vinyl chloride	50	U
74-83-9	Bromomethane	50	U
75-00-3	Chloroethane	50	U
75-69-4	Trichlorofluoromethane	50	U
75-35-4	1,1-Dichloroethene	50	U
67-64-1	Acetone	250	U
74-88-4	Iodomethane	50	U
75-15-0	Carbon disulfide	50	U
75-09-2	Methylene chloride	50	U
156-60-5	trans-1,2-Dichloroethene	50	U
1634-04-4	Methyl tert-butyl ether	50	U
75-34-3	1,1-Dichloroethane	50	U
108-05-4	Vinyl acetate	50	U
78-93-3	2-Butanone	250	U
156-59-2	cis-1,2-Dichloroethene	64	D
594-20-7	2,2-Dichloropropane	50	U
74-97-5	Bromochloromethane	50	U
67-66-3	Chloroform	50	U
71-55-6	1,1,1-Trichloroethane	50	U
563-58-6	1,1-Dichloropropene	50	U
56-23-5	Carbon tetrachloride	50	U
107-06-2	1,2-Dichloroethane	50	U
71-43-2	Benzene	50	U
79-01-6	Trichloroethene	2800	D
78-87-5	1,2-Dichloropropane	50	U
74-95-3	Dibromomethane	50	U
75-27-4	Bromodichloromethane	50	U
10061-01-5	cis-1,3-Dichloropropene	50	U
108-10-1	4-Methyl-2-pentanone	250	U
108-88-3	Toluene	50	U
10061-02-6	trans-1,3-Dichloropropene	50	U
79-00-5	1,1,2-Trichloroethane	50	U
142-28-9	1,3-Dichloropropane	50	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW-301-1-S-CSIADL

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M1749-07ADL

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1050.D

Level: (TRACE/LOW/MED) LOW Date Received: 09/20/2013

% Moisture: not dec. Date Analyzed: 10/01/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 50.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
127-18-4	Tetrachloroethene	110	D
591-78-6	2-Hexanone	250	U
124-48-1	Dibromochloromethane	50	U
106-93-4	1,2-Dibromoethane	50	U
108-90-7	Chlorobenzene	50	U
630-20-6	1,1,1,2-Tetrachloroethane	50	U
100-41-4	Ethylbenzene	50	U
179601-23-1	m,p-Xylene	50	U
95-47-6	o-Xylene	50	U
1330-20-7	Xylene (Total)	50	U
100-42-5	Styrene	50	U
75-25-2	Bromoform	50	U
98-82-8	Isopropylbenzene	50	U
79-34-5	1,1,2,2-Tetrachloroethane	50	U
108-86-1	Bromobenzene	50	U
96-18-4	1,2,3-Trichloropropane	50	U
103-65-1	n-Propylbenzene	50	U
95-49-8	2-Chlorotoluene	50	U
108-67-8	1,3,5-Trimethylbenzene	50	U
106-43-4	4-Chlorotoluene	50	U
98-06-6	tert-Butylbenzene	50	U
95-63-6	1,2,4-Trimethylbenzene	50	U
135-98-8	sec-Butylbenzene	50	U
99-87-6	4-Isopropyltoluene	50	U
541-73-1	1,3-Dichlorobenzene	50	U
106-46-7	1,4-Dichlorobenzene	50	U
104-51-8	n-Butylbenzene	50	U
95-50-1	1,2-Dichlorobenzene	50	U
96-12-8	1,2-Dibromo-3-chloropropane	50	U
120-82-1	1,2,4-Trichlorobenzene	50	U
87-68-3	Hexachlorobutadiene	50	U
87-61-6	1,2,3-Trichlorobenzene	50	U
91-20-3	Naphthalene	50	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

MW-301-1-S-CSIADL

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M1749-07ADL

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1050.D

Level: (TRACE or LOW/MED) LOW Date Received: 09/20/2013

% Moisture: not dec. Date Analyzed: 10/01/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 50.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Purge Volume: 5.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW-412-1-S

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M1749-08A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1000.D

Level: (TRACE/LOW/MED) LOW Date Received: 09/20/2013

% Moisture: not dec. Date Analyzed: 09/29/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	1.0	U
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl chloride	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene	2.1	
67-64-1	Acetone	5.0	U
74-88-4	Iodomethane	1.0	U
75-15-0	Carbon disulfide	1.0	U
75-09-2	Methylene chloride	1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	J
1634-04-4	Methyl tert-butyl ether	1.0	U
75-34-3	1,1-Dichloroethane	2.8	
108-05-4	Vinyl acetate	1.0	U
78-93-3	2-Butanone	5.0	U
156-59-2	cis-1,2-Dichloroethene	63	
594-20-7	2,2-Dichloropropane	1.0	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform	0.88	J
71-55-6	1,1,1-Trichloroethane	14	
563-58-6	1,1-Dichloropropene	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
71-43-2	Benzene	1.0	U
79-01-6	Trichloroethene	3600	E
78-87-5	1,2-Dichloropropane	1.0	U
74-95-3	Dibromomethane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
142-28-9	1,3-Dichloropropane	1.0	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW-412-1-S

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M1749-08A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1000.D

Level: (TRACE/LOW/MED) LOW Date Received: 09/20/2013

% Moisture: not dec. Date Analyzed: 09/29/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
127-18-4	Tetrachloroethene	130	
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U
108-90-7	Chlorobenzene	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.1	
100-41-4	Ethylbenzene	1.0	U
179601-23-1	m,p-Xylene	1.0	U
95-47-6	o-Xylene	1.0	U
1330-20-7	Xylene (Total)	1.0	U
100-42-5	Styrene	1.0	U
75-25-2	Bromoform	1.0	U
98-82-8	Isopropylbenzene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
108-86-1	Bromobenzene	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
103-65-1	n-Propylbenzene	1.0	U
95-49-8	2-Chlorotoluene	1.0	U
108-67-8	1,3,5-Trimethylbenzene	1.0	U
106-43-4	4-Chlorotoluene	1.0	U
98-06-6	tert-Butylbenzene	1.0	U
95-63-6	1,2,4-Trimethylbenzene	1.0	U
135-98-8	sec-Butylbenzene	1.0	U
99-87-6	4-Isopropyltoluene	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
104-51-8	n-Butylbenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
87-68-3	Hexachlorobutadiene	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1.0	U
91-20-3	Naphthalene	1.0	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

MW-412-1-S

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M1749-08A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1000.D

Level: (TRACE or LOW/MED) LOW Date Received: 09/20/2013

% Moisture: not dec. Date Analyzed: 09/29/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Purge Volume: 5.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW-412-1-SDL

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M1749-08ADL

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1051.D

Level: (TRACE/LOW/MED) LOW Date Received: 09/20/2013

% Moisture: not dec. Date Analyzed: 10/01/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 50.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	50	U
74-87-3	Chloromethane	50	U
75-01-4	Vinyl chloride	50	U
74-83-9	Bromomethane	50	U
75-00-3	Chloroethane	50	U
75-69-4	Trichlorofluoromethane	50	U
75-35-4	1,1-Dichloroethene	50	U
67-64-1	Acetone	250	U
74-88-4	Iodomethane	50	U
75-15-0	Carbon disulfide	50	U
75-09-2	Methylene chloride	50	U
156-60-5	trans-1,2-Dichloroethene	50	U
1634-04-4	Methyl tert-butyl ether	50	U
75-34-3	1,1-Dichloroethane	50	U
108-05-4	Vinyl acetate	50	U
78-93-3	2-Butanone	250	U
156-59-2	cis-1,2-Dichloroethene	40	DJ
594-20-7	2,2-Dichloropropane	50	U
74-97-5	Bromochloromethane	50	U
67-66-3	Chloroform	50	U
71-55-6	1,1,1-Trichloroethane	50	U
563-58-6	1,1-Dichloropropene	50	U
56-23-5	Carbon tetrachloride	50	U
107-06-2	1,2-Dichloroethane	50	U
71-43-2	Benzene	50	U
79-01-6	Trichloroethene	2800	D
78-87-5	1,2-Dichloropropane	50	U
74-95-3	Dibromomethane	50	U
75-27-4	Bromodichloromethane	50	U
10061-01-5	cis-1,3-Dichloropropene	50	U
108-10-1	4-Methyl-2-pentanone	250	U
108-88-3	Toluene	50	U
10061-02-6	trans-1,3-Dichloropropene	50	U
79-00-5	1,1,2-Trichloroethane	50	U
142-28-9	1,3-Dichloropropane	50	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW-412-1-SDL

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M1749-08ADL

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1051.D

Level: (TRACE/LOW/MED) LOW Date Received: 09/20/2013

% Moisture: not dec. Date Analyzed: 10/01/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 50.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
127-18-4	Tetrachloroethene	120	D
591-78-6	2-Hexanone	250	U
124-48-1	Dibromochloromethane	50	U
106-93-4	1,2-Dibromoethane	50	U
108-90-7	Chlorobenzene	50	U
630-20-6	1,1,1,2-Tetrachloroethane	50	U
100-41-4	Ethylbenzene	50	U
179601-23-1	m,p-Xylene	50	U
95-47-6	o-Xylene	50	U
1330-20-7	Xylene (Total)	50	U
100-42-5	Styrene	50	U
75-25-2	Bromoform	50	U
98-82-8	Isopropylbenzene	50	U
79-34-5	1,1,2,2-Tetrachloroethane	50	U
108-86-1	Bromobenzene	50	U
96-18-4	1,2,3-Trichloropropane	50	U
103-65-1	n-Propylbenzene	50	U
95-49-8	2-Chlorotoluene	50	U
108-67-8	1,3,5-Trimethylbenzene	50	U
106-43-4	4-Chlorotoluene	50	U
98-06-6	tert-Butylbenzene	50	U
95-63-6	1,2,4-Trimethylbenzene	50	U
135-98-8	sec-Butylbenzene	50	U
99-87-6	4-Isopropyltoluene	50	U
541-73-1	1,3-Dichlorobenzene	50	U
106-46-7	1,4-Dichlorobenzene	50	U
104-51-8	n-Butylbenzene	50	U
95-50-1	1,2-Dichlorobenzene	50	U
96-12-8	1,2-Dibromo-3-chloropropane	50	U
120-82-1	1,2,4-Trichlorobenzene	50	U
87-68-3	Hexachlorobutadiene	50	U
87-61-6	1,2,3-Trichlorobenzene	50	U
91-20-3	Naphthalene	50	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

MW-412-1-SDL

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M1749-08ADL

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1051.D

Level: (TRACE or LOW/MED) LOW Date Received: 09/20/2013

% Moisture: not dec. Date Analyzed: 10/01/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 50.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Purge Volume: 5.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

TB091913

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M1749-09A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1031.D

Level: (TRACE/LOW/MED) LOW Date Received: 09/20/2013

% Moisture: not dec. Date Analyzed: 09/30/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	1.0	U
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl chloride	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene	1.0	U
67-64-1	Acetone	5.0	U
74-88-4	Iodomethane	1.0	U
75-15-0	Carbon disulfide	1.0	U
75-09-2	Methylene chloride	46	
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-butyl ether	1.0	U
75-34-3	1,1-Dichloroethane	1.0	U
108-05-4	Vinyl acetate	1.0	U
78-93-3	2-Butanone	5.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
594-20-7	2,2-Dichloropropane	1.0	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
563-58-6	1,1-Dichloropropene	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
71-43-2	Benzene	1.0	U
79-01-6	Trichloroethene	1.0	U
78-87-5	1,2-Dichloropropane	1.0	U
74-95-3	Dibromomethane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
142-28-9	1,3-Dichloropropane	1.0	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

TB091913

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M1749-09A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1031.D

Level: (TRACE/LOW/MED) LOW Date Received: 09/20/2013

% Moisture: not dec. Date Analyzed: 09/30/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
127-18-4	Tetrachloroethene	1.0	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U
108-90-7	Chlorobenzene	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U
100-41-4	Ethylbenzene	1.0	U
179601-23-1	m,p-Xylene	1.0	U
95-47-6	o-Xylene	1.0	U
1330-20-7	Xylene (Total)	1.0	U
100-42-5	Styrene	1.0	U
75-25-2	Bromoform	1.0	U
98-82-8	Isopropylbenzene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
108-86-1	Bromobenzene	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
103-65-1	n-Propylbenzene	1.0	U
95-49-8	2-Chlorotoluene	1.0	U
108-67-8	1,3,5-Trimethylbenzene	1.0	U
106-43-4	4-Chlorotoluene	1.0	U
98-06-6	tert-Butylbenzene	1.0	U
95-63-6	1,2,4-Trimethylbenzene	1.0	U
135-98-8	sec-Butylbenzene	1.0	U
99-87-6	4-Isopropyltoluene	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
104-51-8	n-Butylbenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
87-68-3	Hexachlorobutadiene	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1.0	U
91-20-3	Naphthalene	1.0	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

TB091913

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M1749-09A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1031.D

Level: (TRACE or LOW/MED) LOW Date Received: 09/20/2013

% Moisture: not dec. Date Analyzed: 09/30/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Purge Volume: 5.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EW-7D-CSIA

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M1749-10A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1032.D

Level: (TRACE/LOW/MED) LOW Date Received: 09/21/2013

% Moisture: not dec. Date Analyzed: 09/30/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	1.0	U
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl chloride	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene	1.0	U
67-64-1	Acetone	5.0	U
74-88-4	Iodomethane	1.0	U
75-15-0	Carbon disulfide	1.0	U
75-09-2	Methylene chloride	1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-butyl ether	1.0	U
75-34-3	1,1-Dichloroethane	1.0	U
108-05-4	Vinyl acetate	1.0	U
78-93-3	2-Butanone	5.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
594-20-7	2,2-Dichloropropane	1.0	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform	0.63	J
71-55-6	1,1,1-Trichloroethane	1.0	U
563-58-6	1,1-Dichloropropene	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
71-43-2	Benzene	1.0	U
79-01-6	Trichloroethene	4.9	
78-87-5	1,2-Dichloropropane	1.0	U
74-95-3	Dibromomethane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
142-28-9	1,3-Dichloropropane	1.0	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EW-7D-CSIA

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M1749-10A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1032.D

Level: (TRACE/LOW/MED) LOW Date Received: 09/21/2013

% Moisture: not dec. Date Analyzed: 09/30/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
127-18-4	Tetrachloroethene	1.0	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U
108-90-7	Chlorobenzene	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U
100-41-4	Ethylbenzene	1.0	U
179601-23-1	m,p-Xylene	1.0	U
95-47-6	o-Xylene	1.0	U
1330-20-7	Xylene (Total)	1.0	U
100-42-5	Styrene	1.0	U
75-25-2	Bromoform	1.0	U
98-82-8	Isopropylbenzene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
108-86-1	Bromobenzene	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
103-65-1	n-Propylbenzene	1.0	U
95-49-8	2-Chlorotoluene	1.0	U
108-67-8	1,3,5-Trimethylbenzene	1.0	U
106-43-4	4-Chlorotoluene	1.0	U
98-06-6	tert-Butylbenzene	1.0	U
95-63-6	1,2,4-Trimethylbenzene	1.0	U
135-98-8	sec-Butylbenzene	1.0	U
99-87-6	4-Isopropyltoluene	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
104-51-8	n-Butylbenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
87-68-3	Hexachlorobutadiene	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1.0	U
91-20-3	Naphthalene	1.0	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

EW-7D-CSIA

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M1749-10A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1032.D

Level: (TRACE or LOW/MED) LOW Date Received: 09/21/2013

% Moisture: not dec. Date Analyzed: 09/30/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Purge Volume: 5.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

FB092013

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M1749-11A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1052.D

Level: (TRACE/LOW/MED) LOW Date Received: 09/21/2013

% Moisture: not dec. Date Analyzed: 10/01/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	1.0	U
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl chloride	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene	1.0	U
67-64-1	Acetone	5.0	U
74-88-4	Iodomethane	1.0	U
75-15-0	Carbon disulfide	1.0	U
75-09-2	Methylene chloride	2.4	
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-butyl ether	1.0	U
75-34-3	1,1-Dichloroethane	1.0	U
108-05-4	Vinyl acetate	1.0	U
78-93-3	2-Butanone	5.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
594-20-7	2,2-Dichloropropane	1.0	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
563-58-6	1,1-Dichloropropene	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
71-43-2	Benzene	1.0	U
79-01-6	Trichloroethene	1.0	U
78-87-5	1,2-Dichloropropane	1.0	U
74-95-3	Dibromomethane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
142-28-9	1,3-Dichloropropane	1.0	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

FB092013

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M1749-11A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1052.D

Level: (TRACE/LOW/MED) LOW Date Received: 09/21/2013

% Moisture: not dec. Date Analyzed: 10/01/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
127-18-4	Tetrachloroethene	1.0	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U
108-90-7	Chlorobenzene	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U
100-41-4	Ethylbenzene	1.0	U
179601-23-1	m,p-Xylene	1.0	U
95-47-6	o-Xylene	1.0	U
1330-20-7	Xylene (Total)	1.0	U
100-42-5	Styrene	1.0	U
75-25-2	Bromoform	1.0	U
98-82-8	Isopropylbenzene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
108-86-1	Bromobenzene	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
103-65-1	n-Propylbenzene	1.0	U
95-49-8	2-Chlorotoluene	1.0	U
108-67-8	1,3,5-Trimethylbenzene	1.0	U
106-43-4	4-Chlorotoluene	1.0	U
98-06-6	tert-Butylbenzene	1.0	U
95-63-6	1,2,4-Trimethylbenzene	1.0	U
135-98-8	sec-Butylbenzene	1.0	U
99-87-6	4-Isopropyltoluene	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
104-51-8	n-Butylbenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
87-68-3	Hexachlorobutadiene	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1.0	U
91-20-3	Naphthalene	1.0	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

FB092013

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M1749-11A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1052.D

Level: (TRACE or LOW/MED) LOW Date Received: 09/21/2013

% Moisture: not dec. Date Analyzed: 10/01/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Purge Volume: 5.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

TB092013

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M1749-12A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1053.D

Level: (TRACE/LOW/MED) LOW Date Received: 09/21/2013

% Moisture: not dec. Date Analyzed: 10/01/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	1.0	U
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl chloride	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene	1.0	U
67-64-1	Acetone	5.0	U
74-88-4	Iodomethane	1.0	U
75-15-0	Carbon disulfide	1.0	U
75-09-2	Methylene chloride	1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-butyl ether	1.0	U
75-34-3	1,1-Dichloroethane	1.0	U
108-05-4	Vinyl acetate	1.0	U
78-93-3	2-Butanone	5.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
594-20-7	2,2-Dichloropropane	1.0	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
563-58-6	1,1-Dichloropropene	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
71-43-2	Benzene	1.0	U
79-01-6	Trichloroethene	1.0	U
78-87-5	1,2-Dichloropropane	1.0	U
74-95-3	Dibromomethane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
142-28-9	1,3-Dichloropropane	1.0	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

TB092013

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M1749-12A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1053.D

Level: (TRACE/LOW/MED) LOW Date Received: 09/21/2013

% Moisture: not dec. Date Analyzed: 10/01/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
127-18-4	Tetrachloroethene	1.0	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U
108-90-7	Chlorobenzene	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U
100-41-4	Ethylbenzene	1.0	U
179601-23-1	m,p-Xylene	1.0	U
95-47-6	o-Xylene	1.0	U
1330-20-7	Xylene (Total)	1.0	U
100-42-5	Styrene	1.0	U
75-25-2	Bromoform	1.0	U
98-82-8	Isopropylbenzene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
108-86-1	Bromobenzene	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
103-65-1	n-Propylbenzene	1.0	U
95-49-8	2-Chlorotoluene	1.0	U
108-67-8	1,3,5-Trimethylbenzene	1.0	U
106-43-4	4-Chlorotoluene	1.0	U
98-06-6	tert-Butylbenzene	1.0	U
95-63-6	1,2,4-Trimethylbenzene	1.0	U
135-98-8	sec-Butylbenzene	1.0	U
99-87-6	4-Isopropyltoluene	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
104-51-8	n-Butylbenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
87-68-3	Hexachlorobutadiene	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1.0	U
91-20-3	Naphthalene	1.0	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

TB092013

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M1749-12A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1053.D

Level: (TRACE or LOW/MED) LOW Date Received: 09/21/2013

% Moisture: not dec. Date Analyzed: 10/01/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Purge Volume: 5.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MB-73996

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: MB-73996

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D0932.D

Level: (TRACE/LOW/MED) LOW Date Received:

% Moisture: not dec. Date Analyzed: 09/28/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	1.0	U
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl chloride	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene	1.0	U
67-64-1	Acetone	5.0	U
74-88-4	Iodomethane	1.0	U
75-15-0	Carbon disulfide	1.0	U
75-09-2	Methylene chloride	1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-butyl ether	1.0	U
75-34-3	1,1-Dichloroethane	1.0	U
108-05-4	Vinyl acetate	1.0	U
78-93-3	2-Butanone	5.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
594-20-7	2,2-Dichloropropane	1.0	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
563-58-6	1,1-Dichloropropene	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
71-43-2	Benzene	1.0	U
79-01-6	Trichloroethene	1.0	U
78-87-5	1,2-Dichloropropane	1.0	U
74-95-3	Dibromomethane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
142-28-9	1,3-Dichloropropane	1.0	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MB-73996

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: MB-73996

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D0932.D

Level: (TRACE/LOW/MED) LOW Date Received:

% Moisture: not dec. Date Analyzed: 09/28/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
127-18-4	Tetrachloroethene	1.0	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U
108-90-7	Chlorobenzene	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U
100-41-4	Ethylbenzene	1.0	U
179601-23-1	m,p-Xylene	1.0	U
95-47-6	o-Xylene	1.0	U
1330-20-7	Xylene (Total)	1.0	U
100-42-5	Styrene	1.0	U
75-25-2	Bromoform	1.0	U
98-82-8	Isopropylbenzene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
108-86-1	Bromobenzene	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
103-65-1	n-Propylbenzene	1.0	U
95-49-8	2-Chlorotoluene	1.0	U
108-67-8	1,3,5-Trimethylbenzene	1.0	U
106-43-4	4-Chlorotoluene	1.0	U
98-06-6	tert-Butylbenzene	1.0	U
95-63-6	1,2,4-Trimethylbenzene	1.0	U
135-98-8	sec-Butylbenzene	1.0	U
99-87-6	4-Isopropyltoluene	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
104-51-8	n-Butylbenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
87-68-3	Hexachlorobutadiene	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1.0	U
91-20-3	Naphthalene	1.0	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

MB-73996

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: MB-73996

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D0932.D

Level: (TRACE or LOW/MED) LOW Date Received:

% Moisture: not dec. Date Analyzed: 09/28/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Purge Volume: 5.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MB-74002

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: MB-74002

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D0985.D

Level: (TRACE/LOW/MED) LOW Date Received:

% Moisture: not dec. Date Analyzed: 09/29/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	1.0	U
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl chloride	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene	1.0	U
67-64-1	Acetone	5.0	U
74-88-4	Iodomethane	1.0	U
75-15-0	Carbon disulfide	1.0	U
75-09-2	Methylene chloride	1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-butyl ether	1.0	U
75-34-3	1,1-Dichloroethane	1.0	U
108-05-4	Vinyl acetate	1.0	U
78-93-3	2-Butanone	5.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
594-20-7	2,2-Dichloropropane	1.0	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
563-58-6	1,1-Dichloropropene	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
71-43-2	Benzene	1.0	U
79-01-6	Trichloroethene	1.0	U
78-87-5	1,2-Dichloropropane	1.0	U
74-95-3	Dibromomethane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
142-28-9	1,3-Dichloropropane	1.0	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MB-74002

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: MB-74002

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D0985.D

Level: (TRACE/LOW/MED) LOW Date Received:

% Moisture: not dec. Date Analyzed: 09/29/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
127-18-4	Tetrachloroethene	1.0	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U
108-90-7	Chlorobenzene	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U
100-41-4	Ethylbenzene	1.0	U
179601-23-1	m,p-Xylene	1.0	U
95-47-6	o-Xylene	1.0	U
1330-20-7	Xylene (Total)	1.0	U
100-42-5	Styrene	1.0	U
75-25-2	Bromoform	1.0	U
98-82-8	Isopropylbenzene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
108-86-1	Bromobenzene	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
103-65-1	n-Propylbenzene	1.0	U
95-49-8	2-Chlorotoluene	1.0	U
108-67-8	1,3,5-Trimethylbenzene	1.0	U
106-43-4	4-Chlorotoluene	1.0	U
98-06-6	tert-Butylbenzene	1.0	U
95-63-6	1,2,4-Trimethylbenzene	1.0	U
135-98-8	sec-Butylbenzene	1.0	U
99-87-6	4-Isopropyltoluene	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
104-51-8	n-Butylbenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
87-68-3	Hexachlorobutadiene	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1.0	U
91-20-3	Naphthalene	1.0	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

MB-74002

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: MB-74002

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D0985.D

Level: (TRACE or LOW/MED) LOW Date Received:

% Moisture: not dec. Date Analyzed: 09/29/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Purge Volume: 5.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MB-74030

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: MB-74030

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1014.D

Level: (TRACE/LOW/MED) LOW Date Received:

% Moisture: not dec. Date Analyzed: 09/30/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	1.0	U
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl chloride	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene	1.0	U
67-64-1	Acetone	5.0	U
74-88-4	Iodomethane	1.0	U
75-15-0	Carbon disulfide	1.0	U
75-09-2	Methylene chloride	1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-butyl ether	1.0	U
75-34-3	1,1-Dichloroethane	1.0	U
108-05-4	Vinyl acetate	1.0	U
78-93-3	2-Butanone	5.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
594-20-7	2,2-Dichloropropane	1.0	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
563-58-6	1,1-Dichloropropene	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
71-43-2	Benzene	1.0	U
79-01-6	Trichloroethene	1.0	U
78-87-5	1,2-Dichloropropane	1.0	U
74-95-3	Dibromomethane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
142-28-9	1,3-Dichloropropane	1.0	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MB-74030

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: MB-74030

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1014.D

Level: (TRACE/LOW/MED) LOW Date Received:

% Moisture: not dec. Date Analyzed: 09/30/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
127-18-4	Tetrachloroethene	1.0	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U
108-90-7	Chlorobenzene	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U
100-41-4	Ethylbenzene	1.0	U
179601-23-1	m,p-Xylene	1.0	U
95-47-6	o-Xylene	1.0	U
1330-20-7	Xylene (Total)	1.0	U
100-42-5	Styrene	1.0	U
75-25-2	Bromoform	1.0	U
98-82-8	Isopropylbenzene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
108-86-1	Bromobenzene	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
103-65-1	n-Propylbenzene	1.0	U
95-49-8	2-Chlorotoluene	1.0	U
108-67-8	1,3,5-Trimethylbenzene	1.0	U
106-43-4	4-Chlorotoluene	1.0	U
98-06-6	tert-Butylbenzene	1.0	U
95-63-6	1,2,4-Trimethylbenzene	1.0	U
135-98-8	sec-Butylbenzene	1.0	U
99-87-6	4-Isopropyltoluene	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
104-51-8	n-Butylbenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
87-68-3	Hexachlorobutadiene	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1.0	U
91-20-3	Naphthalene	1.0	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

MB-74030

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: MB-74030

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1014.D

Level: (TRACE or LOW/MED) LOW Date Received:

% Moisture: not dec. Date Analyzed: 09/30/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Purge Volume: 5.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MB-74047

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: MB-74047

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1042.D

Level: (TRACE/LOW/MED) LOW Date Received:

% Moisture: not dec. Date Analyzed: 09/30/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	1.0	U
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl chloride	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene	1.0	U
67-64-1	Acetone	5.0	U
74-88-4	Iodomethane	1.0	U
75-15-0	Carbon disulfide	1.0	U
75-09-2	Methylene chloride	1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-butyl ether	1.0	U
75-34-3	1,1-Dichloroethane	1.0	U
108-05-4	Vinyl acetate	1.0	U
78-93-3	2-Butanone	5.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
594-20-7	2,2-Dichloropropane	1.0	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
563-58-6	1,1-Dichloropropene	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
71-43-2	Benzene	1.0	U
79-01-6	Trichloroethene	1.0	U
78-87-5	1,2-Dichloropropane	1.0	U
74-95-3	Dibromomethane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
142-28-9	1,3-Dichloropropane	1.0	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MB-74047

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: MB-74047

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1042.D

Level: (TRACE/LOW/MED) LOW Date Received:

% Moisture: not dec. Date Analyzed: 09/30/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
127-18-4	Tetrachloroethene	1.0	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U
108-90-7	Chlorobenzene	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U
100-41-4	Ethylbenzene	1.0	U
179601-23-1	m,p-Xylene	1.0	U
95-47-6	o-Xylene	1.0	U
1330-20-7	Xylene (Total)	1.0	U
100-42-5	Styrene	1.0	U
75-25-2	Bromoform	1.0	U
98-82-8	Isopropylbenzene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
108-86-1	Bromobenzene	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
103-65-1	n-Propylbenzene	1.0	U
95-49-8	2-Chlorotoluene	1.0	U
108-67-8	1,3,5-Trimethylbenzene	1.0	U
106-43-4	4-Chlorotoluene	1.0	U
98-06-6	tert-Butylbenzene	1.0	U
95-63-6	1,2,4-Trimethylbenzene	1.0	U
135-98-8	sec-Butylbenzene	1.0	U
99-87-6	4-Isopropyltoluene	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
104-51-8	n-Butylbenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
87-68-3	Hexachlorobutadiene	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1.0	U
91-20-3	Naphthalene	1.0	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

MB-74047

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: MB-74047

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1042.D

Level: (TRACE or LOW/MED) LOW Date Received:

% Moisture: not dec. Date Analyzed: 09/30/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Purge Volume: 5.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MB-74070

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: MB-74070

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1075.D

Level: (TRACE/LOW/MED) LOW Date Received:

% Moisture: not dec. Date Analyzed: 10/01/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	1.0	U
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl chloride	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene	1.0	U
67-64-1	Acetone	5.0	U
74-88-4	Iodomethane	1.0	U
75-15-0	Carbon disulfide	1.0	U
75-09-2	Methylene chloride	1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-butyl ether	1.0	U
75-34-3	1,1-Dichloroethane	1.0	U
108-05-4	Vinyl acetate	1.0	U
78-93-3	2-Butanone	5.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
594-20-7	2,2-Dichloropropane	1.0	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
563-58-6	1,1-Dichloropropene	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
71-43-2	Benzene	1.0	U
79-01-6	Trichloroethene	1.0	U
78-87-5	1,2-Dichloropropane	1.0	U
74-95-3	Dibromomethane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
142-28-9	1,3-Dichloropropane	1.0	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MB-74070

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: MB-74070

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1075.D

Level: (TRACE/LOW/MED) LOW Date Received:

% Moisture: not dec. Date Analyzed: 10/01/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
127-18-4	Tetrachloroethene	1.0	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U
108-90-7	Chlorobenzene	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U
100-41-4	Ethylbenzene	1.0	U
179601-23-1	m,p-Xylene	1.0	U
95-47-6	o-Xylene	1.0	U
1330-20-7	Xylene (Total)	1.0	U
100-42-5	Styrene	1.0	U
75-25-2	Bromoform	1.0	U
98-82-8	Isopropylbenzene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
108-86-1	Bromobenzene	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
103-65-1	n-Propylbenzene	1.0	U
95-49-8	2-Chlorotoluene	1.0	U
108-67-8	1,3,5-Trimethylbenzene	1.0	U
106-43-4	4-Chlorotoluene	1.0	U
98-06-6	tert-Butylbenzene	1.0	U
95-63-6	1,2,4-Trimethylbenzene	1.0	U
135-98-8	sec-Butylbenzene	1.0	U
99-87-6	4-Isopropyltoluene	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
104-51-8	n-Butylbenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
87-68-3	Hexachlorobutadiene	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1.0	U
91-20-3	Naphthalene	1.0	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

MB-74070

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: MB-74070

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1075.D

Level: (TRACE or LOW/MED) LOW Date Received:

% Moisture: not dec. Date Analyzed: 10/01/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Purge Volume: 5.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

LCS-73996

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: LCS-73996

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D0930.D

Level: (TRACE/LOW/MED) LOW Date Received:

% Moisture: not dec. Date Analyzed: 09/28/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	55	
74-87-3	Chloromethane	60	
75-01-4	Vinyl chloride	56	
74-83-9	Bromomethane	54	
75-00-3	Chloroethane	55	
75-69-4	Trichlorofluoromethane	66	
75-35-4	1,1-Dichloroethene	55	
67-64-1	Acetone	29	
74-88-4	Iodomethane	57	
75-15-0	Carbon disulfide	52	
75-09-2	Methylene chloride	47	
156-60-5	trans-1,2-Dichloroethene	51	
1634-04-4	Methyl tert-butyl ether	55	
75-34-3	1,1-Dichloroethane	57	
108-05-4	Vinyl acetate	61	
78-93-3	2-Butanone	36	
156-59-2	cis-1,2-Dichloroethene	50	
594-20-7	2,2-Dichloropropane	46	
74-97-5	Bromochloromethane	56	
67-66-3	Chloroform	63	
71-55-6	1,1,1-Trichloroethane	68	
563-58-6	1,1-Dichloropropene	51	
56-23-5	Carbon tetrachloride	74	
107-06-2	1,2-Dichloroethane	71	
71-43-2	Benzene	50	
79-01-6	Trichloroethene	54	
78-87-5	1,2-Dichloropropane	53	
74-95-3	Dibromomethane	61	
75-27-4	Bromodichloromethane	60	
10061-01-5	cis-1,3-Dichloropropene	49	
108-10-1	4-Methyl-2-pentanone	57	
108-88-3	Toluene	52	
10061-02-6	trans-1,3-Dichloropropene	52	
79-00-5	1,1,2-Trichloroethane	54	
142-28-9	1,3-Dichloropropane	50	

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

LCS-73996

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: LCS-73996

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D0930.D

Level: (TRACE/LOW/MED) LOW Date Received:

% Moisture: not dec. Date Analyzed: 09/28/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
127-18-4	Tetrachloroethene	54	
591-78-6	2-Hexanone	43	
124-48-1	Dibromochloromethane	53	
106-93-4	1,2-Dibromoethane	52	
108-90-7	Chlorobenzene	49	
630-20-6	1,1,1,2-Tetrachloroethane	59	
100-41-4	Ethylbenzene	50	
179601-23-1	m,p-Xylene	110	
95-47-6	o-Xylene	52	
1330-20-7	Xylene (Total)	160	
100-42-5	Styrene	54	
75-25-2	Bromoform	52	
98-82-8	Isopropylbenzene	53	
79-34-5	1,1,2,2-Tetrachloroethane	41	
108-86-1	Bromobenzene	45	
96-18-4	1,2,3-Trichloropropane	44	
103-65-1	n-Propylbenzene	45	
95-49-8	2-Chlorotoluene	45	
108-67-8	1,3,5-Trimethylbenzene	47	
106-43-4	4-Chlorotoluene	49	
98-06-6	tert-Butylbenzene	45	
95-63-6	1,2,4-Trimethylbenzene	48	
135-98-8	sec-Butylbenzene	45	
99-87-6	4-Isopropyltoluene	48	
541-73-1	1,3-Dichlorobenzene	45	
106-46-7	1,4-Dichlorobenzene	45	
104-51-8	n-Butylbenzene	45	
95-50-1	1,2-Dichlorobenzene	46	
96-12-8	1,2-Dibromo-3-chloropropane	51	
120-82-1	1,2,4-Trichlorobenzene	42	
87-68-3	Hexachlorobutadiene	42	
87-61-6	1,2,3-Trichlorobenzene	41	
91-20-3	Naphthalene	32	

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

LCS-74002

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: LCS-74002

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D0982.D

Level: (TRACE/LOW/MED) LOW Date Received:

% Moisture: not dec. Date Analyzed: 09/29/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	39	
74-87-3	Chloromethane	46	
75-01-4	Vinyl chloride	47	
74-83-9	Bromomethane	45	
75-00-3	Chloroethane	46	
75-69-4	Trichlorofluoromethane	43	
75-35-4	1,1-Dichloroethene	44	
67-64-1	Acetone	27	
74-88-4	Iodomethane	49	
75-15-0	Carbon disulfide	48	
75-09-2	Methylene chloride	48	
156-60-5	trans-1,2-Dichloroethene	49	
1634-04-4	Methyl tert-butyl ether	47	
75-34-3	1,1-Dichloroethane	49	
108-05-4	Vinyl acetate	49	
78-93-3	2-Butanone	37	
156-59-2	cis-1,2-Dichloroethene	49	
594-20-7	2,2-Dichloropropane	31	
74-97-5	Bromochloromethane	53	
67-66-3	Chloroform	49	
71-55-6	1,1,1-Trichloroethane	49	
563-58-6	1,1-Dichloropropene	48	
56-23-5	Carbon tetrachloride	49	
107-06-2	1,2-Dichloroethane	49	
71-43-2	Benzene	47	
79-01-6	Trichloroethene	44	
78-87-5	1,2-Dichloropropane	49	
74-95-3	Dibromomethane	51	
75-27-4	Bromodichloromethane	51	
10061-01-5	cis-1,3-Dichloropropene	48	
108-10-1	4-Methyl-2-pentanone	39	
108-88-3	Toluene	49	
10061-02-6	trans-1,3-Dichloropropene	43	
79-00-5	1,1,2-Trichloroethane	48	
142-28-9	1,3-Dichloropropane	47	

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

LCS-74002

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: LCS-74002

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D0982.D

Level: (TRACE/LOW/MED) LOW Date Received:

% Moisture: not dec. Date Analyzed: 09/29/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
127-18-4	Tetrachloroethene	51	
591-78-6	2-Hexanone	33	
124-48-1	Dibromochloromethane	51	
106-93-4	1,2-Dibromoethane	47	
108-90-7	Chlorobenzene	48	
630-20-6	1,1,1,2-Tetrachloroethane	50	
100-41-4	Ethylbenzene	51	
179601-23-1	m,p-Xylene	100	
95-47-6	o-Xylene	52	
1330-20-7	Xylene (Total)	150	
100-42-5	Styrene	50	
75-25-2	Bromoform	48	
98-82-8	Isopropylbenzene	51	
79-34-5	1,1,2,2-Tetrachloroethane	43	
108-86-1	Bromobenzene	45	
96-18-4	1,2,3-Trichloropropane	36	
103-65-1	n-Propylbenzene	45	
95-49-8	2-Chlorotoluene	47	
108-67-8	1,3,5-Trimethylbenzene	47	
106-43-4	4-Chlorotoluene	46	
98-06-6	tert-Butylbenzene	46	
95-63-6	1,2,4-Trimethylbenzene	48	
135-98-8	sec-Butylbenzene	46	
99-87-6	4-Isopropyltoluene	47	
541-73-1	1,3-Dichlorobenzene	46	
106-46-7	1,4-Dichlorobenzene	45	
104-51-8	n-Butylbenzene	46	
95-50-1	1,2-Dichlorobenzene	46	
96-12-8	1,2-Dibromo-3-chloropropane	39	
120-82-1	1,2,4-Trichlorobenzene	43	
87-68-3	Hexachlorobutadiene	44	
87-61-6	1,2,3-Trichlorobenzene	45	
91-20-3	Naphthalene	39	

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

LCS-74030

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: LCS-74030

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1012.D

Level: (TRACE/LOW/MED) LOW Date Received:

% Moisture: not dec. Date Analyzed: 09/30/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	55	
74-87-3	Chloromethane	50	
75-01-4	Vinyl chloride	52	
74-83-9	Bromomethane	46	
75-00-3	Chloroethane	48	
75-69-4	Trichlorofluoromethane	54	
75-35-4	1,1-Dichloroethene	50	
67-64-1	Acetone	55	
74-88-4	Iodomethane	53	
75-15-0	Carbon disulfide	56	
75-09-2	Methylene chloride	50	
156-60-5	trans-1,2-Dichloroethene	52	
1634-04-4	Methyl tert-butyl ether	51	
75-34-3	1,1-Dichloroethane	53	
108-05-4	Vinyl acetate	56	
78-93-3	2-Butanone	54	
156-59-2	cis-1,2-Dichloroethene	52	
594-20-7	2,2-Dichloropropane	59	
74-97-5	Bromochloromethane	56	
67-66-3	Chloroform	54	
71-55-6	1,1,1-Trichloroethane	56	
563-58-6	1,1-Dichloropropene	52	
56-23-5	Carbon tetrachloride	56	
107-06-2	1,2-Dichloroethane	54	
71-43-2	Benzene	51	
79-01-6	Trichloroethene	47	
78-87-5	1,2-Dichloropropane	53	
74-95-3	Dibromomethane	53	
75-27-4	Bromodichloromethane	57	
10061-01-5	cis-1,3-Dichloropropene	57	
108-10-1	4-Methyl-2-pentanone	45	
108-88-3	Toluene	52	
10061-02-6	trans-1,3-Dichloropropene	51	
79-00-5	1,1,2-Trichloroethane	50	
142-28-9	1,3-Dichloropropane	48	

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

LCS-74030

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: LCS-74030

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1012.D

Level: (TRACE/LOW/MED) LOW Date Received:

% Moisture: not dec. Date Analyzed: 09/30/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
127-18-4	Tetrachloroethene	46	
591-78-6	2-Hexanone	47	
124-48-1	Dibromochloromethane	53	
106-93-4	1,2-Dibromoethane	48	
108-90-7	Chlorobenzene	49	
630-20-6	1,1,1,2-Tetrachloroethane	52	
100-41-4	Ethylbenzene	51	
179601-23-1	m,p-Xylene	100	
95-47-6	o-Xylene	53	
1330-20-7	Xylene (Total)	160	
100-42-5	Styrene	52	
75-25-2	Bromoform	52	
98-82-8	Isopropylbenzene	50	
79-34-5	1,1,2,2-Tetrachloroethane	43	
108-86-1	Bromobenzene	47	
96-18-4	1,2,3-Trichloropropane	45	
103-65-1	n-Propylbenzene	49	
95-49-8	2-Chlorotoluene	47	
108-67-8	1,3,5-Trimethylbenzene	49	
106-43-4	4-Chlorotoluene	50	
98-06-6	tert-Butylbenzene	53	
95-63-6	1,2,4-Trimethylbenzene	51	
135-98-8	sec-Butylbenzene	50	
99-87-6	4-Isopropyltoluene	51	
541-73-1	1,3-Dichlorobenzene	49	
106-46-7	1,4-Dichlorobenzene	47	
104-51-8	n-Butylbenzene	51	
95-50-1	1,2-Dichlorobenzene	49	
96-12-8	1,2-Dibromo-3-chloropropane	40	
120-82-1	1,2,4-Trichlorobenzene	46	
87-68-3	Hexachlorobutadiene	52	
87-61-6	1,2,3-Trichlorobenzene	50	
91-20-3	Naphthalene	37	

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

LCS-74047

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: LCS-74047

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1039.D

Level: (TRACE/LOW/MED) LOW Date Received:

% Moisture: not dec. Date Analyzed: 09/30/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	53	
74-87-3	Chloromethane	54	
75-01-4	Vinyl chloride	55	
74-83-9	Bromomethane	47	
75-00-3	Chloroethane	53	
75-69-4	Trichlorofluoromethane	57	
75-35-4	1,1-Dichloroethene	55	
67-64-1	Acetone	40	
74-88-4	Iodomethane	57	
75-15-0	Carbon disulfide	57	
75-09-2	Methylene chloride	52	
156-60-5	trans-1,2-Dichloroethene	55	
1634-04-4	Methyl tert-butyl ether	55	
75-34-3	1,1-Dichloroethane	56	
108-05-4	Vinyl acetate	59	
78-93-3	2-Butanone	45	
156-59-2	cis-1,2-Dichloroethene	53	
594-20-7	2,2-Dichloropropane	50	
74-97-5	Bromochloromethane	59	
67-66-3	Chloroform	56	
71-55-6	1,1,1-Trichloroethane	59	
563-58-6	1,1-Dichloropropene	57	
56-23-5	Carbon tetrachloride	60	
107-06-2	1,2-Dichloroethane	58	
71-43-2	Benzene	54	
79-01-6	Trichloroethene	50	
78-87-5	1,2-Dichloropropane	55	
74-95-3	Dibromomethane	56	
75-27-4	Bromodichloromethane	60	
10061-01-5	cis-1,3-Dichloropropene	57	
108-10-1	4-Methyl-2-pentanone	51	
108-88-3	Toluene	54	
10061-02-6	trans-1,3-Dichloropropene	51	
79-00-5	1,1,2-Trichloroethane	55	
142-28-9	1,3-Dichloropropane	49	

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

LCS-74047

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: LCS-74047

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1039.D

Level: (TRACE/LOW/MED) LOW Date Received:

% Moisture: not dec. Date Analyzed: 09/30/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
127-18-4	Tetrachloroethene	50	
591-78-6	2-Hexanone	42	
124-48-1	Dibromochloromethane	54	
106-93-4	1,2-Dibromoethane	51	
108-90-7	Chlorobenzene	51	
630-20-6	1,1,1,2-Tetrachloroethane	52	
100-41-4	Ethylbenzene	53	
179601-23-1	m,p-Xylene	110	
95-47-6	o-Xylene	56	
1330-20-7	Xylene (Total)	160	
100-42-5	Styrene	51	
75-25-2	Bromoform	53	
98-82-8	Isopropylbenzene	54	
79-34-5	1,1,2,2-Tetrachloroethane	47	
108-86-1	Bromobenzene	45	
96-18-4	1,2,3-Trichloropropane	45	
103-65-1	n-Propylbenzene	48	
95-49-8	2-Chlorotoluene	47	
108-67-8	1,3,5-Trimethylbenzene	50	
106-43-4	4-Chlorotoluene	49	
98-06-6	tert-Butylbenzene	54	
95-63-6	1,2,4-Trimethylbenzene	50	
135-98-8	sec-Butylbenzene	49	
99-87-6	4-Isopropyltoluene	49	
541-73-1	1,3-Dichlorobenzene	48	
106-46-7	1,4-Dichlorobenzene	46	
104-51-8	n-Butylbenzene	49	
95-50-1	1,2-Dichlorobenzene	48	
96-12-8	1,2-Dibromo-3-chloropropane	44	
120-82-1	1,2,4-Trichlorobenzene	47	
87-68-3	Hexachlorobutadiene	47	
87-61-6	1,2,3-Trichlorobenzene	50	
91-20-3	Naphthalene	41	

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

LCS-74070

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: LCS-74070

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1072.D

Level: (TRACE/LOW/MED) LOW Date Received:

% Moisture: not dec. Date Analyzed: 10/01/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	63	
74-87-3	Chloromethane	56	
75-01-4	Vinyl chloride	58	
74-83-9	Bromomethane	55	
75-00-3	Chloroethane	57	
75-69-4	Trichlorofluoromethane	64	
75-35-4	1,1-Dichloroethene	57	
67-64-1	Acetone	62	
74-88-4	Iodomethane	59	
75-15-0	Carbon disulfide	62	
75-09-2	Methylene chloride	54	
156-60-5	trans-1,2-Dichloroethene	56	
1634-04-4	Methyl tert-butyl ether	57	
75-34-3	1,1-Dichloroethane	57	
108-05-4	Vinyl acetate	61	
78-93-3	2-Butanone	59	
156-59-2	cis-1,2-Dichloroethene	55	
594-20-7	2,2-Dichloropropane	65	
74-97-5	Bromochloromethane	60	
67-66-3	Chloroform	59	
71-55-6	1,1,1-Trichloroethane	62	
563-58-6	1,1-Dichloropropene	58	
56-23-5	Carbon tetrachloride	63	
107-06-2	1,2-Dichloroethane	61	
71-43-2	Benzene	55	
79-01-6	Trichloroethene	52	
78-87-5	1,2-Dichloropropane	57	
74-95-3	Dibromomethane	60	
75-27-4	Bromodichloromethane	63	
10061-01-5	cis-1,3-Dichloropropene	61	
108-10-1	4-Methyl-2-pentanone	52	
108-88-3	Toluene	56	
10061-02-6	trans-1,3-Dichloropropene	54	
79-00-5	1,1,2-Trichloroethane	56	
142-28-9	1,3-Dichloropropane	52	

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

LCS-74070

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: LCS-74070

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1072.D

Level: (TRACE/LOW/MED) LOW Date Received:

% Moisture: not dec. Date Analyzed: 10/01/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
127-18-4	Tetrachloroethene	50	
591-78-6	2-Hexanone	52	
124-48-1	Dibromochloromethane	57	
106-93-4	1,2-Dibromoethane	53	
108-90-7	Chlorobenzene	52	
630-20-6	1,1,1,2-Tetrachloroethane	55	
100-41-4	Ethylbenzene	54	
179601-23-1	m,p-Xylene	110	
95-47-6	o-Xylene	56	
1330-20-7	Xylene (Total)	170	
100-42-5	Styrene	54	
75-25-2	Bromoform	56	
98-82-8	Isopropylbenzene	54	
79-34-5	1,1,2,2-Tetrachloroethane	45	
108-86-1	Bromobenzene	48	
96-18-4	1,2,3-Trichloropropane	47	
103-65-1	n-Propylbenzene	49	
95-49-8	2-Chlorotoluene	48	
108-67-8	1,3,5-Trimethylbenzene	50	
106-43-4	4-Chlorotoluene	49	
98-06-6	tert-Butylbenzene	48	
95-63-6	1,2,4-Trimethylbenzene	51	
135-98-8	sec-Butylbenzene	50	
99-87-6	4-Isopropyltoluene	51	
541-73-1	1,3-Dichlorobenzene	49	
106-46-7	1,4-Dichlorobenzene	48	
104-51-8	n-Butylbenzene	51	
95-50-1	1,2-Dichlorobenzene	49	
96-12-8	1,2-Dibromo-3-chloropropane	46	
120-82-1	1,2,4-Trichlorobenzene	47	
87-68-3	Hexachlorobutadiene	53	
87-61-6	1,2,3-Trichlorobenzene	51	
91-20-3	Naphthalene	41	

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

LCSD-74002

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: LCSD-74002

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D0983.D

Level: (TRACE/LOW/MED) LOW Date Received:

% Moisture: not dec. Date Analyzed: 09/29/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	43	
74-87-3	Chloromethane	45	
75-01-4	Vinyl chloride	46	
74-83-9	Bromomethane	44	
75-00-3	Chloroethane	45	
75-69-4	Trichlorofluoromethane	47	
75-35-4	1,1-Dichloroethene	44	
67-64-1	Acetone	31	
74-88-4	Iodomethane	47	
75-15-0	Carbon disulfide	48	
75-09-2	Methylene chloride	45	
156-60-5	trans-1,2-Dichloroethene	49	
1634-04-4	Methyl tert-butyl ether	46	
75-34-3	1,1-Dichloroethane	48	
108-05-4	Vinyl acetate	47	
78-93-3	2-Butanone	37	
156-59-2	cis-1,2-Dichloroethene	46	
594-20-7	2,2-Dichloropropane	30	
74-97-5	Bromochloromethane	50	
67-66-3	Chloroform	48	
71-55-6	1,1,1-Trichloroethane	49	
563-58-6	1,1-Dichloropropene	50	
56-23-5	Carbon tetrachloride	49	
107-06-2	1,2-Dichloroethane	47	
71-43-2	Benzene	47	
79-01-6	Trichloroethene	44	
78-87-5	1,2-Dichloropropane	48	
74-95-3	Dibromomethane	47	
75-27-4	Bromodichloromethane	48	
10061-01-5	cis-1,3-Dichloropropene	46	
108-10-1	4-Methyl-2-pentanone	40	
108-88-3	Toluene	47	
10061-02-6	trans-1,3-Dichloropropene	41	
79-00-5	1,1,2-Trichloroethane	47	
142-28-9	1,3-Dichloropropane	44	

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

LCSD-74002

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: LCSD-74002

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D0983.D

Level: (TRACE/LOW/MED) LOW Date Received:

% Moisture: not dec. Date Analyzed: 09/29/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
127-18-4	Tetrachloroethene	48	
591-78-6	2-Hexanone	34	
124-48-1	Dibromochloromethane	48	
106-93-4	1,2-Dibromoethane	45	
108-90-7	Chlorobenzene	46	
630-20-6	1,1,1,2-Tetrachloroethane	47	
100-41-4	Ethylbenzene	48	
179601-23-1	m,p-Xylene	97	
95-47-6	o-Xylene	51	
1330-20-7	Xylene (Total)	150	
100-42-5	Styrene	47	
75-25-2	Bromoform	45	
98-82-8	Isopropylbenzene	48	
79-34-5	1,1,2,2-Tetrachloroethane	41	
108-86-1	Bromobenzene	44	
96-18-4	1,2,3-Trichloropropane	41	
103-65-1	n-Propylbenzene	47	
95-49-8	2-Chlorotoluene	45	
108-67-8	1,3,5-Trimethylbenzene	47	
106-43-4	4-Chlorotoluene	45	
98-06-6	tert-Butylbenzene	45	
95-63-6	1,2,4-Trimethylbenzene	47	
135-98-8	sec-Butylbenzene	46	
99-87-6	4-Isopropyltoluene	46	
541-73-1	1,3-Dichlorobenzene	45	
106-46-7	1,4-Dichlorobenzene	43	
104-51-8	n-Butylbenzene	46	
95-50-1	1,2-Dichlorobenzene	44	
96-12-8	1,2-Dibromo-3-chloropropane	37	
120-82-1	1,2,4-Trichlorobenzene	42	
87-68-3	Hexachlorobutadiene	43	
87-61-6	1,2,3-Trichlorobenzene	45	
91-20-3	Naphthalene	38	

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

LCSD-74047

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: LCSD-74047

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1040.D

Level: (TRACE/LOW/MED) LOW Date Received:

% Moisture: not dec. Date Analyzed: 09/30/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	54	
74-87-3	Chloromethane	53	
75-01-4	Vinyl chloride	56	
74-83-9	Bromomethane	50	
75-00-3	Chloroethane	53	
75-69-4	Trichlorofluoromethane	56	
75-35-4	1,1-Dichloroethene	55	
67-64-1	Acetone	36	
74-88-4	Iodomethane	57	
75-15-0	Carbon disulfide	57	
75-09-2	Methylene chloride	53	
156-60-5	trans-1,2-Dichloroethene	55	
1634-04-4	Methyl tert-butyl ether	55	
75-34-3	1,1-Dichloroethane	56	
108-05-4	Vinyl acetate	58	
78-93-3	2-Butanone	45	
156-59-2	cis-1,2-Dichloroethene	54	
594-20-7	2,2-Dichloropropane	48	
74-97-5	Bromochloromethane	57	
67-66-3	Chloroform	57	
71-55-6	1,1,1-Trichloroethane	59	
563-58-6	1,1-Dichloropropene	56	
56-23-5	Carbon tetrachloride	60	
107-06-2	1,2-Dichloroethane	57	
71-43-2	Benzene	54	
79-01-6	Trichloroethene	51	
78-87-5	1,2-Dichloropropane	54	
74-95-3	Dibromomethane	58	
75-27-4	Bromodichloromethane	60	
10061-01-5	cis-1,3-Dichloropropene	57	
108-10-1	4-Methyl-2-pentanone	51	
108-88-3	Toluene	55	
10061-02-6	trans-1,3-Dichloropropene	50	
79-00-5	1,1,2-Trichloroethane	54	
142-28-9	1,3-Dichloropropane	51	

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

LCSD-74047

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: LCSD-74047

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1040.D

Level: (TRACE/LOW/MED) LOW Date Received:

% Moisture: not dec. Date Analyzed: 09/30/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
127-18-4	Tetrachloroethene	52	
591-78-6	2-Hexanone	42	
124-48-1	Dibromochloromethane	56	
106-93-4	1,2-Dibromoethane	53	
108-90-7	Chlorobenzene	51	
630-20-6	1,1,1,2-Tetrachloroethane	54	
100-41-4	Ethylbenzene	54	
179601-23-1	m,p-Xylene	110	
95-47-6	o-Xylene	56	
1330-20-7	Xylene (Total)	160	
100-42-5	Styrene	53	
75-25-2	Bromoform	55	
98-82-8	Isopropylbenzene	56	
79-34-5	1,1,2,2-Tetrachloroethane	46	
108-86-1	Bromobenzene	47	
96-18-4	1,2,3-Trichloropropane	47	
103-65-1	n-Propylbenzene	50	
95-49-8	2-Chlorotoluene	50	
108-67-8	1,3,5-Trimethylbenzene	52	
106-43-4	4-Chlorotoluene	51	
98-06-6	tert-Butylbenzene	50	
95-63-6	1,2,4-Trimethylbenzene	53	
135-98-8	sec-Butylbenzene	52	
99-87-6	4-Isopropyltoluene	51	
541-73-1	1,3-Dichlorobenzene	50	
106-46-7	1,4-Dichlorobenzene	48	
104-51-8	n-Butylbenzene	52	
95-50-1	1,2-Dichlorobenzene	49	
96-12-8	1,2-Dibromo-3-chloropropane	47	
120-82-1	1,2,4-Trichlorobenzene	48	
87-68-3	Hexachlorobutadiene	51	
87-61-6	1,2,3-Trichlorobenzene	53	
91-20-3	Naphthalene	43	

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

LCSD-74070

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: LCSD-74070

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1073.D

Level: (TRACE/LOW/MED) LOW Date Received:

% Moisture: not dec. Date Analyzed: 10/01/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	53	
74-87-3	Chloromethane	52	
75-01-4	Vinyl chloride	50	
74-83-9	Bromomethane	51	
75-00-3	Chloroethane	51	
75-69-4	Trichlorofluoromethane	54	
75-35-4	1,1-Dichloroethene	52	
67-64-1	Acetone	56	
74-88-4	Iodomethane	57	
75-15-0	Carbon disulfide	53	
75-09-2	Methylene chloride	53	
156-60-5	trans-1,2-Dichloroethene	53	
1634-04-4	Methyl tert-butyl ether	56	
75-34-3	1,1-Dichloroethane	56	
108-05-4	Vinyl acetate	60	
78-93-3	2-Butanone	53	
156-59-2	cis-1,2-Dichloroethene	53	
594-20-7	2,2-Dichloropropane	59	
74-97-5	Bromochloromethane	57	
67-66-3	Chloroform	57	
71-55-6	1,1,1-Trichloroethane	56	
563-58-6	1,1-Dichloropropene	53	
56-23-5	Carbon tetrachloride	57	
107-06-2	1,2-Dichloroethane	59	
71-43-2	Benzene	51	
79-01-6	Trichloroethene	49	
78-87-5	1,2-Dichloropropane	55	
74-95-3	Dibromomethane	58	
75-27-4	Bromodichloromethane	60	
10061-01-5	cis-1,3-Dichloropropene	58	
108-10-1	4-Methyl-2-pentanone	52	
108-88-3	Toluene	53	
10061-02-6	trans-1,3-Dichloropropene	53	
79-00-5	1,1,2-Trichloroethane	55	
142-28-9	1,3-Dichloropropane	49	

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

LCSD-74070

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: LCSD-74070

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1073.D

Level: (TRACE/LOW/MED) LOW Date Received:

% Moisture: not dec. Date Analyzed: 10/01/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
127-18-4	Tetrachloroethene	46	
591-78-6	2-Hexanone	49	
124-48-1	Dibromochloromethane	55	
106-93-4	1,2-Dibromoethane	53	
108-90-7	Chlorobenzene	49	
630-20-6	1,1,1,2-Tetrachloroethane	54	
100-41-4	Ethylbenzene	50	
179601-23-1	m,p-Xylene	100	
95-47-6	o-Xylene	54	
1330-20-7	Xylene (Total)	160	
100-42-5	Styrene	51	
75-25-2	Bromoform	55	
98-82-8	Isopropylbenzene	52	
79-34-5	1,1,2,2-Tetrachloroethane	46	
108-86-1	Bromobenzene	46	
96-18-4	1,2,3-Trichloropropane	48	
103-65-1	n-Propylbenzene	46	
95-49-8	2-Chlorotoluene	46	
108-67-8	1,3,5-Trimethylbenzene	48	
106-43-4	4-Chlorotoluene	49	
98-06-6	tert-Butylbenzene	48	
95-63-6	1,2,4-Trimethylbenzene	49	
135-98-8	sec-Butylbenzene	48	
99-87-6	4-Isopropyltoluene	48	
541-73-1	1,3-Dichlorobenzene	48	
106-46-7	1,4-Dichlorobenzene	47	
104-51-8	n-Butylbenzene	49	
95-50-1	1,2-Dichlorobenzene	47	
96-12-8	1,2-Dibromo-3-chloropropane	46	
120-82-1	1,2,4-Trichlorobenzene	47	
87-68-3	Hexachlorobutadiene	48	
87-61-6	1,2,3-Trichlorobenzene	50	
91-20-3	Naphthalene	44	

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EW-7C-CSIAMS

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M1749-05AMS

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1089.D

Level: (TRACE/LOW/MED) LOW Date Received: 09/19/2013

% Moisture: not dec. Date Analyzed: 10/01/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	38	
74-87-3	Chloromethane	39	
75-01-4	Vinyl chloride	37	
74-83-9	Bromomethane	32	
75-00-3	Chloroethane	42	
75-69-4	Trichlorofluoromethane	46	
75-35-4	1,1-Dichloroethene	41	
67-64-1	Acetone	28	
74-88-4	Iodomethane	28	
75-15-0	Carbon disulfide	41	
75-09-2	Methylene chloride	43	
156-60-5	trans-1,2-Dichloroethene	42	
1634-04-4	Methyl tert-butyl ether	52	
75-34-3	1,1-Dichloroethane	45	
108-05-4	Vinyl acetate	48	
78-93-3	2-Butanone	41	
156-59-2	cis-1,2-Dichloroethene	48	
594-20-7	2,2-Dichloropropane	44	
74-97-5	Bromochloromethane	47	
67-66-3	Chloroform	47	
71-55-6	1,1,1-Trichloroethane	49	
563-58-6	1,1-Dichloropropene	43	
56-23-5	Carbon tetrachloride	49	
107-06-2	1,2-Dichloroethane	53	
71-43-2	Benzene	41	
79-01-6	Trichloroethene	400	E
78-87-5	1,2-Dichloropropane	44	
74-95-3	Dibromomethane	51	
75-27-4	Bromodichloromethane	51	
10061-01-5	cis-1,3-Dichloropropene	45	
108-10-1	4-Methyl-2-pentanone	44	
108-88-3	Toluene	41	
10061-02-6	trans-1,3-Dichloropropene	42	
79-00-5	1,1,2-Trichloroethane	47	
142-28-9	1,3-Dichloropropane	41	

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EW-7C-CSIAMS

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M1749-05AMS

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1089.D

Level: (TRACE/LOW/MED) LOW Date Received: 09/19/2013

% Moisture: not dec. Date Analyzed: 10/01/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
127-18-4	Tetrachloroethene	52	
591-78-6	2-Hexanone	35	
124-48-1	Dibromochloromethane	46	
106-93-4	1,2-Dibromoethane	42	
108-90-7	Chlorobenzene	38	
630-20-6	1,1,1,2-Tetrachloroethane	43	
100-41-4	Ethylbenzene	38	
179601-23-1	m,p-Xylene	79	
95-47-6	o-Xylene	41	
1330-20-7	Xylene (Total)	120	
100-42-5	Styrene	39	
75-25-2	Bromoform	45	
98-82-8	Isopropylbenzene	39	
79-34-5	1,1,2,2-Tetrachloroethane	39	
108-86-1	Bromobenzene	36	
96-18-4	1,2,3-Trichloropropane	37	
103-65-1	n-Propylbenzene	33	
95-49-8	2-Chlorotoluene	36	
108-67-8	1,3,5-Trimethylbenzene	36	
106-43-4	4-Chlorotoluene	37	
98-06-6	tert-Butylbenzene	35	
95-63-6	1,2,4-Trimethylbenzene	37	
135-98-8	sec-Butylbenzene	36	
99-87-6	4-Isopropyltoluene	36	
541-73-1	1,3-Dichlorobenzene	36	
106-46-7	1,4-Dichlorobenzene	36	
104-51-8	n-Butylbenzene	36	
95-50-1	1,2-Dichlorobenzene	37	
96-12-8	1,2-Dibromo-3-chloropropane	37	
120-82-1	1,2,4-Trichlorobenzene	34	
87-68-3	Hexachlorobutadiene	36	
87-61-6	1,2,3-Trichlorobenzene	36	
91-20-3	Naphthalene	30	

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EW-7C-CSIAMSD

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M1749-05AMSD

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1090.D

Level: (TRACE/LOW/MED) LOW Date Received: 09/19/2013

% Moisture: not dec. Date Analyzed: 10/01/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	48	
74-87-3	Chloromethane	51	
75-01-4	Vinyl chloride	50	
74-83-9	Bromomethane	45	
75-00-3	Chloroethane	52	
75-69-4	Trichlorofluoromethane	57	
75-35-4	1,1-Dichloroethene	51	
67-64-1	Acetone	35	
74-88-4	Iodomethane	46	
75-15-0	Carbon disulfide	53	
75-09-2	Methylene chloride	49	
156-60-5	trans-1,2-Dichloroethene	50	
1634-04-4	Methyl tert-butyl ether	58	
75-34-3	1,1-Dichloroethane	52	
108-05-4	Vinyl acetate	56	
78-93-3	2-Butanone	45	
156-59-2	cis-1,2-Dichloroethene	57	
594-20-7	2,2-Dichloropropane	53	
74-97-5	Bromochloromethane	55	
67-66-3	Chloroform	55	
71-55-6	1,1,1-Trichloroethane	59	
563-58-6	1,1-Dichloropropene	53	
56-23-5	Carbon tetrachloride	59	
107-06-2	1,2-Dichloroethane	58	
71-43-2	Benzene	50	
79-01-6	Trichloroethene	410	E
78-87-5	1,2-Dichloropropane	52	
74-95-3	Dibromomethane	57	
75-27-4	Bromodichloromethane	60	
10061-01-5	cis-1,3-Dichloropropene	56	
108-10-1	4-Methyl-2-pentanone	52	
108-88-3	Toluene	50	
10061-02-6	trans-1,3-Dichloropropene	50	
79-00-5	1,1,2-Trichloroethane	53	
142-28-9	1,3-Dichloropropane	47	

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EW-7C-CSIAMSD

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M1749-05AMSD

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1090.D

Level: (TRACE/LOW/MED) LOW Date Received: 09/19/2013

% Moisture: not dec. Date Analyzed: 10/01/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
127-18-4	Tetrachloroethene	60	
591-78-6	2-Hexanone	39	
124-48-1	Dibromochloromethane	52	
106-93-4	1,2-Dibromoethane	48	
108-90-7	Chlorobenzene	46	
630-20-6	1,1,1,2-Tetrachloroethane	51	
100-41-4	Ethylbenzene	48	
179601-23-1	m,p-Xylene	96	
95-47-6	o-Xylene	49	
1330-20-7	Xylene (Total)	150	
100-42-5	Styrene	47	
75-25-2	Bromoform	50	
98-82-8	Isopropylbenzene	49	
79-34-5	1,1,2,2-Tetrachloroethane	42	
108-86-1	Bromobenzene	42	
96-18-4	1,2,3-Trichloropropane	42	
103-65-1	n-Propylbenzene	43	
95-49-8	2-Chlorotoluene	42	
108-67-8	1,3,5-Trimethylbenzene	45	
106-43-4	4-Chlorotoluene	45	
98-06-6	tert-Butylbenzene	43	
95-63-6	1,2,4-Trimethylbenzene	46	
135-98-8	sec-Butylbenzene	44	
99-87-6	4-Isopropyltoluene	45	
541-73-1	1,3-Dichlorobenzene	44	
106-46-7	1,4-Dichlorobenzene	42	
104-51-8	n-Butylbenzene	44	
95-50-1	1,2-Dichlorobenzene	44	
96-12-8	1,2-Dibromo-3-chloropropane	44	
120-82-1	1,2,4-Trichlorobenzene	43	
87-68-3	Hexachlorobutadiene	42	
87-61-6	1,2,3-Trichlorobenzene	45	
91-20-3	Naphthalene	38	

2B - FORM II VOA-2

WATER VOLATILE DEUTERATED MONITORING COMPOUND RECOVERY

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Level: (TRACE or LOW) LOW

	CLIENT SAMPLE NO.	VDMC1 (DBFM) #	VDMC2 (DCE) #	VDMC3 (TOL) #	VDMC4 (BFB) #				TOT OUT
01	LCS-73996	118 *	97	95	109				1
02	MB-73996	113	100	97	104				0
03	TB091713	118 *	96	98	103				1
04	TB091813	120 *	102	96	104				1
05	MW-195-1-I-CSIA	122 *	102	98	107				1
06	MW-NEMF-3-D	121 *	101	93	101				1
07	MW-NEMF-2-D	119 *	98	96	101				1
08	EW-7C-CSIA	119 *	98	96	102				1
09	MW-301-1-S-CSIA	121 *	104	97	103				1
10	LCS-74002	103	100	101	102				0
11	LCSD-74002	102	102	99	102				0
12	MB-74002	102	101	103	93				0
13	MW-412-1-S	106	108	103	93				0
14	LCS-74030	103	100	97	102				0
15	MB-74030	103	102	101	96				0
16	TB091913	109	104	98	95				0
17	EW-7D-CSIA	106	100	98	94				0
18	LCS-74047	107	104	97	104				0
19	LCSD-74047	107	103	97	104				0
20	MB-74047	106	103	98	91				0
21	EW-7C-CSIADL	110	101	99	94				0
22	MW-301-1-S-CSIADL	110	100	99	93				0
23	MW-412-1-SDL	107	102	99	95				0
24	FB092013	112	101	101	97				0
25	TB092013	108	102	100	95				0
26	LCS-74070	107	100	99	107				0

		QC LIMITS
VDMC1	(DBFM) Dibromofluoromethane	(85-115)
VDMC2	(DCE) = 1,2-Dichloroethane-d4	(70-120)
VDMC3	(TOL) = Toluene-d8	(85-120)
VDMC4	(BFB) = Bromofluorobenzene	(75-120)

Column to be used to flag recovery values

* Values outside of contract required QC limits

som13.08.22.A

2B - FORM II VOA-2

WATER VOLATILE DEUTERATED MONITORING COMPOUND RECOVERY

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Level: (TRACE or LOW) LOW

	CLIENT SAMPLE NO.	VDMC1 (DBFM) #	VDMC2 (DCE) #	VDMC3 (TOL) #	VDMC4 (BFB) #				TOT OUT
27	LCSD-74070	110	101	97	105				0
28	MB-74070	106	99	98	96				0
29	EW-7C-CSIAMS	115	105	94	106				0
30	EW-7C-CSIAMSD	115 *	104	94	107				1

		QC LIMITS
VDMC1	(DBFM) Dibromofluoromethane	(85-115)
VDMC2	(DCE) = 1,2-Dichloroethane-d4	(70-120)
VDMC3	(TOL) = Toluene-d8	(85-120)
VDMC4	(BFB) = Bromofluorobenzene	(75-120)

Column to be used to flag recovery values

* Values outside of contract required QC limits

som13.08.22.A

3A - FORM III VOA-1

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Matrix Spike - EPA Sample No.: EW-7C-CSIA Level: (TRACE or LOW) LOW

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS %REC	#	QC. LIMITS REC.
Dichlorodifluoromethane	50.0000	0.0000	38.1997	76		30-155
Chloromethane	50.0000	0.0000	39.0477	78		40-125
Vinyl chloride	50.0000	0.0000	37.1575	74		50-145
Bromomethane	50.0000	0.0000	32.2809	65		30-145
Chloroethane	50.0000	0.0000	41.5383	83		60-135
Trichlorofluoromethane	50.0000	0.0000	45.9169	92		60-145
1,1-Dichloroethene	50.0000	0.7782	40.6222	80		70-130
Acetone	50.0000	0.0000	27.9867	56		40-140
Iodomethane	50.0000	0.0000	28.4193	57	*	72-121
Carbon disulfide	50.0000	0.0000	40.7488	81		35-160
Methylene chloride	50.0000	0.0000	42.9245	86		55-140
trans-1,2-Dichloroethene	50.0000	0.0000	41.6037	83		60-140
Methyl tert-butyl ether	50.0000	4.0350	51.7885	96		65-125
1,1-Dichloroethane	50.0000	0.0000	45.1181	90		70-135
Vinyl acetate	50.0000	0.0000	48.4016	97		38-163
2-Butanone	50.0000	0.0000	40.6108	81		30-150
cis-1,2-Dichloroethene	50.0000	6.3156	48.0406	83		70-125
2,2-Dichloropropane	50.0000	0.0000	44.0126	88		70-135
Bromochloromethane	50.0000	0.0000	46.7034	93		65-130
Chloroform	50.0000	0.0000	47.2568	95		65-135
1,1,1-Trichloroethane	50.0000	1.3663	48.7217	95		65-130
1,1-Dichloropropene	50.0000	0.0000	42.6122	85		75-130
Carbon tetrachloride	50.0000	0.0000	48.7384	97		65-140
1,2-Dichloroethane	50.0000	0.0000	53.4299	107		70-130
Benzene	50.0000	0.0000	41.2766	83		80-120
Trichloroethene	50.0000	372.6516	395.7232	46	*	70-125
1,2-Dichloropropane	50.0000	0.0000	44.4835	89		75-125
Dibromomethane	50.0000	0.0000	51.2152	102		75-125
Bromodichloromethane	50.0000	0.0000	51.2345	102		75-120
cis-1,3-Dichloropropene	50.0000	0.0000	44.9222	90		70-130
4-Methyl-2-pentanone	50.0000	0.0000	44.1731	88		60-135
Toluene	50.0000	0.0000	41.1790	82		75-120
trans-1,3-Dichloropropene	50.0000	0.0000	42.1102	84		55-140
1,1,2-Trichloroethane	50.0000	0.0000	46.9228	94		75-125
1,3-Dichloropropane	50.0000	0.0000	40.7166	81		75-125
Tetrachloroethene	50.0000	17.9830	52.4715	69		45-150
2-Hexanone	50.0000	0.0000	34.5294	69		55-130
Dibromochloromethane	50.0000	0.0000	45.7189	91		60-135
1,2-Dibromoethane	50.0000	0.0000	42.4409	85		80-120
Chlorobenzene	50.0000	0.0000	38.3686	77	*	80-120
1,1,1,2-Tetrachloroethane	50.0000	0.0000	43.3136	87		80-130
Ethylbenzene	50.0000	0.0000	38.3896	77		75-125
m,p-Xylene	100.0000	0.0000	78.7132	79		75-130
o-Xylene	50.0000	0.0000	41.3307	83		80-120

3A - FORM III VOA-1

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Matrix Spike - EPA Sample No.: EW-7C-CSIA Level: (TRACE or LOW) LOW

Xylene (Total)	150.0000	0.0000	120.0439	80	*	81-121
Styrene	50.0000	0.0000	39.3952	79		65-135
Bromoform	50.0000	0.0000	44.5046	89		70-130
Isopropylbenzene	50.0000	0.0000	38.7144	77		75-125
1,1,2,2-Tetrachloroethane	50.0000	0.0000	38.9108	78		65-130
Bromobenzene	50.0000	0.0000	35.5463	71	*	75-125
1,2,3-Trichloropropane	50.0000	0.0000	37.4834	75	*	75-125
n-Propylbenzene	50.0000	0.0000	33.3416	67	*	70-130
2-Chlorotoluene	50.0000	0.0000	35.8302	72	*	75-125
1,3,5-Trimethylbenzene	50.0000	0.0000	36.3446	73	*	75-130
4-Chlorotoluene	50.0000	0.0000	36.6334	73	*	75-130
tert-Butylbenzene	50.0000	0.0000	35.2255	70		70-130
1,2,4-Trimethylbenzene	50.0000	0.0000	37.4603	75	*	75-130
sec-Butylbenzene	50.0000	0.0000	35.5295	71		70-125
4-Isopropyltoluene	50.0000	0.0000	36.1486	72	*	75-130
1,3-Dichlorobenzene	50.0000	0.0000	35.8951	72	*	75-125
1,4-Dichlorobenzene	50.0000	0.0000	35.8928	72	*	75-125
n-Butylbenzene	50.0000	0.0000	35.7121	71		70-135
1,2-Dichlorobenzene	50.0000	0.0000	37.4274	75		70-120
1,2-Dibromo-3-chloropropan	50.0000	0.0000	37.2472	74		50-130
1,2,4-Trichlorobenzene	50.0000	0.0000	33.9937	68		65-135
Hexachlorobutadiene	50.0000	0.0000	35.6601	71		50-140
1,2,3-Trichlorobenzene	50.0000	0.0000	36.0304	72		55-140
Naphthalene	50.0000	0.0000	30.2865	61		55-140

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD %REC	#	%RPD	#	QC LIMITS RPD	QC LIMITS REC.
Dichlorodifluoromethane	50.0000	47.6202	95		22		0-40	30-155
Chloromethane	50.0000	50.7125	101		26		0-40	40-125
Vinyl chloride	50.0000	49.7687	100		29		0-40	50-145
Bromomethane	50.0000	44.7772	90		32		0-40	30-145
Chloroethane	50.0000	52.2382	104		23		0-40	60-135
Trichlorofluoromethane	50.0000	56.6482	113		21		0-40	60-145
1,1-Dichloroethene	50.0000	51.1433	101		23		0-40	70-130
Acetone	50.0000	34.9646	70		22		0-40	40-140
Iodomethane	50.0000	45.9021	92		47	*	0-40	72-121
Carbon disulfide	50.0000	53.2460	106		27		0-40	35-160
Methylene chloride	50.0000	49.3613	99		14		0-40	55-140
trans-1,2-Dichloroethene	50.0000	49.8257	100		18		0-40	60-140
Methyl tert-butyl ether	50.0000	58.3295	109		13		0-40	65-125
1,1-Dichloroethane	50.0000	52.3101	105		15		0-40	70-135
Vinyl acetate	50.0000	55.9471	112		14		0-40	38-163
2-Butanone	50.0000	45.4738	91		11		0-40	30-150
cis-1,2-Dichloroethene	50.0000	56.7845	101		19		0-40	70-125
2,2-Dichloropropane	50.0000	52.5941	105		18		0-40	70-135
Bromochloromethane	50.0000	55.2932	111		17		0-40	65-130

3A - FORM III VOA-1

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Matrix Spike - EPA Sample No.: EW-7C-CSIA Level: (TRACE or LOW) LOW

Chloroform	50.0000	54.9571	110		15		0-40	65-135
1,1,1-Trichloroethane	50.0000	58.6241	115		19		0-40	65-130
1,1-Dichloropropene	50.0000	53.3010	107		22		0-40	75-130
Carbon tetrachloride	50.0000	59.4736	119		20		0-40	65-140
1,2-Dichloroethane	50.0000	58.2680	117		9		0-40	70-130
Benzene	50.0000	50.1297	100		19		0-40	80-120
Trichloroethene	50.0000	405.0296	65	*	34		0-40	70-125
1,2-Dichloropropane	50.0000	52.0553	104		16		0-40	75-125
Dibromomethane	50.0000	56.7883	114		10		0-40	75-125
Bromodichloromethane	50.0000	59.7311	119		15		0-40	75-120
cis-1,3-Dichloropropene	50.0000	56.0793	112		22		0-40	70-130
4-Methyl-2-pentanone	50.0000	51.8727	104		16		0-40	60-135
Toluene	50.0000	49.7937	100		19		0-40	75-120
trans-1,3-Dichloropropene	50.0000	50.1332	100		17		0-40	55-140
1,1,2-Trichloroethane	50.0000	53.0106	106		12		0-40	75-125
1,3-Dichloropropane	50.0000	46.6851	93		14		0-40	75-125
Tetrachloroethene	50.0000	59.6344	83		19		0-40	45-150
2-Hexanone	50.0000	38.9343	78		12		0-40	55-130
Dibromochloromethane	50.0000	51.5255	103		12		0-40	60-135
1,2-Dibromoethane	50.0000	48.0238	96		12		0-40	80-120
Chlorobenzene	50.0000	45.5961	91		17		0-40	80-120
1,1,1,2-Tetrachloroethane	50.0000	50.7131	101		16		0-40	80-130
Ethylbenzene	50.0000	47.5818	95		21		0-40	75-125
m,p-Xylene	100.0000	96.4751	96		20		0-40	75-130
o-Xylene	50.0000	49.1853	98		17		0-40	80-120
Xylene (Total)	150.0000	145.6604	97		19		0-40	81-121
Styrene	50.0000	47.0198	94		18		0-40	65-135
Bromoform	50.0000	50.4729	101		13		0-40	70-130
Isopropylbenzene	50.0000	48.8392	98		23		0-40	75-125
1,1,2,2-Tetrachloroethane	50.0000	42.4091	85		9		0-40	65-130
Bromobenzene	50.0000	42.4291	85		18		0-40	75-125
1,2,3-Trichloropropane	50.0000	42.2469	84		12		0-40	75-125
n-Propylbenzene	50.0000	42.6647	85		25		0-40	70-130
2-Chlorotoluene	50.0000	42.3568	85		17		0-40	75-125
1,3,5-Trimethylbenzene	50.0000	44.6831	89		21		0-40	75-130
4-Chlorotoluene	50.0000	44.5263	89		19		0-40	75-130
tert-Butylbenzene	50.0000	43.2642	87		20		0-40	70-130
1,2,4-Trimethylbenzene	50.0000	45.6340	91		20		0-40	75-130
sec-Butylbenzene	50.0000	43.8706	88		21		0-40	70-125
4-Isopropyltoluene	50.0000	45.1755	90		22		0-40	75-130
1,3-Dichlorobenzene	50.0000	43.8993	88		20		0-40	75-125
1,4-Dichlorobenzene	50.0000	42.2919	85		16		0-40	75-125
n-Butylbenzene	50.0000	43.9649	88		21		0-40	70-135
1,2-Dichlorobenzene	50.0000	44.3724	89		17		0-40	70-120
1,2-Dibromo-3-chloropropan	50.0000	43.8340	88		16		0-40	50-130
1,2,4-Trichlorobenzene	50.0000	42.6554	85		23		0-40	65-135
Hexachlorobutadiene	50.0000	42.1922	84		17		0-40	50-140

3A - FORM III VOA-1

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Matrix Spike - EPA Sample No.: EW-7C-CSIA Level: (TRACE or LOW) LOW

1,2,3-Trichlorobenzene	50.0000	45.2328	90		23		0-40	55-140
Naphthalene	50.0000	38.1397	76		23		0-40	55-140

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 1 out of 68 outside limits

Spike Recovery: 15 out of 136 outside limits

COMMENTS: #EW-7CMSD#

3 - FORM III
WATER LABORATORY CONTROL
SAMPLE RECOVERY

CLIENT SAMPLE NO.
LCS-73996

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Lab Sample ID: LCS-73996 LCS Lot No.:

Date Extracted: 09/27/2013 Date Analyzed (1): 09/28/2013

COMPOUND	SPIKE ADDED	SAMPLE CONCENTRATION	LCS CONCENTRATION	LCS %REC	#	QC. LIMITS REC.
Dichlorodifluoromethane	50.0000	0.0000	55.3966	111		30 - 155
Chloromethane	50.0000	0.0000	59.9930	120		40 - 125
Vinyl chloride	50.0000	0.0000	56.3354	113		50 - 145
Bromomethane	50.0000	0.0000	54.4006	109		30 - 145
Chloroethane	50.0000	0.0000	54.5445	109		60 - 135
Trichlorofluoromethane	50.0000	0.0000	66.3439	133		60 - 145
1,1-Dichloroethene	50.0000	0.0000	54.7772	110		70 - 130
Acetone	50.0000	0.0000	29.1880	58		40 - 140
Iodomethane	50.0000	0.0000	56.6104	113		72 - 121
Carbon disulfide	50.0000	0.0000	52.1652	104		35 - 160
Methylene chloride	50.0000	0.0000	46.9450	94		55 - 140
trans-1,2-Dichloroethene	50.0000	0.0000	51.0017	102		60 - 140
Methyl tert-butyl ether	50.0000	0.0000	55.4849	111		65 - 125
1,1-Dichloroethane	50.0000	0.0000	56.5153	113		70 - 135
Vinyl acetate	50.0000	0.0000	60.8071	122		38 - 163
2-Butanone	50.0000	0.0000	36.0669	72		30 - 150
cis-1,2-Dichloroethene	50.0000	0.0000	50.2817	101		70 - 125
2,2-Dichloropropane	50.0000	0.0000	46.0460	92		70 - 135
Bromochloromethane	50.0000	0.0000	55.8279	112		65 - 130
Chloroform	50.0000	0.0000	62.6609	125		65 - 135
1,1,1-Trichloroethane	50.0000	0.0000	67.8322	136	*	65 - 130
1,1-Dichloropropene	50.0000	0.0000	50.8455	102		75 - 130
Carbon tetrachloride	50.0000	0.0000	73.8847	148	*	65 - 140
1,2-Dichloroethane	50.0000	0.0000	70.5234	141	*	70 - 130
Benzene	50.0000	0.0000	50.4055	101		80 - 120
Trichloroethene	50.0000	0.0000	54.0272	108		70 - 125
1,2-Dichloropropane	50.0000	0.0000	52.8546	106		75 - 125
Dibromomethane	50.0000	0.0000	60.6722	121		75 - 125
Bromodichloromethane	50.0000	0.0000	59.7449	119		75 - 120
cis-1,3-Dichloropropene	50.0000	0.0000	48.6571	97		70 - 130
4-Methyl-2-pentanone	50.0000	0.0000	56.6814	113		60 - 135
Toluene	50.0000	0.0000	51.7067	103		75 - 120
trans-1,3-Dichloropropene	50.0000	0.0000	51.6204	103		55 - 140
1,1,2-Trichloroethane	50.0000	0.0000	54.4711	109		75 - 125
1,3-Dichloropropane	50.0000	0.0000	50.1512	100		75 - 125
Tetrachloroethene	50.0000	0.0000	54.0542	108		45 - 150
2-Hexanone	50.0000	0.0000	42.8481	86		55 - 130
Dibromochloromethane	50.0000	0.0000	52.6074	105		60 - 135
1,2-Dibromoethane	50.0000	0.0000	51.9743	104		80 - 120
Chlorobenzene	50.0000	0.0000	49.4328	99		80 - 120
1,1,1,2-Tetrachloroethane	50.0000	0.0000	59.1796	118		80 - 130
Ethylbenzene	50.0000	0.0000	49.9399	100		75 - 125
m,p-Xylene	100.0000	0.0000	105.9589	106		75 - 130
o-Xylene	50.0000	0.0000	51.5287	103		80 - 120

3 - FORM III
WATER LABORATORY CONTROL
SAMPLE RECOVERY

CLIENT SAMPLE NO.
LCS-73996

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Lab Sample ID: LCS-73996 LCS Lot No.:

Date Extracted: 09/27/2013 Date Analyzed (1): 09/28/2013

COMPOUND	SPIKE ADDED	SAMPLE CONCENTRATION	LCS CONCENTRATION	LCS %REC	#	QC. LIMITS REC.
Xylene (Total)	150.0000	0.0000	157.4876	105		81 - 121
Styrene	50.0000	0.0000	53.7218	107		65 - 135
Bromoform	50.0000	0.0000	51.9050	104		70 - 130
Isopropylbenzene	50.0000	0.0000	52.9969	106		75 - 125
1,1,2,2-Tetrachloroethane	50.0000	0.0000	40.7341	81		65 - 130
Bromobenzene	50.0000	0.0000	44.9758	90		75 - 125
1,2,3-Trichloropropane	50.0000	0.0000	43.5487	87		75 - 125
n-Propylbenzene	50.0000	0.0000	44.6567	89		70 - 130
2-Chlorotoluene	50.0000	0.0000	45.1566	90		75 - 125
1,3,5-Trimethylbenzene	50.0000	0.0000	47.3268	95		75 - 130
4-Chlorotoluene	50.0000	0.0000	48.6373	97		75 - 130
tert-Butylbenzene	50.0000	0.0000	44.9538	90		70 - 130
1,2,4-Trimethylbenzene	50.0000	0.0000	48.4768	97		75 - 130
sec-Butylbenzene	50.0000	0.0000	44.9928	90		70 - 125
4-Isopropyltoluene	50.0000	0.0000	47.6998	95		75 - 130
1,3-Dichlorobenzene	50.0000	0.0000	44.6823	89		75 - 125
1,4-Dichlorobenzene	50.0000	0.0000	45.2637	91		75 - 125
n-Butylbenzene	50.0000	0.0000	45.1719	90		70 - 135
1,2-Dichlorobenzene	50.0000	0.0000	46.2275	92		70 - 120
1,2-Dibromo-3-chloropropan	50.0000	0.0000	51.0577	102		50 - 130
1,2,4-Trichlorobenzene	50.0000	0.0000	42.1385	84		65 - 135
Hexachlorobutadiene	50.0000	0.0000	42.0749	84		50 - 140
1,2,3-Trichlorobenzene	50.0000	0.0000	40.8643	82		55 - 140
Naphthalene	50.0000	0.0000	31.5575	63		55 - 140

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

Spike Recovery: 3 out of 68 outside limits

COMMENTS:

3 - FORM III
WATER LABORATORY CONTROL
SAMPLE RECOVERY

CLIENT SAMPLE NO.
LCS-74002

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Lab Sample ID: LCS-74002 LCS Lot No.:

Date Extracted: 09/28/2013 Date Analyzed (1): 09/29/2013

COMPOUND	SPIKE ADDED	SAMPLE CONCENTRATION	LCS CONCENTRATION	LCS %REC	#	QC. LIMITS REC.
Dichlorodifluoromethane	50.0000	0.0000	38.6711	77		30 - 155
Chloromethane	50.0000	0.0000	46.1207	92		40 - 125
Vinyl chloride	50.0000	0.0000	46.7855	94		50 - 145
Bromomethane	50.0000	0.0000	44.8517	90		30 - 145
Chloroethane	50.0000	0.0000	45.7382	91		60 - 135
Trichlorofluoromethane	50.0000	0.0000	42.9408	86		60 - 145
1,1-Dichloroethene	50.0000	0.0000	44.1320	88		70 - 130
Acetone	50.0000	0.0000	26.8653	54		40 - 140
Iodomethane	50.0000	0.0000	49.1593	98		72 - 121
Carbon disulfide	50.0000	0.0000	48.0743	96		35 - 160
Methylene chloride	50.0000	0.0000	47.7241	95		55 - 140
trans-1,2-Dichloroethene	50.0000	0.0000	48.7225	97		60 - 140
Methyl tert-butyl ether	50.0000	0.0000	47.1672	94		65 - 125
1,1-Dichloroethane	50.0000	0.0000	48.6472	97		70 - 135
Vinyl acetate	50.0000	0.0000	49.2901	99		38 - 163
2-Butanone	50.0000	0.0000	36.5636	73		30 - 150
cis-1,2-Dichloroethene	50.0000	0.0000	48.6786	97		70 - 125
2,2-Dichloropropane	50.0000	0.0000	30.7912	62	*	70 - 135
Bromochloromethane	50.0000	0.0000	52.8805	106		65 - 130
Chloroform	50.0000	0.0000	49.4680	99		65 - 135
1,1,1-Trichloroethane	50.0000	0.0000	48.9749	98		65 - 130
1,1-Dichloropropene	50.0000	0.0000	47.6726	95		75 - 130
Carbon tetrachloride	50.0000	0.0000	49.2109	98		65 - 140
1,2-Dichloroethane	50.0000	0.0000	49.3529	99		70 - 130
Benzene	50.0000	0.0000	47.4202	95		80 - 120
Trichloroethene	50.0000	0.0000	44.0885	88		70 - 125
1,2-Dichloropropane	50.0000	0.0000	48.7324	97		75 - 125
Dibromomethane	50.0000	0.0000	50.8686	102		75 - 125
Bromodichloromethane	50.0000	0.0000	51.2359	102		75 - 120
cis-1,3-Dichloropropene	50.0000	0.0000	47.5240	95		70 - 130
4-Methyl-2-pentanone	50.0000	0.0000	39.3448	79		60 - 135
Toluene	50.0000	0.0000	48.6293	97		75 - 120
trans-1,3-Dichloropropene	50.0000	0.0000	42.9822	86		55 - 140
1,1,2-Trichloroethane	50.0000	0.0000	47.7213	95		75 - 125
1,3-Dichloropropane	50.0000	0.0000	46.8812	94		75 - 125
Tetrachloroethene	50.0000	0.0000	50.5324	101		45 - 150
2-Hexanone	50.0000	0.0000	33.0673	66		55 - 130
Dibromochloromethane	50.0000	0.0000	50.8100	102		60 - 135
1,2-Dibromoethane	50.0000	0.0000	46.8574	94		80 - 120
Chlorobenzene	50.0000	0.0000	48.2881	97		80 - 120
1,1,1,2-Tetrachloroethane	50.0000	0.0000	49.5381	99		80 - 130
Ethylbenzene	50.0000	0.0000	50.6409	101		75 - 125
m,p-Xylene	100.0000	0.0000	101.7180	102		75 - 130
o-Xylene	50.0000	0.0000	52.2485	104		80 - 120

3 - FORM III
WATER LABORATORY CONTROL
SAMPLE RECOVERY

CLIENT SAMPLE NO.
LCS-74002

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Lab Sample ID: LCS-74002 LCS Lot No.:

Date Extracted: 09/28/2013 Date Analyzed (1): 09/29/2013

COMPOUND	SPIKE ADDED	SAMPLE CONCENTRATION	LCS CONCENTRATION	LCS %REC	#	QC. LIMITS REC.
Xylene (Total)	150.0000	0.0000	153.9665	103		81 - 121
Styrene	50.0000	0.0000	50.3444	101		65 - 135
Bromoform	50.0000	0.0000	48.0784	96		70 - 130
Isopropylbenzene	50.0000	0.0000	50.8863	102		75 - 125
1,1,2,2-Tetrachloroethane	50.0000	0.0000	43.2403	86		65 - 130
Bromobenzene	50.0000	0.0000	45.0310	90		75 - 125
1,2,3-Trichloropropane	50.0000	0.0000	36.1351	72	*	75 - 125
n-Propylbenzene	50.0000	0.0000	45.0424	90		70 - 130
2-Chlorotoluene	50.0000	0.0000	46.7103	93		75 - 125
1,3,5-Trimethylbenzene	50.0000	0.0000	47.4257	95		75 - 130
4-Chlorotoluene	50.0000	0.0000	46.4833	93		75 - 130
tert-Butylbenzene	50.0000	0.0000	45.5431	91		70 - 130
1,2,4-Trimethylbenzene	50.0000	0.0000	48.0323	96		75 - 130
sec-Butylbenzene	50.0000	0.0000	46.3253	93		70 - 125
4-Isopropyltoluene	50.0000	0.0000	47.2116	94		75 - 130
1,3-Dichlorobenzene	50.0000	0.0000	46.1840	92		75 - 125
1,4-Dichlorobenzene	50.0000	0.0000	44.6639	89		75 - 125
n-Butylbenzene	50.0000	0.0000	45.6734	91		70 - 135
1,2-Dichlorobenzene	50.0000	0.0000	45.5730	91		70 - 120
1,2-Dibromo-3-chloropropan	50.0000	0.0000	38.5853	77		50 - 130
1,2,4-Trichlorobenzene	50.0000	0.0000	43.3188	87		65 - 135
Hexachlorobutadiene	50.0000	0.0000	43.7567	88		50 - 140
1,2,3-Trichlorobenzene	50.0000	0.0000	45.4891	91		55 - 140
Naphthalene	50.0000	0.0000	39.1209	78		55 - 140

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

Spike Recovery: 2 out of 68 outside limits

COMMENTS:

3 - FORM III
WATER LABORATORY CONTROL
SAMPLE RECOVERY

CLIENT SAMPLE NO.
LCS-74030

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Lab Sample ID: LCS-74030 LCS Lot No.:

Date Extracted: 09/30/2013 Date Analyzed (1): 09/30/2013

COMPOUND	SPIKE ADDED	SAMPLE CONCENTRATION	LCS CONCENTRATION	LCS %REC	#	QC. LIMITS REC.
Dichlorodifluoromethane	50.0000	0.0000	55.4440	111		30 - 155
Chloromethane	50.0000	0.0000	50.0233	100		40 - 125
Vinyl chloride	50.0000	0.0000	51.6820	103		50 - 145
Bromomethane	50.0000	0.0000	46.0603	92		30 - 145
Chloroethane	50.0000	0.0000	47.7740	96		60 - 135
Trichlorofluoromethane	50.0000	0.0000	53.7456	107		60 - 145
1,1-Dichloroethene	50.0000	0.0000	49.5643	99		70 - 130
Acetone	50.0000	0.0000	54.9464	110		40 - 140
Iodomethane	50.0000	0.0000	52.8256	106		72 - 121
Carbon disulfide	50.0000	0.0000	55.7302	111		35 - 160
Methylene chloride	50.0000	0.0000	49.9511	100		55 - 140
trans-1,2-Dichloroethene	50.0000	0.0000	52.2923	105		60 - 140
Methyl tert-butyl ether	50.0000	0.0000	51.2864	103		65 - 125
1,1-Dichloroethane	50.0000	0.0000	53.4602	107		70 - 135
Vinyl acetate	50.0000	0.0000	55.7614	112		38 - 163
2-Butanone	50.0000	0.0000	53.8268	108		30 - 150
cis-1,2-Dichloroethene	50.0000	0.0000	52.0074	104		70 - 125
2,2-Dichloropropane	50.0000	0.0000	58.9189	118		70 - 135
Bromochloromethane	50.0000	0.0000	56.1317	112		65 - 130
Chloroform	50.0000	0.0000	53.7872	108		65 - 135
1,1,1-Trichloroethane	50.0000	0.0000	55.8707	112		65 - 130
1,1-Dichloropropene	50.0000	0.0000	51.6204	103		75 - 130
Carbon tetrachloride	50.0000	0.0000	55.9990	112		65 - 140
1,2-Dichloroethane	50.0000	0.0000	53.6095	107		70 - 130
Benzene	50.0000	0.0000	50.8584	102		80 - 120
Trichloroethene	50.0000	0.0000	47.3278	95		70 - 125
1,2-Dichloropropane	50.0000	0.0000	52.6997	105		75 - 125
Dibromomethane	50.0000	0.0000	52.8166	106		75 - 125
Bromodichloromethane	50.0000	0.0000	56.7926	114		75 - 120
cis-1,3-Dichloropropene	50.0000	0.0000	56.7867	114		70 - 130
4-Methyl-2-pentanone	50.0000	0.0000	44.8971	90		60 - 135
Toluene	50.0000	0.0000	52.1385	104		75 - 120
trans-1,3-Dichloropropene	50.0000	0.0000	50.5601	101		55 - 140
1,1,2-Trichloroethane	50.0000	0.0000	50.2391	100		75 - 125
1,3-Dichloropropane	50.0000	0.0000	47.9181	96		75 - 125
Tetrachloroethene	50.0000	0.0000	45.9650	92		45 - 150
2-Hexanone	50.0000	0.0000	46.7844	94		55 - 130
Dibromochloromethane	50.0000	0.0000	53.2135	106		60 - 135
1,2-Dibromoethane	50.0000	0.0000	48.3328	97		80 - 120
Chlorobenzene	50.0000	0.0000	49.2051	98		80 - 120
1,1,1,2-Tetrachloroethane	50.0000	0.0000	51.8364	104		80 - 130
Ethylbenzene	50.0000	0.0000	51.2921	103		75 - 125
m,p-Xylene	100.0000	0.0000	103.6433	104		75 - 130
o-Xylene	50.0000	0.0000	53.3080	107		80 - 120

3 - FORM III
WATER LABORATORY CONTROL
SAMPLE RECOVERY

CLIENT SAMPLE NO.
LCS-74030

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Lab Sample ID: LCS-74030 LCS Lot No.:

Date Extracted: 09/30/2013 Date Analyzed (1): 09/30/2013

COMPOUND	SPIKE ADDED	SAMPLE CONCENTRATION	LCS CONCENTRATION	LCS %REC	#	QC. LIMITS REC.
Xylene (Total)	150.0000	0.0000	156.9512	105		81 - 121
Styrene	50.0000	0.0000	52.2030	104		65 - 135
Bromoform	50.0000	0.0000	51.5480	103		70 - 130
Isopropylbenzene	50.0000	0.0000	50.2306	100		75 - 125
1,1,2,2-Tetrachloroethane	50.0000	0.0000	42.5980	85		65 - 130
Bromobenzene	50.0000	0.0000	47.1602	94		75 - 125
1,2,3-Trichloropropane	50.0000	0.0000	45.3578	91		75 - 125
n-Propylbenzene	50.0000	0.0000	48.9401	98		70 - 130
2-Chlorotoluene	50.0000	0.0000	47.0629	94		75 - 125
1,3,5-Trimethylbenzene	50.0000	0.0000	49.1423	98		75 - 130
4-Chlorotoluene	50.0000	0.0000	50.3034	101		75 - 130
tert-Butylbenzene	50.0000	0.0000	53.3422	107		70 - 130
1,2,4-Trimethylbenzene	50.0000	0.0000	50.7649	102		75 - 130
sec-Butylbenzene	50.0000	0.0000	49.6605	99		70 - 125
4-Isopropyltoluene	50.0000	0.0000	50.8502	102		75 - 130
1,3-Dichlorobenzene	50.0000	0.0000	48.6190	97		75 - 125
1,4-Dichlorobenzene	50.0000	0.0000	47.2841	95		75 - 125
n-Butylbenzene	50.0000	0.0000	51.0938	102		70 - 135
1,2-Dichlorobenzene	50.0000	0.0000	49.2561	99		70 - 120
1,2-Dibromo-3-chloropropan	50.0000	0.0000	39.5066	79		50 - 130
1,2,4-Trichlorobenzene	50.0000	0.0000	46.2817	93		65 - 135
Hexachlorobutadiene	50.0000	0.0000	52.0747	104		50 - 140
1,2,3-Trichlorobenzene	50.0000	0.0000	50.1397	100		55 - 140
Naphthalene	50.0000	0.0000	37.1654	74		55 - 140

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

Spike Recovery: 0 out of 68 outside limits

COMMENTS:

3 - FORM III
WATER LABORATORY CONTROL
SAMPLE RECOVERY

CLIENT SAMPLE NO.
LCS-74047

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Lab Sample ID: LCS-74047 LCS Lot No.:

Date Extracted: 09/30/2013 Date Analyzed (1): 09/30/2013

COMPOUND	SPIKE ADDED	SAMPLE CONCENTRATION	LCS CONCENTRATION	LCS %REC	#	QC. LIMITS REC.
Dichlorodifluoromethane	50.0000	0.0000	53.3252	107		30 - 155
Chloromethane	50.0000	0.0000	53.8843	108		40 - 125
Vinyl chloride	50.0000	0.0000	55.1132	110		50 - 145
Bromomethane	50.0000	0.0000	46.6694	93		30 - 145
Chloroethane	50.0000	0.0000	53.4985	107		60 - 135
Trichlorofluoromethane	50.0000	0.0000	56.9005	114		60 - 145
1,1-Dichloroethene	50.0000	0.0000	55.0279	110		70 - 130
Acetone	50.0000	0.0000	40.2429	80		40 - 140
Iodomethane	50.0000	0.0000	57.2785	115		72 - 121
Carbon disulfide	50.0000	0.0000	56.8353	114		35 - 160
Methylene chloride	50.0000	0.0000	52.0471	104		55 - 140
trans-1,2-Dichloroethene	50.0000	0.0000	55.0262	110		60 - 140
Methyl tert-butyl ether	50.0000	0.0000	54.7057	109		65 - 125
1,1-Dichloroethane	50.0000	0.0000	55.9285	112		70 - 135
Vinyl acetate	50.0000	0.0000	58.7023	117		38 - 163
2-Butanone	50.0000	0.0000	44.6407	89		30 - 150
cis-1,2-Dichloroethene	50.0000	0.0000	52.8551	106		70 - 125
2,2-Dichloropropane	50.0000	0.0000	50.2935	101		70 - 135
Bromochloromethane	50.0000	0.0000	58.6105	117		65 - 130
Chloroform	50.0000	0.0000	56.2120	112		65 - 135
1,1,1-Trichloroethane	50.0000	0.0000	59.0129	118		65 - 130
1,1-Dichloropropene	50.0000	0.0000	56.9262	114		75 - 130
Carbon tetrachloride	50.0000	0.0000	59.8097	120		65 - 140
1,2-Dichloroethane	50.0000	0.0000	58.0965	116		70 - 130
Benzene	50.0000	0.0000	53.5666	107		80 - 120
Trichloroethene	50.0000	0.0000	50.2383	100		70 - 125
1,2-Dichloropropane	50.0000	0.0000	54.5659	109		75 - 125
Dibromomethane	50.0000	0.0000	56.4656	113		75 - 125
Bromodichloromethane	50.0000	0.0000	59.9609	120		75 - 120
cis-1,3-Dichloropropene	50.0000	0.0000	56.6537	113		70 - 130
4-Methyl-2-pentanone	50.0000	0.0000	50.7700	102		60 - 135
Toluene	50.0000	0.0000	54.1772	108		75 - 120
trans-1,3-Dichloropropene	50.0000	0.0000	50.8456	102		55 - 140
1,1,2-Trichloroethane	50.0000	0.0000	54.9677	110		75 - 125
1,3-Dichloropropane	50.0000	0.0000	49.4883	99		75 - 125
Tetrachloroethene	50.0000	0.0000	50.0498	100		45 - 150
2-Hexanone	50.0000	0.0000	41.6137	83		55 - 130
Dibromochloromethane	50.0000	0.0000	54.2295	108		60 - 135
1,2-Dibromoethane	50.0000	0.0000	50.7988	102		80 - 120
Chlorobenzene	50.0000	0.0000	50.7381	101		80 - 120
1,1,1,2-Tetrachloroethane	50.0000	0.0000	52.4919	105		80 - 130
Ethylbenzene	50.0000	0.0000	53.4326	107		75 - 125
m,p-Xylene	100.0000	0.0000	106.2014	106		75 - 130
o-Xylene	50.0000	0.0000	55.7709	112		80 - 120

3 - FORM III
WATER LABORATORY CONTROL
SAMPLE RECOVERY

CLIENT SAMPLE NO.
LCS-74047

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Lab Sample ID: LCS-74047 LCS Lot No.:

Date Extracted: 09/30/2013 Date Analyzed (1): 09/30/2013

COMPOUND	SPIKE ADDED	SAMPLE CONCENTRATION	LCS CONCENTRATION	LCS %REC	#	QC. LIMITS REC.
Xylene (Total)	150.0000	0.0000	161.9723	108		81 - 121
Styrene	50.0000	0.0000	51.0917	102		65 - 135
Bromoform	50.0000	0.0000	53.3443	107		70 - 130
Isopropylbenzene	50.0000	0.0000	54.0941	108		75 - 125
1,1,2,2-Tetrachloroethane	50.0000	0.0000	46.9512	94		65 - 130
Bromobenzene	50.0000	0.0000	45.3548	91		75 - 125
1,2,3-Trichloropropane	50.0000	0.0000	45.4535	91		75 - 125
n-Propylbenzene	50.0000	0.0000	48.3600	97		70 - 130
2-Chlorotoluene	50.0000	0.0000	46.8867	94		75 - 125
1,3,5-Trimethylbenzene	50.0000	0.0000	50.1519	100		75 - 130
4-Chlorotoluene	50.0000	0.0000	49.0846	98		75 - 130
tert-Butylbenzene	50.0000	0.0000	53.7600	108		70 - 130
1,2,4-Trimethylbenzene	50.0000	0.0000	50.0180	100		75 - 130
sec-Butylbenzene	50.0000	0.0000	49.3378	99		70 - 125
4-Isopropyltoluene	50.0000	0.0000	49.4486	99		75 - 130
1,3-Dichlorobenzene	50.0000	0.0000	48.0295	96		75 - 125
1,4-Dichlorobenzene	50.0000	0.0000	46.1664	92		75 - 125
n-Butylbenzene	50.0000	0.0000	49.3128	99		70 - 135
1,2-Dichlorobenzene	50.0000	0.0000	48.0706	96		70 - 120
1,2-Dibromo-3-chloropropan	50.0000	0.0000	44.1922	88		50 - 130
1,2,4-Trichlorobenzene	50.0000	0.0000	46.5691	93		65 - 135
Hexachlorobutadiene	50.0000	0.0000	47.0009	94		50 - 140
1,2,3-Trichlorobenzene	50.0000	0.0000	50.3751	101		55 - 140
Naphthalene	50.0000	0.0000	41.2662	83		55 - 140

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

Spike Recovery: 0 out of 68 outside limits

COMMENTS:

3 - FORM III
WATER LABORATORY CONTROL
SAMPLE RECOVERY

CLIENT SAMPLE NO.
LCS-74070

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Lab Sample ID: LCS-74070 LCS Lot No.:

Date Extracted: 10/01/2013 Date Analyzed (1): 10/01/2013

COMPOUND	SPIKE ADDED	SAMPLE CONCENTRATION	LCS CONCENTRATION	LCS %REC	#	QC. LIMITS REC.
Dichlorodifluoromethane	50.0000	0.0000	62.6216	125		30 - 155
Chloromethane	50.0000	0.0000	56.0194	112		40 - 125
Vinyl chloride	50.0000	0.0000	58.0451	116		50 - 145
Bromomethane	50.0000	0.0000	54.7507	110		30 - 145
Chloroethane	50.0000	0.0000	56.9742	114		60 - 135
Trichlorofluoromethane	50.0000	0.0000	63.7321	127		60 - 145
1,1-Dichloroethene	50.0000	0.0000	56.7185	113		70 - 130
Acetone	50.0000	0.0000	61.7704	124		40 - 140
Iodomethane	50.0000	0.0000	59.3727	119		72 - 121
Carbon disulfide	50.0000	0.0000	62.3821	125		35 - 160
Methylene chloride	50.0000	0.0000	54.3358	109		55 - 140
trans-1,2-Dichloroethene	50.0000	0.0000	55.8452	112		60 - 140
Methyl tert-butyl ether	50.0000	0.0000	56.8953	114		65 - 125
1,1-Dichloroethane	50.0000	0.0000	57.1781	114		70 - 135
Vinyl acetate	50.0000	0.0000	61.3146	123		38 - 163
2-Butanone	50.0000	0.0000	59.3600	119		30 - 150
cis-1,2-Dichloroethene	50.0000	0.0000	55.2478	110		70 - 125
2,2-Dichloropropane	50.0000	0.0000	64.6298	129		70 - 135
Bromochloromethane	50.0000	0.0000	60.2214	120		65 - 130
Chloroform	50.0000	0.0000	59.3209	119		65 - 135
1,1,1-Trichloroethane	50.0000	0.0000	62.3187	125		65 - 130
1,1-Dichloropropene	50.0000	0.0000	58.0920	116		75 - 130
Carbon tetrachloride	50.0000	0.0000	63.1285	126		65 - 140
1,2-Dichloroethane	50.0000	0.0000	61.3429	123		70 - 130
Benzene	50.0000	0.0000	55.4492	111		80 - 120
Trichloroethene	50.0000	0.0000	52.3588	105		70 - 125
1,2-Dichloropropane	50.0000	0.0000	57.0887	114		75 - 125
Dibromomethane	50.0000	0.0000	59.7177	119		75 - 125
Bromodichloromethane	50.0000	0.0000	63.1683	126	*	75 - 120
cis-1,3-Dichloropropene	50.0000	0.0000	61.1035	122		70 - 130
4-Methyl-2-pentanone	50.0000	0.0000	51.9947	104		60 - 135
Toluene	50.0000	0.0000	56.2012	112		75 - 120
trans-1,3-Dichloropropene	50.0000	0.0000	54.3462	109		55 - 140
1,1,2-Trichloroethane	50.0000	0.0000	55.9218	112		75 - 125
1,3-Dichloropropane	50.0000	0.0000	52.1404	104		75 - 125
Tetrachloroethene	50.0000	0.0000	49.6053	99		45 - 150
2-Hexanone	50.0000	0.0000	51.9180	104		55 - 130
Dibromochloromethane	50.0000	0.0000	57.3579	115		60 - 135
1,2-Dibromoethane	50.0000	0.0000	53.1074	106		80 - 120
Chlorobenzene	50.0000	0.0000	52.0746	104		80 - 120
1,1,1,2-Tetrachloroethane	50.0000	0.0000	55.4675	111		80 - 130
Ethylbenzene	50.0000	0.0000	53.9294	108		75 - 125
m,p-Xylene	100.0000	0.0000	109.2934	109		75 - 130
o-Xylene	50.0000	0.0000	55.8842	112		80 - 120

3 - FORM III
WATER LABORATORY CONTROL
SAMPLE RECOVERY

CLIENT SAMPLE NO.
LCS-74070

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Lab Sample ID: LCS-74070 LCS Lot No.:

Date Extracted: 10/01/2013 Date Analyzed (1): 10/01/2013

COMPOUND	SPIKE ADDED	SAMPLE CONCENTRATION	LCS CONCENTRATION	LCS %REC	#	QC. LIMITS REC.
Xylene (Total)	150.0000	0.0000	165.1776	110		81 - 121
Styrene	50.0000	0.0000	54.1827	108		65 - 135
Bromoform	50.0000	0.0000	56.0641	112		70 - 130
Isopropylbenzene	50.0000	0.0000	53.6099	107		75 - 125
1,1,2,2-Tetrachloroethane	50.0000	0.0000	45.3651	91		65 - 130
Bromobenzene	50.0000	0.0000	47.7505	96		75 - 125
1,2,3-Trichloropropane	50.0000	0.0000	47.3879	95		75 - 125
n-Propylbenzene	50.0000	0.0000	49.2807	99		70 - 130
2-Chlorotoluene	50.0000	0.0000	48.1938	96		75 - 125
1,3,5-Trimethylbenzene	50.0000	0.0000	49.5651	99		75 - 130
4-Chlorotoluene	50.0000	0.0000	49.3029	99		75 - 130
tert-Butylbenzene	50.0000	0.0000	48.2622	97		70 - 130
1,2,4-Trimethylbenzene	50.0000	0.0000	50.5297	101		75 - 130
sec-Butylbenzene	50.0000	0.0000	49.6031	99		70 - 125
4-Isopropyltoluene	50.0000	0.0000	50.8273	102		75 - 130
1,3-Dichlorobenzene	50.0000	0.0000	48.9188	98		75 - 125
1,4-Dichlorobenzene	50.0000	0.0000	48.2519	97		75 - 125
n-Butylbenzene	50.0000	0.0000	50.5817	101		70 - 135
1,2-Dichlorobenzene	50.0000	0.0000	49.2877	99		70 - 120
1,2-Dibromo-3-chloropropan	50.0000	0.0000	45.7126	91		50 - 130
1,2,4-Trichlorobenzene	50.0000	0.0000	47.0094	94		65 - 135
Hexachlorobutadiene	50.0000	0.0000	52.8997	106		50 - 140
1,2,3-Trichlorobenzene	50.0000	0.0000	50.7552	102		55 - 140
Naphthalene	50.0000	0.0000	41.0337	82		55 - 140

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

Spike Recovery: 1 out of 68 outside limits

COMMENTS:

3 - FORM III

WATER LABORATORY CONTROL

SAMPLE DUPLICATE RECOVERY

EPA SAMPLE NO.

LCSD-74002

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Lab Sample ID: LCSD-74002 LCS Lot No.:

COMPOUND	SPIKE ADDED	LCSD CONCENTRATION	LCSD %REC	#	%RPD	#	QC LIMITS RPD	QC LIMITS REC.
Dichlorodifluoromethane	50.0000	42.9578	86		11		40	30 - 155
Chloromethane	50.0000	44.7895	90		2		40	40 - 125
Vinyl chloride	50.0000	46.2207	92		2		40	50 - 145
Bromomethane	50.0000	44.3592	89		1		40	30 - 145
Chloroethane	50.0000	45.1545	90		1		40	60 - 135
Trichlorofluoromethane	50.0000	46.8691	94		9		40	60 - 145
1,1-Dichloroethene	50.0000	44.4435	89		1		40	70 - 130
Acetone	50.0000	31.4338	63		15		40	40 - 140
Iodomethane	50.0000	47.2727	95		3		40	72 - 121
Carbon disulfide	50.0000	48.3042	97		1		40	35 - 160
Methylene chloride	50.0000	45.3073	91		4		40	55 - 140
trans-1,2-Dichloroethene	50.0000	48.5179	97		0		40	60 - 140
Methyl tert-butyl ether	50.0000	46.1423	92		2		40	65 - 125
1,1-Dichloroethane	50.0000	47.6533	95		2		40	70 - 135
Vinyl acetate	50.0000	47.2838	95		4		40	38 - 163
2-Butanone	50.0000	36.7510	74		1		40	30 - 150
cis-1,2-Dichloroethene	50.0000	45.9513	92		5		40	70 - 125
2,2-Dichloropropane	50.0000	29.7683	60	*	3		40	70 - 135
Bromochloromethane	50.0000	49.9070	100		6		40	65 - 130
Chloroform	50.0000	47.5613	95		4		40	65 - 135
1,1,1-Trichloroethane	50.0000	49.0462	98		0		40	65 - 130
1,1-Dichloropropene	50.0000	50.4284	101		6		40	75 - 130
Carbon tetrachloride	50.0000	48.7855	98		0		40	65 - 140
1,2-Dichloroethane	50.0000	47.3482	95		4		40	70 - 130
Benzene	50.0000	46.8499	94		1		40	80 - 120
Trichloroethene	50.0000	43.5256	87		1		40	70 - 125
1,2-Dichloropropane	50.0000	47.6761	95		2		40	75 - 125
Dibromomethane	50.0000	47.2862	95		7		40	75 - 125
Bromodichloromethane	50.0000	48.3389	97		5		40	75 - 120
cis-1,3-Dichloropropene	50.0000	46.0869	92		3		40	70 - 130
4-Methyl-2-pentanone	50.0000	40.0945	80		1		40	60 - 135
Toluene	50.0000	47.2011	94		3		40	75 - 120
trans-1,3-Dichloropropene	50.0000	40.7597	82		5		40	55 - 140
1,1,2-Trichloroethane	50.0000	46.6320	93		2		40	75 - 125
1,3-Dichloropropane	50.0000	44.4556	89		5		40	75 - 125
Tetrachloroethene	50.0000	48.3724	97		4		40	45 - 150
2-Hexanone	50.0000	34.4055	69		4		40	55 - 130
Dibromochloromethane	50.0000	47.7823	96		6		40	60 - 135
1,2-Dibromoethane	50.0000	44.9267	90		4		40	80 - 120
Chlorobenzene	50.0000	46.0566	92		5		40	80 - 120
1,1,1,2-Tetrachloroethane	50.0000	46.5549	93		6		40	80 - 130
Ethylbenzene	50.0000	48.1579	96		5		40	75 - 125
m,p-Xylene	100.0000	97.1530	97		5		40	75 - 130
o-Xylene	50.0000	51.0389	102		2		40	80 - 120
Xylene (Total)	150.0000	148.1919	99		4		40	81 - 121
Styrene	50.0000	46.8875	94		7		40	65 - 135

3 - FORM III
WATER LABORATORY CONTROL
SAMPLE DUPLICATE RECOVERY

EPA SAMPLE NO.
LCSD-74002

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Lab Sample ID: LCSD-74002 LCS Lot No.:

COMPOUND	SPIKE ADDED	LCSD CONCENTRATION	LCSD %REC	#	%RPD	#	QC LIMITS RPD	QC LIMITS REC.
Bromoform	50.0000	45.3994	91		5		40	70 - 130
Isopropylbenzene	50.0000	48.4749	97		5		40	75 - 125
1,1,2,2-Tetrachloroethane	50.0000	40.5389	81		6		40	65 - 130
Bromobenzene	50.0000	43.9238	88		2		40	75 - 125
1,2,3-Trichloropropane	50.0000	41.4604	83		14		40	75 - 125
n-Propylbenzene	50.0000	46.5538	93		3		40	70 - 130
2-Chlorotoluene	50.0000	44.6287	89		4		40	75 - 125
1,3,5-Trimethylbenzene	50.0000	46.5010	93		2		40	75 - 130
4-Chlorotoluene	50.0000	45.2748	91		2		40	75 - 130
tert-Butylbenzene	50.0000	44.5519	89		2		40	70 - 130
1,2,4-Trimethylbenzene	50.0000	47.1771	94		2		40	75 - 130
sec-Butylbenzene	50.0000	46.2697	93		0		40	70 - 125
4-Isopropyltoluene	50.0000	46.1439	92		2		40	75 - 130
1,3-Dichlorobenzene	50.0000	45.0172	90		2		40	75 - 125
1,4-Dichlorobenzene	50.0000	43.2632	87		2		40	75 - 125
n-Butylbenzene	50.0000	45.6172	91		0		40	70 - 135
1,2-Dichlorobenzene	50.0000	44.3465	89		2		40	70 - 120
1,2-Dibromo-3-chloropropan	50.0000	37.2589	75		3		40	50 - 130
1,2,4-Trichlorobenzene	50.0000	42.2869	85		2		40	65 - 135
Hexachlorobutadiene	50.0000	42.8305	86		2		40	50 - 140
1,2,3-Trichlorobenzene	50.0000	45.2106	90		1		40	55 - 140
Naphthalene	50.0000	37.6126	75		4		40	55 - 140

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 68 outside limits

Spike Recovery: 1 out of 68 outside limits

COMMENTS:

3 - FORM III

WATER LABORATORY CONTROL

SAMPLE DUPLICATE RECOVERY

EPA SAMPLE NO.

LCSD-74047

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Lab Sample ID: LCSD-74047 LCS Lot No.:

COMPOUND	SPIKE ADDED	LCSD CONCENTRATION	LCSD %REC	#	%RPD	#	QC LIMITS RPD	QC LIMITS REC.
Dichlorodifluoromethane	50.0000	53.5091	107		0		40	30 - 155
Chloromethane	50.0000	53.4189	107		1		40	40 - 125
Vinyl chloride	50.0000	56.0310	112		2		40	50 - 145
Bromomethane	50.0000	50.2555	101		8		40	30 - 145
Chloroethane	50.0000	53.4840	107		0		40	60 - 135
Trichlorofluoromethane	50.0000	55.7893	112		2		40	60 - 145
1,1-Dichloroethene	50.0000	55.0010	110		0		40	70 - 130
Acetone	50.0000	36.1976	72		11		40	40 - 140
Iodomethane	50.0000	57.0294	114		1		40	72 - 121
Carbon disulfide	50.0000	57.4968	115		1		40	35 - 160
Methylene chloride	50.0000	52.6153	105		1		40	55 - 140
trans-1,2-Dichloroethene	50.0000	54.7651	110		0		40	60 - 140
Methyl tert-butyl ether	50.0000	54.9611	110		1		40	65 - 125
1,1-Dichloroethane	50.0000	56.0913	112		0		40	70 - 135
Vinyl acetate	50.0000	58.1146	116		1		40	38 - 163
2-Butanone	50.0000	44.5709	89		0		40	30 - 150
cis-1,2-Dichloroethene	50.0000	54.1114	108		2		40	70 - 125
2,2-Dichloropropane	50.0000	48.3718	97		4		40	70 - 135
Bromochloromethane	50.0000	56.7531	114		3		40	65 - 130
Chloroform	50.0000	57.3645	115		3		40	65 - 135
1,1,1-Trichloroethane	50.0000	58.8301	118		0		40	65 - 130
1,1-Dichloropropene	50.0000	56.2483	112		2		40	75 - 130
Carbon tetrachloride	50.0000	60.2068	120		0		40	65 - 140
1,2-Dichloroethane	50.0000	57.0035	114		2		40	70 - 130
Benzene	50.0000	53.9154	108		1		40	80 - 120
Trichloroethene	50.0000	51.0203	102		2		40	70 - 125
1,2-Dichloropropane	50.0000	54.0870	108		1		40	75 - 125
Dibromomethane	50.0000	57.8814	116		3		40	75 - 125
Bromodichloromethane	50.0000	60.0539	120	*	0		40	75 - 120
cis-1,3-Dichloropropene	50.0000	56.7764	114		1		40	70 - 130
4-Methyl-2-pentanone	50.0000	50.5596	101		1		40	60 - 135
Toluene	50.0000	54.8714	110		2		40	75 - 120
trans-1,3-Dichloropropene	50.0000	49.7654	100		2		40	55 - 140
1,1,2-Trichloroethane	50.0000	53.6173	107		3		40	75 - 125
1,3-Dichloropropane	50.0000	51.1127	102		3		40	75 - 125
Tetrachloroethene	50.0000	52.3014	105		5		40	45 - 150
2-Hexanone	50.0000	42.4305	85		2		40	55 - 130
Dibromochloromethane	50.0000	55.6848	111		3		40	60 - 135
1,2-Dibromoethane	50.0000	52.5884	105		3		40	80 - 120
Chlorobenzene	50.0000	51.3458	103		2		40	80 - 120
1,1,1,2-Tetrachloroethane	50.0000	54.1310	108		3		40	80 - 130
Ethylbenzene	50.0000	54.3199	109		2		40	75 - 125
m,p-Xylene	100.0000	107.7561	108		2		40	75 - 130
o-Xylene	50.0000	55.5073	111		1		40	80 - 120
Xylene (Total)	150.0000	163.2634	109		1		40	81 - 121
Styrene	50.0000	53.0337	106		4		40	65 - 135

3 - FORM III
WATER LABORATORY CONTROL
SAMPLE DUPLICATE RECOVERY

EPA SAMPLE NO.
LCSD-74047

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Lab Sample ID: LCSD-74047 LCS Lot No.:

COMPOUND	SPIKE ADDED	LCSD CONCENTRATION	LCSD %REC	#	%RPD	#	QC LIMITS RPD	QC LIMITS REC.
Bromoform	50.0000	54.6409	109		2		40	70 - 130
Isopropylbenzene	50.0000	55.6473	111		3		40	75 - 125
1,1,2,2-Tetrachloroethane	50.0000	46.1913	92		2		40	65 - 130
Bromobenzene	50.0000	46.9119	94		3		40	75 - 125
1,2,3-Trichloropropane	50.0000	47.2312	94		3		40	75 - 125
n-Propylbenzene	50.0000	49.6681	99		2		40	70 - 130
2-Chlorotoluene	50.0000	49.5034	99		5		40	75 - 125
1,3,5-Trimethylbenzene	50.0000	52.1648	104		4		40	75 - 130
4-Chlorotoluene	50.0000	50.8235	102		4		40	75 - 130
tert-Butylbenzene	50.0000	49.7407	99		9		40	70 - 130
1,2,4-Trimethylbenzene	50.0000	52.6392	105		5		40	75 - 130
sec-Butylbenzene	50.0000	51.7604	104		5		40	70 - 125
4-Isopropyltoluene	50.0000	51.3684	103		4		40	75 - 130
1,3-Dichlorobenzene	50.0000	50.2047	100		4		40	75 - 125
1,4-Dichlorobenzene	50.0000	48.3379	97		5		40	75 - 125
n-Butylbenzene	50.0000	51.5233	103		4		40	70 - 135
1,2-Dichlorobenzene	50.0000	49.3737	99		3		40	70 - 120
1,2-Dibromo-3-chloropropan	50.0000	47.0190	94		7		40	50 - 130
1,2,4-Trichlorobenzene	50.0000	48.1171	96		3		40	65 - 135
Hexachlorobutadiene	50.0000	50.5745	101		7		40	50 - 140
1,2,3-Trichlorobenzene	50.0000	52.5580	105		4		40	55 - 140
Naphthalene	50.0000	43.2450	86		4		40	55 - 140

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 68 outside limits

Spike Recovery: 1 out of 68 outside limits

COMMENTS:

3 - FORM III

WATER LABORATORY CONTROL

SAMPLE DUPLICATE RECOVERY

EPA SAMPLE NO.

LCSD-74070

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Lab Sample ID: LCSD-74070 LCS Lot No.:

COMPOUND	SPIKE ADDED	LCSD CONCENTRATION	LCSD %REC	#	%RPD	#	QC LIMITS RPD	QC LIMITS REC.
Dichlorodifluoromethane	50.0000	53.0705	106		16		40	30 - 155
Chloromethane	50.0000	51.6387	103		8		40	40 - 125
Vinyl chloride	50.0000	50.0992	100		15		40	50 - 145
Bromomethane	50.0000	51.3299	103		7		40	30 - 145
Chloroethane	50.0000	51.1232	102		11		40	60 - 135
Trichlorofluoromethane	50.0000	54.0545	108		16		40	60 - 145
1,1-Dichloroethene	50.0000	51.7458	103		9		40	70 - 130
Acetone	50.0000	56.2874	113		9		40	40 - 140
Iodomethane	50.0000	56.5443	113		5		40	72 - 121
Carbon disulfide	50.0000	53.3762	107		16		40	35 - 160
Methylene chloride	50.0000	52.7544	106		3		40	55 - 140
trans-1,2-Dichloroethene	50.0000	53.0485	106		6		40	60 - 140
Methyl tert-butyl ether	50.0000	55.9227	112		2		40	65 - 125
1,1-Dichloroethane	50.0000	56.1311	112		2		40	70 - 135
Vinyl acetate	50.0000	60.1521	120		2		40	38 - 163
2-Butanone	50.0000	53.2043	106		12		40	30 - 150
cis-1,2-Dichloroethene	50.0000	52.5203	105		5		40	70 - 125
2,2-Dichloropropane	50.0000	58.9574	118		9		40	70 - 135
Bromochloromethane	50.0000	56.6116	113		6		40	65 - 130
Chloroform	50.0000	56.5920	113		5		40	65 - 135
1,1,1-Trichloroethane	50.0000	56.0347	112		11		40	65 - 130
1,1-Dichloropropene	50.0000	53.0033	106		9		40	75 - 130
Carbon tetrachloride	50.0000	57.4191	115		9		40	65 - 140
1,2-Dichloroethane	50.0000	59.1071	118		4		40	70 - 130
Benzene	50.0000	51.3999	103		7		40	80 - 120
Trichloroethene	50.0000	48.8295	98		7		40	70 - 125
1,2-Dichloropropane	50.0000	54.6955	109		4		40	75 - 125
Dibromomethane	50.0000	57.6751	115		3		40	75 - 125
Bromodichloromethane	50.0000	59.8959	120		5		40	75 - 120
cis-1,3-Dichloropropene	50.0000	58.2876	117		4		40	70 - 130
4-Methyl-2-pentanone	50.0000	51.8369	104		0		40	60 - 135
Toluene	50.0000	52.5852	105		6		40	75 - 120
trans-1,3-Dichloropropene	50.0000	52.6000	105		4		40	55 - 140
1,1,2-Trichloroethane	50.0000	55.2103	110		2		40	75 - 125
1,3-Dichloropropane	50.0000	49.0436	98		6		40	75 - 125
Tetrachloroethene	50.0000	45.9596	92		7		40	45 - 150
2-Hexanone	50.0000	48.7189	97		7		40	55 - 130
Dibromochloromethane	50.0000	54.6768	109		5		40	60 - 135
1,2-Dibromoethane	50.0000	53.2572	107		1		40	80 - 120
Chlorobenzene	50.0000	49.4166	99		5		40	80 - 120
1,1,1,2-Tetrachloroethane	50.0000	53.6450	107		4		40	80 - 130
Ethylbenzene	50.0000	50.3911	101		7		40	75 - 125
m,p-Xylene	100.0000	104.0661	104		5		40	75 - 130
o-Xylene	50.0000	53.7119	107		5		40	80 - 120
Xylene (Total)	150.0000	157.7780	105		5		40	81 - 121
Styrene	50.0000	51.4847	103		5		40	65 - 135

3 - FORM III
WATER LABORATORY CONTROL
SAMPLE DUPLICATE RECOVERY

EPA SAMPLE NO.
LCSD-74070

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Lab Sample ID: LCSD-74070 LCS Lot No.:

COMPOUND	SPIKE ADDED	LCSD CONCENTRATION	LCSD %REC	#	%RPD	#	QC LIMITS RPD	QC LIMITS REC.
Bromoform	50.0000	55.1593	110		2		40	70 - 130
Isopropylbenzene	50.0000	51.7988	104		3		40	75 - 125
1,1,2,2-Tetrachloroethane	50.0000	45.6862	91		0		40	65 - 130
Bromobenzene	50.0000	45.6639	91		5		40	75 - 125
1,2,3-Trichloropropane	50.0000	47.5605	95		0		40	75 - 125
n-Propylbenzene	50.0000	46.4117	93		6		40	70 - 130
2-Chlorotoluene	50.0000	45.8160	92		4		40	75 - 125
1,3,5-Trimethylbenzene	50.0000	48.2724	97		2		40	75 - 130
4-Chlorotoluene	50.0000	48.8835	98		1		40	75 - 130
tert-Butylbenzene	50.0000	48.4813	97		0		40	70 - 130
1,2,4-Trimethylbenzene	50.0000	49.1239	98		3		40	75 - 130
sec-Butylbenzene	50.0000	48.0926	96		3		40	70 - 125
4-Isopropyltoluene	50.0000	48.4832	97		5		40	75 - 130
1,3-Dichlorobenzene	50.0000	47.5699	95		3		40	75 - 125
1,4-Dichlorobenzene	50.0000	46.6289	93		4		40	75 - 125
n-Butylbenzene	50.0000	49.4811	99		2		40	70 - 135
1,2-Dichlorobenzene	50.0000	47.4880	95		4		40	70 - 120
1,2-Dibromo-3-chloropropan	50.0000	45.8612	92		1		40	50 - 130
1,2,4-Trichlorobenzene	50.0000	46.7680	94		0		40	65 - 135
Hexachlorobutadiene	50.0000	47.5903	95		11		40	50 - 140
1,2,3-Trichlorobenzene	50.0000	50.3303	101		1		40	55 - 140
Naphthalene	50.0000	43.6164	87		6		40	55 - 140

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 68 outside limits

Spike Recovery: 0 out of 68 outside limits

COMMENTS:

4A - FORM IV VOA

VOLATILE METHOD BLANK SUMMARY

CLIENT SAMPLE NO.

MB-73996

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Lab File ID: V8D0932.D Lab Sample ID: MB-73996

Instrument ID: V10

Matrix: (SOIL/SED/WATER) WATER Date Analyzed: 09/28/2013

Level: (TRACE or LOW/MED) LOW Time Analyzed: 3:57

GC Column: DB-624 ID: 0.25 (mm) Heated Purge: (Y/N) N

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	LCS-73996	LCS-73996	V8D0930.D	3:03
02	TB091713	M1749-03A	V8D0936.D	5:44
03	TB091813	M1749-06A	V8D0937.D	6:11
04	MW-195-1-I-CSIA	M1749-01A	V8D0938.D	6:39
05	MW-NEMF-3-D	M1749-02A	V8D0939.D	7:06
06	MW-NEMF-2-D	M1749-04A	V8D0940.D	7:33
07	EW-7C-CSIA	M1749-05A	V8D0941.D	8:00
08	MW-301-1-S-CSIA	M1749-07A	V8D0947.D	10:44

COMMENTS:

som13.08.22.A

4A - FORM IV VOA
VOLATILE METHOD BLANK SUMMARY

CLIENT SAMPLE NO.
MB-74002

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Lab File ID: V8D0985.D Lab Sample ID: MB-74002

Instrument ID: V10

Matrix: (SOIL/SED/WATER) WATER Date Analyzed: 09/29/2013

Level: (TRACE or LOW/MED) LOW Time Analyzed: 4:12

GC Column: DB-624 ID: 0.25 (mm) Heated Purge: (Y/N) N

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	LCS-74002	LCS-74002	V8D0982.D	2:50
02	LCSD-74002	LCSD-74002	V8D0983.D	3:17
03	MW-412-1-S	M1749-08A	V8D1000.D	10:59

COMMENTS:

som13.08.22.A

4A - FORM IV VOA

VOLATILE METHOD BLANK SUMMARY

CLIENT SAMPLE NO.

MB-74030

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Lab File ID: V8D1014.D Lab Sample ID: MB-74030

Instrument ID: V10

Matrix: (SOIL/SED/WATER) WATER Date Analyzed: 09/30/2013

Level: (TRACE or LOW/MED) LOW Time Analyzed: 9:28

GC Column: DB-624 ID: 0.25 (mm) Heated Purge: (Y/N) N

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	LCS-74030	LCS-74030	V8D1012.D	8:21
02	TB091913	M1749-09A	V8D1031.D	17:18
03	EW-7D-CSIA	M1749-10A	V8D1032.D	17:46

COMMENTS:

som13.08.22.A

4A - FORM IV VOA
VOLATILE METHOD BLANK SUMMARY

CLIENT SAMPLE NO.
MB-74047

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Lab File ID: V8D1042.D Lab Sample ID: MB-74047

Instrument ID: V10

Matrix: (SOIL/SED/WATER) WATER Date Analyzed: 09/30/2013

Level: (TRACE or LOW/MED) LOW Time Analyzed: 22:21

GC Column: DB-624 ID: 0.25 (mm) Heated Purge: (Y/N) N

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	LCS-74047	LCS-74047	V8D1039.D	21:00
02	LCSD-74047	LCSD-74047	V8D1040.D	21:27
03	EW-7C-CSIADL	M1749-05ADL	V8D1049.D	1:31
04	MW-301-1-S-CSIADL	M1749-07ADL	V8D1050.D	1:59
05	MW-412-1-SDL	M1749-08ADL	V8D1051.D	2:26
06	FB092013	M1749-11A	V8D1052.D	2:53
07	TB092013	M1749-12A	V8D1053.D	3:20

COMMENTS:

som13.08.22.A

4A - FORM IV VOA

VOLATILE METHOD BLANK SUMMARY

CLIENT SAMPLE NO.

MB-74070

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

Lab File ID: V8D1075.D Lab Sample ID: MB-74070

Instrument ID: V10

Matrix: (SOIL/SED/WATER) WATER Date Analyzed: 10/01/2013

Level: (TRACE or LOW/MED) LOW Time Analyzed: 10:55

GC Column: DB-624 ID: 0.25 (mm) Heated Purge: (Y/N) N

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	LCS-74070	LCS-74070	V8D1072.D	9:32
02	LCSD-74070	LCSD-74070	V8D1073.D	9:59
03	EW-7C-CSIAMS	M1749-05AMS	V8D1089.D	17:23
04	EW-7C-CSIAMSD	M1749-05AMSD	V8D1090.D	17:50

COMMENTS:

som13.08.22.A

8A - FORM VIII VOA

VOLATILE INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

GC Column: DB-624 ID: 0.25 (mm) Init. Calib. Date(s): 09/26/2013 09/26/2013

EPA Sample No.(VSTD#####): VSTD05010E Date Analyzed: 09/28/2013

Lab File ID (Standard): V8D0928.D Time Analyzed: 2:09

Instrument ID: V10 Heated Purge: (Y/N) N

		IS1 (S1) AREA	#	RT	#	IS2 (S2) AREA	#	RT	#	IS3 (S3) AREA	#	RT	#
	12 HOUR STD	176180		5.236		153889		8.223		97888		10.725	
	UPPER LIMIT	352360		5.736		307778		8.723		195776		11.225	
	LOWER LIMIT	88090		4.736		76945		7.723		48944		10.225	
	SAMPLE NO.												
01	LCS-73996	175789		5.236		156515		8.223		98738		10.728	
02	MB-73996	168902		5.239		142592		8.226		74337		10.728	
03	TB091713	158089		5.239		135507		8.226		70673		10.728	
04	TB091813	154522		5.236		133691		8.226		72649		10.731	
05	MW-195-1-I-CSIA	154929		5.236		133470		8.226		72055		10.728	
06	MW-NEMF-3-D	153408		5.239		136797		8.223		70433		10.728	
07	MW-NEMF-2-D	153372		5.239		136583		8.223		70839		10.728	
08	EW-7C-CSIA	155118		5.239		134211		8.226		70504		10.731	
09	MW-301-1-S-CSIA	148541		5.239		129753		8.223		70358		10.728	

IS1 () = Fluorobenzene
IS2 () = Chlorobenzene-d5
IS3 () = 1,4-Dichlorobenzene-d4
AREA UPPER LIMIT = 200% (Low-Medium Volatiles) and 140% (Trace Volatiles) of internal standard area
AREA LOWER LIMIT = 50% (Low-Medium Volatiles) and 60% (Trace Volatiles) of internal standard area
RT UPPER LIMIT = +0.50 (Low-Medium Volatiles) and +0.33 (Trace Volatiles) minutes of internal standard RT
RT LOWER LIMIT = -0.50 (Low-Medium Volatiles) and -0.33 (Trace Volatiles) minutes of internal standard RT

Column used to flag values outside contract required QC limits with an asterisk.

8A - FORM VIII VOA

VOLATILE INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

GC Column: DB-624 ID: 0.25 (mm) Init. Calib. Date(s): 09/28/2013 09/28/2013

EPA Sample No.(VSTD#####): VSTD05010G Date Analyzed: 09/29/2013

Lab File ID (Standard): V8D0981.D Time Analyzed: 2:23

Instrument ID: V10 Heated Purge: (Y/N) N

		IS1 (S1) AREA	#	RT	#	IS2 (S2) AREA	#	RT	#	IS3 (S3) AREA	#	RT	#
	12 HOUR STD	156402		5.239		141629		8.226		91940		10.728	
	UPPER LIMIT	312804		5.739		283258		8.726		183880		11.228	
	LOWER LIMIT	78201		4.739		70815		7.726		45970		10.228	
	SAMPLE NO.												
01	LCS-74002	159654		5.239		142919		8.223		92866		10.725	
02	LCSD-74002	160595		5.239		147219		8.226		94114		10.728	
03	MB-74002	148073		5.239		130610		8.226		69558		10.728	
04	MW-412-1-S	128960		5.236		117202		8.223		62648		10.728	

IS1 () = Fluorobenzene
IS2 () = Chlorobenzene-d5
IS3 () = 1,4-Dichlorobenzene-d4
AREA UPPER LIMIT = 200% (Low-Medium Volatiles) and 140% (Trace Volatiles) of internal standard area
AREA LOWER LIMIT = 50% (Low-Medium Volatiles) and 60% (Trace Volatiles) of internal standard area
RT UPPER LIMIT = +0.50 (Low-Medium Volatiles) and +0.33 (Trace Volatiles) minutes of internal standard RT
RT LOWER LIMIT = -0.50 (Low-Medium Volatiles) and -0.33 (Trace Volatiles) minutes of internal standard RT

Column used to flag values outside contract required QC limits with an asterisk.

som13.08.22.A

8A - FORM VIII VOA

VOLATILE INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

GC Column: DB-624 ID: 0.25 (mm) Init. Calib. Date(s): 09/28/2013 09/28/2013

EPA Sample No.(VSTD#####): VSTD05010H Date Analyzed: 09/30/2013

Lab File ID (Standard): V8D1011.D Time Analyzed: 7:35

Instrument ID: V10 Heated Purge: (Y/N) N

		IS1 (S1) AREA	#	RT	#	IS2 (S2) AREA	#	RT	#	IS3 (S3) AREA	#	RT	#
	12 HOUR STD	146070		5.236		137195		8.223		91283		10.725	
	UPPER LIMIT	292140		5.736		274390		8.723		182566		11.225	
	LOWER LIMIT	73035		4.736		68598		7.723		45642		10.225	
	SAMPLE NO.												
01	LCS-74030	152733		5.239		143195		8.223		90976		10.728	
02	MB-74030	141858		5.236		127272		8.223		69326		10.728	
03	TB091913	121793		5.239		116334		8.223		62241		10.731	
04	EW-7D-CSIA	126800		5.236		119521		8.223		63192		10.731	

IS1 () = Fluorobenzene
IS2 () = Chlorobenzene-d5
IS3 () = 1,4-Dichlorobenzene-d4
AREA UPPER LIMIT = 200% (Low-Medium Volatiles) and 140% (Trace Volatiles) of internal standard area
AREA LOWER LIMIT = 50% (Low-Medium Volatiles) and 60% (Trace Volatiles) of internal standard area
RT UPPER LIMIT = +0.50 (Low-Medium Volatiles) and +0.33 (Trace Volatiles) minutes of internal standard RT
RT LOWER LIMIT = -0.50 (Low-Medium Volatiles) and -0.33 (Trace Volatiles) minutes of internal standard RT

Column used to flag values outside contract required QC limits with an asterisk.

som13.08.22.A

8A - FORM VIII VOA

VOLATILE INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

GC Column: DB-624 ID: 0.25 (mm) Init. Calib. Date(s): 09/28/2013 09/28/2013

EPA Sample No.(VSTD#####): VSTD05010I Date Analyzed: 09/30/2013

Lab File ID (Standard): V8D1038.D Time Analyzed: 20:32

Instrument ID: V10 Heated Purge: (Y/N) N

		IS1 (S1) AREA	#	RT	#	IS2 (S2) AREA	#	RT	#	IS3 (S3) AREA	#	RT	#
	12 HOUR STD	139805		5.239		131217		8.223		89862		10.725	
	UPPER LIMIT	279610		5.739		262434		8.723		179724		11.225	
	LOWER LIMIT	69903		4.739		65609		7.723		44931		10.225	
	SAMPLE NO.												
01	LCS-74047	139497		5.236		134496		8.226		90708		10.725	
02	LCSD-74047	142856		5.236		136347		8.226		89196		10.728	
03	MB-74047	132719		5.236		124949		8.226		65121		10.728	
04	EW-7C-CSIADL	122284		5.236		114284		8.223		60439		10.728	
05	MW-301-1-S-CSIADL	123703		5.239		114937		8.226		60841		10.728	
06	MW-412-1-SDL	119190		5.239		111732		8.226		58557		10.728	
07	FB092013	116788		5.239		107238		8.226		57525		10.728	
08	TB092013	117298		5.239		107583		8.223		56473		10.728	

IS1 () = Fluorobenzene
IS2 () = Chlorobenzene-d5
IS3 () = 1,4-Dichlorobenzene-d4
AREA UPPER LIMIT = 200% (Low-Medium Volatiles) and 140% (Trace Volatiles) of internal standard area
AREA LOWER LIMIT = 50% (Low-Medium Volatiles) and 60% (Trace Volatiles) of internal standard area
RT UPPER LIMIT = +0.50 (Low-Medium Volatiles) and +0.33 (Trace Volatiles) minutes of internal standard RT
RT LOWER LIMIT = -0.50 (Low-Medium Volatiles) and -0.33 (Trace Volatiles) minutes of internal standard RT

Column used to flag values outside contract required QC limits with an asterisk.

8A - FORM VIII VOA

VOLATILE INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M1749 Mod. Ref No.: SDG No.: SM1749

GC Column: DB-624 ID: 0.25 (mm) Init. Calib. Date(s): 09/28/2013 09/28/2013

EPA Sample No.(VSTD#####): VSTD05010J Date Analyzed: 10/01/2013

Lab File ID (Standard): V8D1071.D Time Analyzed: 8:42

Instrument ID: V10 Heated Purge: (Y/N) N

		IS1 (S1) AREA	#	RT	#	IS2 (S2) AREA	#	RT	#	IS3 (S3) AREA	#	RT	#
	12 HOUR STD	125911		5.236		121674		8.223		82728		10.728	
	UPPER LIMIT	251822		5.736		243348		8.723		165456		11.228	
	LOWER LIMIT	62956		4.736		60837		7.723		41364		10.228	
	SAMPLE NO.												
01	LCS-74070	132601		5.236		126655		8.223		84998		10.728	
02	LCSD-74070	135769		5.236		131230		8.226		87328		10.728	
03	MB-74070	128295		5.239		119329		8.227		64423		10.728	
04	EW-7C-CSIAMS	121746		5.239		122711		8.223		83013		10.728	
05	EW-7C-CSIAMSD	126289		5.239		128034		8.223		86760		10.728	

IS1 () = Fluorobenzene
IS2 () = Chlorobenzene-d5
IS3 () = 1,4-Dichlorobenzene-d4
AREA UPPER LIMIT = 200% (Low-Medium Volatiles) and 140% (Trace Volatiles) of internal standard area
AREA LOWER LIMIT = 50% (Low-Medium Volatiles) and 60% (Trace Volatiles) of internal standard area
RT UPPER LIMIT = +0.50 (Low-Medium Volatiles) and +0.33 (Trace Volatiles) minutes of internal standard RT
RT LOWER LIMIT = -0.50 (Low-Medium Volatiles) and -0.33 (Trace Volatiles) minutes of internal standard RT

Column used to flag values outside contract required QC limits with an asterisk.

Report Date:
19-Nov-13 15:17

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

☑ Final Report
☐ Re-Issued Report
☐ Revised Report

Laboratory Report

HDR LMS, Inc.
One Blue Hill Plaza
Pearl River, NY 10965-

Work Order: M2168
Project : Aluminum Louvre
Project #:

Attn: Patricia Parvis

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
M2168-01	MW-NEMF-1-D	Aqueous	04-Nov-13 12:35	06-Nov-13 11:06
M2168-02	MW-NEMF-1-I	Aqueous	04-Nov-13 14:00	06-Nov-13 11:06
M2168-03	MW-NEMF-1-S	Aqueous	04-Nov-13 14:25	06-Nov-13 11:06
M2168-04	MW-NEMF-2-S	Aqueous	04-Nov-13 16:50	06-Nov-13 11:06
M2168-05	MW-NEMF-2-I	Aqueous	04-Nov-13 17:05	06-Nov-13 11:06
M2168-06	TB-11042013	Aqueous	04-Nov-13 00:00	06-Nov-13 11:06
M2168-07	MW-NEMF-2-D	Aqueous	05-Nov-13 09:40	06-Nov-13 08:42
M2168-08	MW-NEMF-3-S	Aqueous	05-Nov-13 11:00	06-Nov-13 08:42
M2168-09	MW-NEMF-3-D	Aqueous	05-Nov-13 11:10	06-Nov-13 08:42
M2168-10	MW-NEMF-3-I	Aqueous	05-Nov-13 12:45	06-Nov-13 08:42
M2168-11	MW-195-1-S	Aqueous	05-Nov-13 17:05	06-Nov-13 08:42
M2168-12	MW-195-1-I	Aqueous	05-Nov-13 16:35	06-Nov-13 08:42
M2168-13	TB-11052013	Aqueous	05-Nov-13 00:00	06-Nov-13 08:42
M2168-14	MW-195-1-D	Aqueous	06-Nov-13 09:20	07-Nov-13 09:00
M2168-15	MW-206-2-D	Aqueous	06-Nov-13 09:25	07-Nov-13 09:00
M2168-16	MW-303-1-I	Aqueous	06-Nov-13 11:50	07-Nov-13 09:00
M2168-17	RB-11062013	Aqueous	06-Nov-13 12:00	07-Nov-13 09:00
M2168-18	MW-303-1-D	Aqueous	06-Nov-13 12:30	07-Nov-13 09:00
M2168-19	MW-303-1-S	Aqueous	06-Nov-13 13:50	07-Nov-13 09:00
M2168-20	TB-11062013	Aqueous	06-Nov-13 00:00	07-Nov-13 09:00

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. The results relate only to the samples(s) as received. This report may not be reproduced, except in full, without written approval from Spectrum Analytical.

All applicable NELAC or USEPA CLP requirments have been meet.

Spectrum Analytical (Rhode Island) is accredited under the National Environmental Laboratory Approval Program (NELAP) and DoD Environmental Laboratory Accreditation Program (ELAP), holds Organic and Inorganic contracts under the USEPA CLP Program and is certified under several states. The current list of our laboratory approvals and certifications is available on the Certifications page on our web site at www.spectrum-analytical.com.

Please contact the Laboratory or Technical Director at 401-732-3400 with any questions regarding the data contained in the laboratory report.

Department of Defense	N/A
Connecticut	PH-0153
Delaware	N/A
Florida	E87664
Maine	2007037
Massachusetts	M-RI907
New Hampshire	2631
New Jersey	RI001
New York	11522
North Carolina	581
Rhode Island	LAI00301
USDA	P330-08-00023
USEPA - ISM	EP-W-09-039
USEPA - SOM	EP-W-11-033

NELAP ACCREDITED TNI LABORATORY

LABORATORY ACCREDITATION BUREAU ACCREDITED
DoD ELAP
Certificate # L2247 Testing

Authorized by:

Yihai Ding
Laboratory Director

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

* Data Summary Pack *

175 Metro Center Boulevard · Warwick, RI 02886-1755 · 401-732-3400 · FAX 401-732-3499
www.spectrum-analytical.com

Spectrum Analytical Inc. - North Kingstown RI -- Rhode Island Division

New York State Department of Environmental Conservation
Sample Identification and Analytical Requirements Summary

Project Name : Aluminum Louvre **SDG :** M2168

Customer Sample ID	Laboratory Sample ID	Analytical Requirements				
		MSVOA Method #	MSSEMI Method #	GC* Method #	ME	Other
MW-NEMF-1-D	M2168-01	SW8260_W				
MW-NEMF-1-I	M2168-02	SW8260_W				
MW-NEMF-1-S	M2168-03	SW8260_W				
MW-NEMF-2-S	M2168-04	SW8260_W				
MW-NEMF-2-I	M2168-05	SW8260_W				
TB-11042013	M2168-06	SW8260_W				
MW-NEMF-2-D	M2168-07	SW8260_W				
MW-NEMF-3-S	M2168-08	SW8260_W				
MW-NEMF-3-D	M2168-09	SW8260_W				
MW-NEMF-3-I	M2168-10	SW8260_W				
MW-195-1-S	M2168-11	SW8260_W				
MW-195-1-I	M2168-12	SW8260_W				
TB-11052013	M2168-13	SW8260_W				
MW-195-1-D	M2168-14	SW8260_W				
MW-206-2-D	M2168-15	SW8260_W				
MW-303-1-I	M2168-16	SW8260_W				
RB-11062013	M2168-17	SW8260_W				
MW-303-1-D	M2168-18	SW8260_W				
MW-303-1-S	M2168-19	SW8260_W				
TB-11062013	M2168-20	SW8260_W				

Spectrum Analytical Inc. - North Kingstown RI -- Rhode Island Division

New York State Department of Environmental Conservation
Sample Preparation and Analysis Summary MSVOA

Project Name : Aluminum Louvre **SDG :** M2168

Laboratory Sample ID	Matrix	Date Collected	Date Received By Lab	Date Extracted	Date Analyzed
SW8260_W					
M2168-01A	AQ	11/4/2013	11/6/2013	NA	11/7/2013
M2168-02A	AQ	11/4/2013	11/6/2013	NA	11/7/2013
M2168-03A	AQ	11/4/2013	11/6/2013	NA	11/7/2013
M2168-04A	AQ	11/4/2013	11/6/2013	NA	11/7/2013
M2168-05A	AQ	11/4/2013	11/6/2013	NA	11/7/2013
M2168-06A	AQ	11/4/2013	11/6/2013	NA	11/7/2013
M2168-07A	AQ	11/5/2013	11/6/2013	NA	11/7/2013
M2168-08A	AQ	11/5/2013	11/6/2013	NA	11/7/2013
M2168-09A	AQ	11/5/2013	11/6/2013	NA	11/11/2013
M2168-09AMS	AQ	11/5/2013	11/6/2013	NA	11/11/2013
M2168-09AMSD	AQ	11/5/2013	11/6/2013	NA	11/11/2013
M2168-10A	AQ	11/5/2013	11/6/2013	NA	11/7/2013
M2168-11A	AQ	11/5/2013	11/6/2013	NA	11/11/2013
M2168-12A	AQ	11/5/2013	11/6/2013	NA	11/11/2013
M2168-13A	AQ	11/5/2013	11/6/2013	NA	11/11/2013
M2168-14A	AQ	11/6/2013	11/7/2013	NA	11/11/2013
M2168-15A	AQ	11/6/2013	11/7/2013	NA	11/11/2013
M2168-16A	AQ	11/6/2013	11/7/2013	NA	11/11/2013
M2168-17A	AQ	11/6/2013	11/7/2013	NA	11/11/2013
M2168-18A	AQ	11/6/2013	11/7/2013	NA	11/11/2013
M2168-19A	AQ	11/6/2013	11/7/2013	NA	11/11/2013
M2168-20A	AQ	11/6/2013	11/7/2013	NA	11/11/2013

Spectrum Analytical Inc. - North Kingstown RI -- Rhode Island Division

New York State Department of Environmental Conservation
Sample Preparation and Analysis Summary MSVOA

Project Name : Aluminum Louvre **SDG :** M2168

Laboratory Sample ID	Matrix	Analytical Protocol	Extraction Method	Low/Medium Level	Dil/Conc Factor
SW8260_W					
M2168-01A	AQ	SW8260_W	NA	LOW	1
M2168-02A	AQ	SW8260_W	NA	LOW	1
M2168-03A	AQ	SW8260_W	NA	LOW	1
M2168-04A	AQ	SW8260_W	NA	LOW	1
M2168-05A	AQ	SW8260_W	NA	LOW	1
M2168-06A	AQ	SW8260_W	NA	LOW	1
M2168-07A	AQ	SW8260_W	NA	LOW	1
M2168-08A	AQ	SW8260_W	NA	LOW	1
M2168-09A	AQ	SW8260_W	NA	LOW	1
M2168-09AMS	AQ	SW8260_W	NA	LOW	1
M2168-09AMSD	AQ	SW8260_W	NA	LOW	1
M2168-10A	AQ	SW8260_W	NA	LOW	1
M2168-11A	AQ	SW8260_W	NA	LOW	1
M2168-12A	AQ	SW8260_W	NA	LOW	1
M2168-13A	AQ	SW8260_W	NA	LOW	1
M2168-14A	AQ	SW8260_W	NA	LOW	1
M2168-15A	AQ	SW8260_W	NA	LOW	1
M2168-16A	AQ	SW8260_W	NA	LOW	1
M2168-17A	AQ	SW8260_W	NA	LOW	1
M2168-18A	AQ	SW8260_W	NA	LOW	1
M2168-19A	AQ	SW8260_W	NA	LOW	1
M2168-20A	AQ	SW8260_W	NA	LOW	1

Spectrum Analytical Inc. - North Kingstown RI -- Rhode Island Division

WorkOrder: M2168

Client ID: HDR
Project: Aluminum Louvre
WO Name: Aluminum Louvre
Location: HDR_ALUMINUM,

Case:
SDG:

HC Due: 11/19/13
Fax Due:
Fax Report: ☐

Report Level: ASP-B
Special Program:
EDD: EQUIIS_4_NYSDEC

PO: D006129, WA-4, 130195

Comments: Paperless to HDR. Hardcopy of DSP(and PDF of DP and DSP on CD) to Judy Harry, Data Validation Services, 120 Cobble Creek Rd, North Creek, NY 12853.

Lab Samp ID	Client Sample ID	Collection Date	Date Recv'd	Matrix	Test Code	Samp / Lab Test Comments	HF	HT	MS	SEL	Storage
M2168-01A	MW-NEMF-1-D	11/04/2013 12:35	11/06/2013	Aqueous	SW8260_W	/ +TICs, 1ppb ICAL				Y	VOA
M2168-02A	MW-NEMF-1-I	11/04/2013 14:00	11/06/2013	Aqueous	SW8260_W	/ +TICs, 1ppb ICAL				Y	VOA
M2168-03A	MW-NEMF-1-S	11/04/2013 14:25	11/06/2013	Aqueous	SW8260_W	/ +TICs, 1ppb ICAL				Y	VOA
M2168-04A	MW-NEMF-2-S	11/04/2013 16:50	11/06/2013	Aqueous	SW8260_W	/ +TICs, 1ppb ICAL				Y	VOA
M2168-05A	MW-NEMF-2-I	11/04/2013 17:05	11/06/2013	Aqueous	SW8260_W	/ +TICs, 1ppb ICAL				Y	VOA
M2168-06A	TB-11042013	11/04/2013 00:00	11/06/2013	Aqueous	SW8260_W	/ +TICs, 1ppb ICAL				Y	VOA
M2168-07A	MW-NEMF-2-D	11/05/2013 09:40	11/06/2013	Aqueous	SW8260_W	/ +TICs, 1ppb ICAL				Y	VOA
M2168-08A	MW-NEMF-3-S	11/05/2013 11:00	11/06/2013	Aqueous	SW8260_W	/ +TICs, 1ppb ICAL				Y	VOA
M2168-09A	MW-NEMF-3-D	11/05/2013 11:10	11/06/2013	Aqueous	SW8260_W	/ +TICs, 1ppb ICAL			Y	Y	VOA
M2168-10A	MW-NEMF-3-I	11/05/2013 12:45	11/06/2013	Aqueous	SW8260_W	/ +TICs, 1ppb ICAL				Y	VOA
M2168-11A	MW-195-1-S	11/05/2013 17:05	11/06/2013	Aqueous	SW8260_W	/ +TICs, 1ppb ICAL				Y	VOA
M2168-12A	MW-195-1-I	11/05/2013 16:35	11/06/2013	Aqueous	SW8260_W	/ +TICs, 1ppb ICAL				Y	VOA
M2168-13A	TB-11052013	11/05/2013 00:00	11/06/2013	Aqueous	SW8260_W	/ +TICs, 1ppb ICAL				Y	VOA
M2168-14A	MW-195-1-D	11/06/2013 09:20	11/07/2013	Aqueous	SW8260_W	/ +TICs, 1ppb ICAL				Y	VOA
M2168-15A	MW-206-2-D	11/06/2013 09:25	11/07/2013	Aqueous	SW8260_W	/ +TICs, 1ppb ICAL				Y	VOA
M2168-16A	MW-303-1-I	11/06/2013 11:50	11/07/2013	Aqueous	SW8260_W	/ +TICs, 1ppb ICAL				Y	VOA
M2168-17A	RB-11062013	11/06/2013 12:00	11/07/2013	Aqueous	SW8260_W	/ +TICs, 1ppb ICAL				Y	VOA
M2168-18A	MW-303-1-D	11/06/2013 12:30	11/07/2013	Aqueous	SW8260_W	/ +TICs, 1ppb ICAL				Y	VOA

HF = Fraction logged in but all tests have been placed on hold

HT = Test logged in but has been placed on hold

11/08/2013 08:57 Lab Client Rep: Agnes R Huntley

Spectrum Analytical Inc. - North Kingstown RI -- Rhode Island Division

WorkOrder: M2168

Client ID: HDR
Project: Aluminum Louvre
WO Name: Aluminum Louvre
Location: HDR_ALUMINUM,

Case:
SDG:

HC Due: 11/19/13
Fax Due:
Fax Report: ☐

Report Level: ASP-B
Special Program:
EDD: EQUIIS_4_NYSDEC

PO: D006129, WA-4, 130195

Comments: Paperless to HDR. Hardcopy of DSP(and PDF of DP and DSP on CD) to Judy Harry, Data Validation Services, 120 Cobble Creek Rd, North Creek, NY 12853.

Lab Samp ID	Client Sample ID	Collection Date	Date Recv'd	Matrix	Test Code	Samp / Lab Test Comments	HF	HT	MS	SEL	Storage
M2168-19A	MW-303-1-S	11/06/2013 13:50	11/07/2013	Aqueous	SW8260_W	/ +TICs, 1ppb ICAL				Y	VOA
M2168-20A	TB-11062013	11/06/2013 00:00	11/07/2013	Aqueous	SW8260_W	/ +TICs, 1ppb ICAL				Y	VOA

HF = Fraction logged in but all tests have been placed on hold

HT = Test logged in but has been placed on hold

Lab Client Rep: Agnes R Huntley

* Volatiles *

REPORT NARRATIVE

Spectrum Analytical, Inc. Featuring Hanibal Technology, RI Division.

Client : HDR LMS, Inc.

Project: Aluminum Louvre

Laboratory Workorder / SDG #: M2168

SW846 8260C, VOC by GC-MS

I. SAMPLE RECEIPT

No exceptions or unusual conditions were encountered unless a Sample Condition Notification Form, or other record of communication is included with the Sample Receipt Documentation.

II. HOLDING TIMES

A. Sample Preparation:

All samples were prepared within the method-specified holding times.

B. Sample Analysis:

All samples were analyzed within the method-specified holding times.

III. METHODS

Samples were analyzed following procedures in laboratory test code: SW846 8260C

IV. PREPARATION

Aqueous Samples were prepared following procedures in laboratory test code: SW5030B

V. INSTRUMENTATION

The following instrumentation was used

Instrument Code: V1
Instrument Type: GCMS-VOA

Description: HP5890 II / HP5972
Manufacturer: Hewlett-Packard
Model: 5890 / 5972
GC Column used: 30 m X 0.25 mm ID [1.40 um thickness] DB-624 capillary column.

Instrument Code: V10
Instrument Type: GCMS-VOA
Description: HP7890A
Manufacturer: Agilent
Model: 7890A / 5975C
GC Column used: 30 m X 0.25 mm ID [1.40 um thickness] DB-624 capillary column.

VI. ANALYSIS

A. Calibration:

Calibrations met the method/SOP acceptance criteria.

B. Blanks:

All method blanks were within the acceptance criteria.

C. Surrogates:

Surrogate standard percent recoveries were within the QC limits.

D. Spikes:

1. Laboratory Control Spikes (LCS):

Percent recoveries for lab control samples were within the QC limits with the following exceptions. Please note that most test procedures allow for several compounds outside of the QC limits for the LCS, although this may indicate a bias for this specific compound.

LCS-74659 in batch 74659, recovery is above criteria for Acetone at 142% with criteria of (40-140).

LCS-74694 in batch 74694, recovery is below criteria for Iodomethane at 60% with criteria of (72-121).

LCSD-74694 in batch 74694, recovery is below criteria for Iodomethane at 64% with criteria of (72-121).

2. Matrix Spike / Matrix Spike Duplicate (MS/MSD):

Matrix spikes were performed on samples: MW-NEMF-3-D (M2168-09AMS) and MW-NEMF-3-D (M2168-09AMSD).

Percent recoveries were within the QC limits with the following exceptions:

MW-NEMF-3-D (M2168-09AMS), recovery is below criteria for Iodomethane at 44% with criteria of (72-121).

MW-NEMF-3-D (M2168-09AMSD), recovery is below criteria for Iodomethane at 59% with criteria of (72-121).

Replicate RPDs were within the advisory QC limits.

E. Internal Standards:

Internal standard peak areas were within the QC limits.

F. Dilutions:

No sample in this SDG required analysis at dilution.

G. Samples:

No other unusual occurrences were noted during sample analysis.

H. Manual Integration

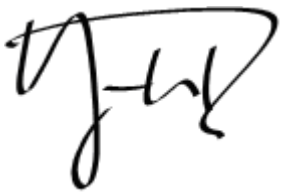
Where needed, manual integrations were performed to improve data quality. The corrections were reviewed and associated hardcopies generated and reported as required. Manual integrations are coded to provide the data reviewer justification for such action. The codes are labeled on the ion chromatogram signal (GC/MS signal) and chromatogram for GC based analysis as follows:

· M1 peak tailing or fronting
· M2 peak co-elution
· M3 rising or falling baseline
· M4 retention time shift
· M5 miscellaneous - under this category, the justification is explained
· M6 software did not integrate peak
· M7 partial peak integration

Manual integration was performed on the following:

VSTD0501C Dichlorodifluoromethane due to M7

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Spectrum, both technically and for completeness, except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.



Signed:_____ _____

Date:_____11/19/2013_____

Data Flag/Qualifiers:

U Not Detected. This compound was analyzed-for but not detected. For most analyses the reporting limit (lowest standard concentration) is the value listed. For Department of Defense programs, this is the Limit of Detection (LOD).

J This flag indicates an estimated value due to either
- the compound was detected below the reporting limit, or
- estimated concentration for Tentatively Identified Compound

B This flag indicates the compound was also detected in the associated Method Blank. The B flag has an alternative meaning for Inorganics analyses reported using CLP ILM-type metals forms, indicating a "trace" concentration below the reporting limit and equal to or above the detection limit.

D For Organics analysis, this flag indicates the compound concentration was obtained from a secondary dilution analysis

E This flag indicates the compound concentration exceeded the Calibration Range. The E flag has an alternative meaning for Inorganics analyses reported using CLP metals forms, indicating an estimated concentration due to the presence of interferences, as determined by the serial dilution analysis.

P This flag is used for pesticides/PCB/herbicide compound when there is a greater than 40% difference for detected concentration between the two GC columns used for primary and confirmation analyses. This difference typically indicates an interference, causing one value to be unusually high. The **lower** of the two values is generally reported on the Form 1, and both values reported on the Form 10.

A Used to flag semivolatile organic Tentatively Identified Compound library search results for compounds identified as aldol condensation byproducts.

N Used to flag results for volatile and semivolatile Organics analysis Tentatively Identified Compounds where an analyte has passed the identification criteria, and is considered to be positively identified. For Inorganics analysis the N flag indicates the matrix spike recovery falls outside of the control limit.

* For Inorganics analysis the * flag indicates Relative Percent Difference for duplicate analyses is outside of the control limit.

Sample ID Suffixes

DL Diluted analysis. The sample was diluted and reanalyzed. The DL may be followed by a digit if more than one diluted reanalysis is provided. The DL suffix is not attached to an analysis initially performed at dilution, only to reanalyses performed at dilution

RE Reanalysis. Appended to the client sample ID to indicate a reextraction and reanalysis or a reanalysis of the original sample extract.

RA Reanalysis. Appended to the laboratory sample ID indicates a reanalysis of the original sample extract.

RX Reextraction. Appended to the laboratory sample ID indicates a reextraction of the sample.

MS Matrix Spike.

MSD Matrix Spike Duplicate

DUP Duplicate analysis

SD Serial Dilution

PS Post-digestion or Post-distillation spike. For metals or inorganic analyses

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-NEMF-1-D

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2168-01A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1M6047.D

Level: (TRACE/LOW/MED) LOW Date Received: 11/06/2013

% Moisture: not dec. Date Analyzed: 11/07/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	1.0	U
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl chloride	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene	1.0	U
67-64-1	Acetone	5.0	U
74-88-4	Iodomethane	1.0	U
75-15-0	Carbon disulfide	1.0	U
75-09-2	Methylene chloride	1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-butyl ether	1.0	U
75-34-3	1,1-Dichloroethane	1.0	U
108-05-4	Vinyl acetate	1.0	U
78-93-3	2-Butanone	5.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
594-20-7	2,2-Dichloropropane	1.0	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
563-58-6	1,1-Dichloropropene	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
71-43-2	Benzene	1.0	U
79-01-6	Trichloroethene	1.0	U
78-87-5	1,2-Dichloropropane	1.0	U
74-95-3	Dibromomethane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
142-28-9	1,3-Dichloropropane	1.0	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-NEMF-1-D

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2168-01A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1M6047.D

Level: (TRACE/LOW/MED) LOW Date Received: 11/06/2013

% Moisture: not dec. Date Analyzed: 11/07/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
127-18-4	Tetrachloroethene	1.0	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U
108-90-7	Chlorobenzene	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U
100-41-4	Ethylbenzene	1.0	U
179601-23-1	m,p-Xylene	1.0	U
95-47-6	o-Xylene	1.0	U
1330-20-7	Xylene (Total)	1.0	U
100-42-5	Styrene	1.0	U
75-25-2	Bromoform	1.0	U
98-82-8	Isopropylbenzene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
108-86-1	Bromobenzene	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
103-65-1	n-Propylbenzene	1.0	U
95-49-8	2-Chlorotoluene	1.0	U
108-67-8	1,3,5-Trimethylbenzene	1.0	U
106-43-4	4-Chlorotoluene	1.0	U
98-06-6	tert-Butylbenzene	1.0	U
95-63-6	1,2,4-Trimethylbenzene	1.0	U
135-98-8	sec-Butylbenzene	1.0	U
99-87-6	4-Isopropyltoluene	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
104-51-8	n-Butylbenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
87-68-3	Hexachlorobutadiene	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1.0	U
91-20-3	Naphthalene	1.0	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW-NEMF-1-D

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2168-01A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1M6047.D

Level: (TRACE or LOW/MED) LOW Date Received: 11/06/2013

% Moisture: not dec. Date Analyzed: 11/07/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Purge Volume: 5.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-NEMF-1-I

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2168-02A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1M6048.D

Level: (TRACE/LOW/MED) LOW Date Received: 11/06/2013

% Moisture: not dec. Date Analyzed: 11/07/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	1.0	U
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl chloride	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene	1.0	U
67-64-1	Acetone	5.0	U
74-88-4	Iodomethane	1.0	U
75-15-0	Carbon disulfide	1.0	U
75-09-2	Methylene chloride	1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-butyl ether	1.0	U
75-34-3	1,1-Dichloroethane	1.0	U
108-05-4	Vinyl acetate	1.0	U
78-93-3	2-Butanone	5.0	U
156-59-2	cis-1,2-Dichloroethene	0.74	J
594-20-7	2,2-Dichloropropane	1.0	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
563-58-6	1,1-Dichloropropene	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
71-43-2	Benzene	1.0	U
79-01-6	Trichloroethene	1.9	
78-87-5	1,2-Dichloropropane	1.0	U
74-95-3	Dibromomethane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
142-28-9	1,3-Dichloropropane	1.0	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-NEMF-1-I

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2168-02A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1M6048.D

Level: (TRACE/LOW/MED) LOW Date Received: 11/06/2013

% Moisture: not dec. Date Analyzed: 11/07/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
127-18-4	Tetrachloroethene	1.0	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U
108-90-7	Chlorobenzene	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U
100-41-4	Ethylbenzene	1.0	U
179601-23-1	m,p-Xylene	1.0	U
95-47-6	o-Xylene	1.0	U
1330-20-7	Xylene (Total)	1.0	U
100-42-5	Styrene	1.0	U
75-25-2	Bromoform	1.0	U
98-82-8	Isopropylbenzene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
108-86-1	Bromobenzene	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
103-65-1	n-Propylbenzene	1.0	U
95-49-8	2-Chlorotoluene	1.0	U
108-67-8	1,3,5-Trimethylbenzene	1.0	U
106-43-4	4-Chlorotoluene	1.0	U
98-06-6	tert-Butylbenzene	1.0	U
95-63-6	1,2,4-Trimethylbenzene	1.0	U
135-98-8	sec-Butylbenzene	1.0	U
99-87-6	4-Isopropyltoluene	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
104-51-8	n-Butylbenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
87-68-3	Hexachlorobutadiene	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1.0	U
91-20-3	Naphthalene	1.0	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW-NEMF-1-I

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2168-02A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1M6048.D

Level: (TRACE or LOW/MED) LOW Date Received: 11/06/2013

% Moisture: not dec. Date Analyzed: 11/07/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Purge Volume: 5.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-NEMF-1-S

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2168-03A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1M6049.D

Level: (TRACE/LOW/MED) LOW Date Received: 11/06/2013

% Moisture: not dec. Date Analyzed: 11/07/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	1.0	U
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl chloride	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene	1.0	U
67-64-1	Acetone	5.0	U
74-88-4	Iodomethane	1.0	U
75-15-0	Carbon disulfide	1.0	U
75-09-2	Methylene chloride	1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-butyl ether	1.0	U
75-34-3	1,1-Dichloroethane	1.0	U
108-05-4	Vinyl acetate	1.0	U
78-93-3	2-Butanone	5.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
594-20-7	2,2-Dichloropropane	1.0	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
563-58-6	1,1-Dichloropropene	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
71-43-2	Benzene	1.0	U
79-01-6	Trichloroethene	0.56	J
78-87-5	1,2-Dichloropropane	1.0	U
74-95-3	Dibromomethane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
142-28-9	1,3-Dichloropropane	1.0	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-NEMF-1-S

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2168-03A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1M6049.D

Level: (TRACE/LOW/MED) LOW Date Received: 11/06/2013

% Moisture: not dec. Date Analyzed: 11/07/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
127-18-4	Tetrachloroethene	1.0	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U
108-90-7	Chlorobenzene	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U
100-41-4	Ethylbenzene	1.0	U
179601-23-1	m,p-Xylene	1.0	U
95-47-6	o-Xylene	1.0	U
1330-20-7	Xylene (Total)	1.0	U
100-42-5	Styrene	1.0	U
75-25-2	Bromoform	1.0	U
98-82-8	Isopropylbenzene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
108-86-1	Bromobenzene	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
103-65-1	n-Propylbenzene	1.0	U
95-49-8	2-Chlorotoluene	1.0	U
108-67-8	1,3,5-Trimethylbenzene	1.0	U
106-43-4	4-Chlorotoluene	1.0	U
98-06-6	tert-Butylbenzene	1.0	U
95-63-6	1,2,4-Trimethylbenzene	1.0	U
135-98-8	sec-Butylbenzene	1.0	U
99-87-6	4-Isopropyltoluene	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
104-51-8	n-Butylbenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
87-68-3	Hexachlorobutadiene	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1.0	U
91-20-3	Naphthalene	1.0	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW-NEMF-1-S

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2168-03A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1M6049.D

Level: (TRACE or LOW/MED) LOW Date Received: 11/06/2013

% Moisture: not dec. Date Analyzed: 11/07/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Purge Volume: 5.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-NEMF-2-S

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2168-04A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1M6050.D

Level: (TRACE/LOW/MED) LOW Date Received: 11/06/2013

% Moisture: not dec. Date Analyzed: 11/07/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	1.0	U
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl chloride	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene	1.0	U
67-64-1	Acetone	5.0	U
74-88-4	Iodomethane	1.0	U
75-15-0	Carbon disulfide	1.0	U
75-09-2	Methylene chloride	1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-butyl ether	1.0	U
75-34-3	1,1-Dichloroethane	1.0	U
108-05-4	Vinyl acetate	1.0	U
78-93-3	2-Butanone	5.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
594-20-7	2,2-Dichloropropane	1.0	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
563-58-6	1,1-Dichloropropene	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
71-43-2	Benzene	1.0	U
79-01-6	Trichloroethene	1.0	U
78-87-5	1,2-Dichloropropane	1.0	U
74-95-3	Dibromomethane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
142-28-9	1,3-Dichloropropane	1.0	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-NEMF-2-S

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2168-04A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1M6050.D

Level: (TRACE/LOW/MED) LOW Date Received: 11/06/2013

% Moisture: not dec. Date Analyzed: 11/07/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
127-18-4	Tetrachloroethene	1.0	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U
108-90-7	Chlorobenzene	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U
100-41-4	Ethylbenzene	1.0	U
179601-23-1	m,p-Xylene	1.0	U
95-47-6	o-Xylene	1.0	U
1330-20-7	Xylene (Total)	1.0	U
100-42-5	Styrene	1.0	U
75-25-2	Bromoform	1.0	U
98-82-8	Isopropylbenzene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
108-86-1	Bromobenzene	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
103-65-1	n-Propylbenzene	1.0	U
95-49-8	2-Chlorotoluene	1.0	U
108-67-8	1,3,5-Trimethylbenzene	1.0	U
106-43-4	4-Chlorotoluene	1.0	U
98-06-6	tert-Butylbenzene	1.0	U
95-63-6	1,2,4-Trimethylbenzene	1.0	U
135-98-8	sec-Butylbenzene	1.0	U
99-87-6	4-Isopropyltoluene	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
104-51-8	n-Butylbenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
87-68-3	Hexachlorobutadiene	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1.0	U
91-20-3	Naphthalene	1.0	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW-NEMF-2-S

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2168-04A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1M6050.D

Level: (TRACE or LOW/MED) LOW Date Received: 11/06/2013

% Moisture: not dec. Date Analyzed: 11/07/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Purge Volume: 5.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-NEMF-2-I

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2168-05A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1M6051.D

Level: (TRACE/LOW/MED) LOW Date Received: 11/06/2013

% Moisture: not dec. Date Analyzed: 11/07/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	1.0	U
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl chloride	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene	1.0	U
67-64-1	Acetone	5.0	U
74-88-4	Iodomethane	1.0	U
75-15-0	Carbon disulfide	1.0	U
75-09-2	Methylene chloride	1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-butyl ether	1.0	U
75-34-3	1,1-Dichloroethane	1.0	U
108-05-4	Vinyl acetate	1.0	U
78-93-3	2-Butanone	5.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
594-20-7	2,2-Dichloropropane	1.0	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
563-58-6	1,1-Dichloropropene	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
71-43-2	Benzene	1.0	U
79-01-6	Trichloroethene	1.1	
78-87-5	1,2-Dichloropropane	1.0	U
74-95-3	Dibromomethane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
142-28-9	1,3-Dichloropropane	1.0	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-NEMF-2-I

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2168-05A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1M6051.D

Level: (TRACE/LOW/MED) LOW Date Received: 11/06/2013

% Moisture: not dec. Date Analyzed: 11/07/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
127-18-4	Tetrachloroethene	1.0	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U
108-90-7	Chlorobenzene	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U
100-41-4	Ethylbenzene	1.0	U
179601-23-1	m,p-Xylene	1.0	U
95-47-6	o-Xylene	1.0	U
1330-20-7	Xylene (Total)	1.0	U
100-42-5	Styrene	1.0	U
75-25-2	Bromoform	1.0	U
98-82-8	Isopropylbenzene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
108-86-1	Bromobenzene	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
103-65-1	n-Propylbenzene	1.0	U
95-49-8	2-Chlorotoluene	1.0	U
108-67-8	1,3,5-Trimethylbenzene	1.0	U
106-43-4	4-Chlorotoluene	1.0	U
98-06-6	tert-Butylbenzene	1.0	U
95-63-6	1,2,4-Trimethylbenzene	1.0	U
135-98-8	sec-Butylbenzene	1.0	U
99-87-6	4-Isopropyltoluene	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
104-51-8	n-Butylbenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
87-68-3	Hexachlorobutadiene	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1.0	U
91-20-3	Naphthalene	1.0	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW-NEMF-2-I

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2168-05A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1M6051.D

Level: (TRACE or LOW/MED) LOW Date Received: 11/06/2013

% Moisture: not dec. Date Analyzed: 11/07/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Purge Volume: 5.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TB-11042013

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2168-06A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1M6046.D

Level: (TRACE/LOW/MED) LOW Date Received: 11/06/2013

% Moisture: not dec. Date Analyzed: 11/07/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	1.0	U
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl chloride	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene	1.0	U
67-64-1	Acetone	5.0	U
74-88-4	Iodomethane	1.0	U
75-15-0	Carbon disulfide	1.0	U
75-09-2	Methylene chloride	1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-butyl ether	1.0	U
75-34-3	1,1-Dichloroethane	1.0	U
108-05-4	Vinyl acetate	1.0	U
78-93-3	2-Butanone	5.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
594-20-7	2,2-Dichloropropane	1.0	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
563-58-6	1,1-Dichloropropene	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
71-43-2	Benzene	1.0	U
79-01-6	Trichloroethene	1.0	U
78-87-5	1,2-Dichloropropane	1.0	U
74-95-3	Dibromomethane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
142-28-9	1,3-Dichloropropane	1.0	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TB-11042013

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2168-06A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1M6046.D

Level: (TRACE/LOW/MED) LOW Date Received: 11/06/2013

% Moisture: not dec. Date Analyzed: 11/07/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
127-18-4	Tetrachloroethene	1.0	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U
108-90-7	Chlorobenzene	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U
100-41-4	Ethylbenzene	1.0	U
179601-23-1	m,p-Xylene	1.0	U
95-47-6	o-Xylene	1.0	U
1330-20-7	Xylene (Total)	1.0	U
100-42-5	Styrene	1.0	U
75-25-2	Bromoform	1.0	U
98-82-8	Isopropylbenzene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
108-86-1	Bromobenzene	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
103-65-1	n-Propylbenzene	1.0	U
95-49-8	2-Chlorotoluene	1.0	U
108-67-8	1,3,5-Trimethylbenzene	1.0	U
106-43-4	4-Chlorotoluene	1.0	U
98-06-6	tert-Butylbenzene	1.0	U
95-63-6	1,2,4-Trimethylbenzene	1.0	U
135-98-8	sec-Butylbenzene	1.0	U
99-87-6	4-Isopropyltoluene	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
104-51-8	n-Butylbenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
87-68-3	Hexachlorobutadiene	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1.0	U
91-20-3	Naphthalene	1.0	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TB-11042013

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2168-06A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1M6046.D

Level: (TRACE or LOW/MED) LOW Date Received: 11/06/2013

% Moisture: not dec. Date Analyzed: 11/07/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Purge Volume: 5.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-NEMF-2-D

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2168-07A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1M6052.D

Level: (TRACE/LOW/MED) LOW Date Received: 11/06/2013

% Moisture: not dec. Date Analyzed: 11/07/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	1.0	U
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl chloride	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene	1.0	U
67-64-1	Acetone	5.0	U
74-88-4	Iodomethane	1.0	U
75-15-0	Carbon disulfide	1.0	U
75-09-2	Methylene chloride	1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-butyl ether	2.6	
75-34-3	1,1-Dichloroethane	2.5	
108-05-4	Vinyl acetate	1.0	U
78-93-3	2-Butanone	5.0	U
156-59-2	cis-1,2-Dichloroethene	2.8	
594-20-7	2,2-Dichloropropane	1.0	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform	1.0	U
71-55-6	1,1,1-Trichloroethane	4.1	
563-58-6	1,1-Dichloropropene	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
71-43-2	Benzene	1.0	U
79-01-6	Trichloroethene	100	
78-87-5	1,2-Dichloropropane	1.0	U
74-95-3	Dibromomethane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
142-28-9	1,3-Dichloropropane	1.0	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-NEMF-2-D

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2168-07A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1M6052.D

Level: (TRACE/LOW/MED) LOW Date Received: 11/06/2013

% Moisture: not dec. Date Analyzed: 11/07/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
127-18-4	Tetrachloroethene	18	
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U
108-90-7	Chlorobenzene	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U
100-41-4	Ethylbenzene	1.0	U
179601-23-1	m,p-Xylene	1.0	U
95-47-6	o-Xylene	1.0	U
1330-20-7	Xylene (Total)	1.0	U
100-42-5	Styrene	1.0	U
75-25-2	Bromoform	1.0	U
98-82-8	Isopropylbenzene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
108-86-1	Bromobenzene	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
103-65-1	n-Propylbenzene	1.0	U
95-49-8	2-Chlorotoluene	1.0	U
108-67-8	1,3,5-Trimethylbenzene	1.0	U
106-43-4	4-Chlorotoluene	1.0	U
98-06-6	tert-Butylbenzene	1.0	U
95-63-6	1,2,4-Trimethylbenzene	1.0	U
135-98-8	sec-Butylbenzene	1.0	U
99-87-6	4-Isopropyltoluene	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
104-51-8	n-Butylbenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
87-68-3	Hexachlorobutadiene	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1.0	U
91-20-3	Naphthalene	1.0	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW-NEMF-2-D

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2168-07A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1M6052.D

Level: (TRACE or LOW/MED) LOW Date Received: 11/06/2013

% Moisture: not dec. Date Analyzed: 11/07/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Purge Volume: 5.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-NEMF-3-S

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2168-08A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1M6053.D

Level: (TRACE/LOW/MED) LOW Date Received: 11/06/2013

% Moisture: not dec. Date Analyzed: 11/07/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	1.0	U
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl chloride	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene	1.0	U
67-64-1	Acetone	5.0	U
74-88-4	Iodomethane	1.0	U
75-15-0	Carbon disulfide	1.0	U
75-09-2	Methylene chloride	1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-butyl ether	1.0	U
75-34-3	1,1-Dichloroethane	1.0	U
108-05-4	Vinyl acetate	1.0	U
78-93-3	2-Butanone	5.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
594-20-7	2,2-Dichloropropane	1.0	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform	1.0	U
71-55-6	1,1,1-Trichloroethane	0.94	J
563-58-6	1,1-Dichloropropene	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
71-43-2	Benzene	1.0	U
79-01-6	Trichloroethene	1.1	
78-87-5	1,2-Dichloropropane	1.0	U
74-95-3	Dibromomethane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
142-28-9	1,3-Dichloropropane	1.0	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-NEMF-3-S

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2168-08A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1M6053.D

Level: (TRACE/LOW/MED) LOW Date Received: 11/06/2013

% Moisture: not dec. Date Analyzed: 11/07/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
127-18-4	Tetrachloroethene	1.0	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U
108-90-7	Chlorobenzene	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U
100-41-4	Ethylbenzene	1.0	U
179601-23-1	m,p-Xylene	1.0	U
95-47-6	o-Xylene	1.0	U
1330-20-7	Xylene (Total)	1.0	U
100-42-5	Styrene	1.0	U
75-25-2	Bromoform	1.0	U
98-82-8	Isopropylbenzene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
108-86-1	Bromobenzene	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
103-65-1	n-Propylbenzene	1.0	U
95-49-8	2-Chlorotoluene	1.0	U
108-67-8	1,3,5-Trimethylbenzene	1.0	U
106-43-4	4-Chlorotoluene	1.0	U
98-06-6	tert-Butylbenzene	1.0	U
95-63-6	1,2,4-Trimethylbenzene	1.0	U
135-98-8	sec-Butylbenzene	1.0	U
99-87-6	4-Isopropyltoluene	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
104-51-8	n-Butylbenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
87-68-3	Hexachlorobutadiene	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1.0	U
91-20-3	Naphthalene	1.0	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW-NEMF-3-S

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2168-08A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1M6053.D

Level: (TRACE or LOW/MED) LOW Date Received: 11/06/2013

% Moisture: not dec. Date Analyzed: 11/07/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Purge Volume: 5.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-NEMF-3-D

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2168-09A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1539.D

Level: (TRACE/LOW/MED) LOW Date Received: 11/06/2013

% Moisture: not dec. Date Analyzed: 11/11/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	1.0	U
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl chloride	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene	1.0	U
67-64-1	Acetone	5.0	U
74-88-4	Iodomethane	1.0	U
75-15-0	Carbon disulfide	1.0	U
75-09-2	Methylene chloride	1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-butyl ether	1.0	U
75-34-3	1,1-Dichloroethane	1.0	U
108-05-4	Vinyl acetate	1.0	U
78-93-3	2-Butanone	5.0	U
156-59-2	cis-1,2-Dichloroethene	1.3	
594-20-7	2,2-Dichloropropane	1.0	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
563-58-6	1,1-Dichloropropene	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
71-43-2	Benzene	1.0	U
79-01-6	Trichloroethene	23	
78-87-5	1,2-Dichloropropane	1.0	U
74-95-3	Dibromomethane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
142-28-9	1,3-Dichloropropane	1.0	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-NEMF-3-D

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2168-09A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1539.D

Level: (TRACE/LOW/MED) LOW Date Received: 11/06/2013

% Moisture: not dec. Date Analyzed: 11/11/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
127-18-4	Tetrachloroethene	0.80	J
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U
108-90-7	Chlorobenzene	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U
100-41-4	Ethylbenzene	1.0	U
179601-23-1	m,p-Xylene	1.0	U
95-47-6	o-Xylene	1.0	U
1330-20-7	Xylene (Total)	1.0	U
100-42-5	Styrene	1.0	U
75-25-2	Bromoform	1.0	U
98-82-8	Isopropylbenzene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
108-86-1	Bromobenzene	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
103-65-1	n-Propylbenzene	1.0	U
95-49-8	2-Chlorotoluene	1.0	U
108-67-8	1,3,5-Trimethylbenzene	1.0	U
106-43-4	4-Chlorotoluene	1.0	U
98-06-6	tert-Butylbenzene	1.0	U
95-63-6	1,2,4-Trimethylbenzene	1.0	U
135-98-8	sec-Butylbenzene	1.0	U
99-87-6	4-Isopropyltoluene	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
104-51-8	n-Butylbenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
87-68-3	Hexachlorobutadiene	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1.0	U
91-20-3	Naphthalene	1.0	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW-NEMF-3-D

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2168-09A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1539.D

Level: (TRACE or LOW/MED) LOW Date Received: 11/06/2013

% Moisture: not dec. Date Analyzed: 11/11/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Purge Volume: 5.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-NEMF-3-I

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2168-10A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1M6054.D

Level: (TRACE/LOW/MED) LOW Date Received: 11/06/2013

% Moisture: not dec. Date Analyzed: 11/07/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	1.0	U
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl chloride	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene	20	
67-64-1	Acetone	5.0	U
74-88-4	Iodomethane	1.0	U
75-15-0	Carbon disulfide	1.0	U
75-09-2	Methylene chloride	1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-butyl ether	1.0	U
75-34-3	1,1-Dichloroethane	1.9	
108-05-4	Vinyl acetate	1.0	U
78-93-3	2-Butanone	5.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
594-20-7	2,2-Dichloropropane	1.0	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform	1.0	U
71-55-6	1,1,1-Trichloroethane	25	
563-58-6	1,1-Dichloropropene	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
71-43-2	Benzene	1.0	U
79-01-6	Trichloroethene	12	
78-87-5	1,2-Dichloropropane	1.0	U
74-95-3	Dibromomethane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
142-28-9	1,3-Dichloropropane	1.0	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-NEMF-3-I

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2168-10A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1M6054.D

Level: (TRACE/LOW/MED) LOW Date Received: 11/06/2013

% Moisture: not dec. Date Analyzed: 11/07/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
127-18-4	Tetrachloroethene	2.4	
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U
108-90-7	Chlorobenzene	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U
100-41-4	Ethylbenzene	1.0	U
179601-23-1	m,p-Xylene	1.0	U
95-47-6	o-Xylene	1.0	U
1330-20-7	Xylene (Total)	1.0	U
100-42-5	Styrene	1.0	U
75-25-2	Bromoform	1.0	U
98-82-8	Isopropylbenzene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
108-86-1	Bromobenzene	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
103-65-1	n-Propylbenzene	1.0	U
95-49-8	2-Chlorotoluene	1.0	U
108-67-8	1,3,5-Trimethylbenzene	1.0	U
106-43-4	4-Chlorotoluene	1.0	U
98-06-6	tert-Butylbenzene	1.0	U
95-63-6	1,2,4-Trimethylbenzene	1.0	U
135-98-8	sec-Butylbenzene	1.0	U
99-87-6	4-Isopropyltoluene	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
104-51-8	n-Butylbenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
87-68-3	Hexachlorobutadiene	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1.0	U
91-20-3	Naphthalene	1.0	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW-NEMF-3-I

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2168-10A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1M6054.D

Level: (TRACE or LOW/MED) LOW Date Received: 11/06/2013

% Moisture: not dec. Date Analyzed: 11/07/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Purge Volume: 5.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-195-1-S

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2168-11A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1540.D

Level: (TRACE/LOW/MED) LOW Date Received: 11/06/2013

% Moisture: not dec. Date Analyzed: 11/11/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	1.0	U
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl chloride	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene	1.0	U
67-64-1	Acetone	5.0	U
74-88-4	Iodomethane	1.0	U
75-15-0	Carbon disulfide	1.0	U
75-09-2	Methylene chloride	1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-butyl ether	7.8	
75-34-3	1,1-Dichloroethane	1.0	U
108-05-4	Vinyl acetate	1.0	U
78-93-3	2-Butanone	5.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
594-20-7	2,2-Dichloropropane	1.0	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform	1.0	U
71-55-6	1,1,1-Trichloroethane	1.2	
563-58-6	1,1-Dichloropropene	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
71-43-2	Benzene	1.0	U
79-01-6	Trichloroethene	2.4	
78-87-5	1,2-Dichloropropane	1.0	U
74-95-3	Dibromomethane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
142-28-9	1,3-Dichloropropane	1.0	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-195-1-S

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2168-11A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1540.D

Level: (TRACE/LOW/MED) LOW Date Received: 11/06/2013

% Moisture: not dec. Date Analyzed: 11/11/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
127-18-4	Tetrachloroethene	0.97	J
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U
108-90-7	Chlorobenzene	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U
100-41-4	Ethylbenzene	1.0	U
179601-23-1	m,p-Xylene	1.0	U
95-47-6	o-Xylene	1.0	U
1330-20-7	Xylene (Total)	1.0	U
100-42-5	Styrene	1.0	U
75-25-2	Bromoform	1.0	U
98-82-8	Isopropylbenzene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
108-86-1	Bromobenzene	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
103-65-1	n-Propylbenzene	1.0	U
95-49-8	2-Chlorotoluene	1.0	U
108-67-8	1,3,5-Trimethylbenzene	1.0	U
106-43-4	4-Chlorotoluene	1.0	U
98-06-6	tert-Butylbenzene	1.0	U
95-63-6	1,2,4-Trimethylbenzene	1.0	U
135-98-8	sec-Butylbenzene	1.0	U
99-87-6	4-Isopropyltoluene	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
104-51-8	n-Butylbenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
87-68-3	Hexachlorobutadiene	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1.0	U
91-20-3	Naphthalene	1.0	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW-195-1-S

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2168-11A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1540.D

Level: (TRACE or LOW/MED) LOW Date Received: 11/06/2013

% Moisture: not dec. Date Analyzed: 11/11/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Purge Volume: 5.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-195-1-I

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2168-12A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1541.D

Level: (TRACE/LOW/MED) LOW Date Received: 11/06/2013

% Moisture: not dec. Date Analyzed: 11/11/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	1.0	U
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl chloride	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene	10	
67-64-1	Acetone	5.0	U
74-88-4	Iodomethane	1.0	U
75-15-0	Carbon disulfide	1.0	U
75-09-2	Methylene chloride	1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-butyl ether	1.9	
75-34-3	1,1-Dichloroethane	6.0	
108-05-4	Vinyl acetate	1.0	U
78-93-3	2-Butanone	5.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	
594-20-7	2,2-Dichloropropane	1.0	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform	1.0	U
71-55-6	1,1,1-Trichloroethane	30	
563-58-6	1,1-Dichloropropene	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
71-43-2	Benzene	1.0	U
79-01-6	Trichloroethene	34	
78-87-5	1,2-Dichloropropane	1.0	U
74-95-3	Dibromomethane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
142-28-9	1,3-Dichloropropane	1.0	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-195-1-I

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2168-12A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1541.D

Level: (TRACE/LOW/MED) LOW Date Received: 11/06/2013

% Moisture: not dec. Date Analyzed: 11/11/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
127-18-4	Tetrachloroethene	4.5	
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U
108-90-7	Chlorobenzene	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U
100-41-4	Ethylbenzene	1.0	U
179601-23-1	m,p-Xylene	1.0	U
95-47-6	o-Xylene	1.0	U
1330-20-7	Xylene (Total)	1.0	U
100-42-5	Styrene	1.0	U
75-25-2	Bromoform	1.0	U
98-82-8	Isopropylbenzene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
108-86-1	Bromobenzene	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
103-65-1	n-Propylbenzene	1.0	U
95-49-8	2-Chlorotoluene	1.0	U
108-67-8	1,3,5-Trimethylbenzene	1.0	U
106-43-4	4-Chlorotoluene	1.0	U
98-06-6	tert-Butylbenzene	1.0	U
95-63-6	1,2,4-Trimethylbenzene	1.0	U
135-98-8	sec-Butylbenzene	1.0	U
99-87-6	4-Isopropyltoluene	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
104-51-8	n-Butylbenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
87-68-3	Hexachlorobutadiene	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1.0	U
91-20-3	Naphthalene	1.0	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW-195-1-I

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2168-12A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1541.D

Level: (TRACE or LOW/MED) LOW Date Received: 11/06/2013

% Moisture: not dec. Date Analyzed: 11/11/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Purge Volume: 5.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TB-11052013

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2168-13A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1538.D

Level: (TRACE/LOW/MED) LOW Date Received: 11/06/2013

% Moisture: not dec. Date Analyzed: 11/11/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	1.0	U
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl chloride	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene	1.0	U
67-64-1	Acetone	5.0	U
74-88-4	Iodomethane	1.0	U
75-15-0	Carbon disulfide	1.0	U
75-09-2	Methylene chloride	1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-butyl ether	1.0	U
75-34-3	1,1-Dichloroethane	1.0	U
108-05-4	Vinyl acetate	1.0	U
78-93-3	2-Butanone	5.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
594-20-7	2,2-Dichloropropane	1.0	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
563-58-6	1,1-Dichloropropene	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
71-43-2	Benzene	1.0	U
79-01-6	Trichloroethene	1.0	U
78-87-5	1,2-Dichloropropane	1.0	U
74-95-3	Dibromomethane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
142-28-9	1,3-Dichloropropane	1.0	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TB-11052013

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2168-13A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1538.D

Level: (TRACE/LOW/MED) LOW Date Received: 11/06/2013

% Moisture: not dec. Date Analyzed: 11/11/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
127-18-4	Tetrachloroethene	1.0	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U
108-90-7	Chlorobenzene	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U
100-41-4	Ethylbenzene	1.0	U
179601-23-1	m,p-Xylene	1.0	U
95-47-6	o-Xylene	1.0	U
1330-20-7	Xylene (Total)	1.0	U
100-42-5	Styrene	1.0	U
75-25-2	Bromoform	1.0	U
98-82-8	Isopropylbenzene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
108-86-1	Bromobenzene	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
103-65-1	n-Propylbenzene	1.0	U
95-49-8	2-Chlorotoluene	1.0	U
108-67-8	1,3,5-Trimethylbenzene	1.0	U
106-43-4	4-Chlorotoluene	1.0	U
98-06-6	tert-Butylbenzene	1.0	U
95-63-6	1,2,4-Trimethylbenzene	1.0	U
135-98-8	sec-Butylbenzene	1.0	U
99-87-6	4-Isopropyltoluene	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
104-51-8	n-Butylbenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
87-68-3	Hexachlorobutadiene	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1.0	U
91-20-3	Naphthalene	1.0	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TB-11052013

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2168-13A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1538.D

Level: (TRACE or LOW/MED) LOW Date Received: 11/06/2013

% Moisture: not dec. Date Analyzed: 11/11/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Purge Volume: 5.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-195-1-D

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2168-14A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1542.D

Level: (TRACE/LOW/MED) LOW Date Received: 11/07/2013

% Moisture: not dec. Date Analyzed: 11/11/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	1.0	U
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl chloride	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene	17	
67-64-1	Acetone	5.0	U
74-88-4	Iodomethane	1.0	U
75-15-0	Carbon disulfide	1.0	U
75-09-2	Methylene chloride	1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-butyl ether	1.0	U
75-34-3	1,1-Dichloroethane	2.3	
108-05-4	Vinyl acetate	1.0	U
78-93-3	2-Butanone	5.0	U
156-59-2	cis-1,2-Dichloroethene	0.98	J
594-20-7	2,2-Dichloropropane	1.0	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform	1.0	U
71-55-6	1,1,1-Trichloroethane	22	
563-58-6	1,1-Dichloropropene	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
71-43-2	Benzene	1.0	U
79-01-6	Trichloroethene	34	
78-87-5	1,2-Dichloropropane	1.0	U
74-95-3	Dibromomethane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
142-28-9	1,3-Dichloropropane	1.0	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-195-1-D

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2168-14A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1542.D

Level: (TRACE/LOW/MED) LOW Date Received: 11/07/2013

% Moisture: not dec. Date Analyzed: 11/11/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
127-18-4	Tetrachloroethene	3.9	
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U
108-90-7	Chlorobenzene	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U
100-41-4	Ethylbenzene	1.0	U
179601-23-1	m,p-Xylene	1.0	U
95-47-6	o-Xylene	1.0	U
1330-20-7	Xylene (Total)	1.0	U
100-42-5	Styrene	1.0	U
75-25-2	Bromoform	1.0	U
98-82-8	Isopropylbenzene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
108-86-1	Bromobenzene	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
103-65-1	n-Propylbenzene	1.0	U
95-49-8	2-Chlorotoluene	1.0	U
108-67-8	1,3,5-Trimethylbenzene	1.0	U
106-43-4	4-Chlorotoluene	1.0	U
98-06-6	tert-Butylbenzene	1.0	U
95-63-6	1,2,4-Trimethylbenzene	1.0	U
135-98-8	sec-Butylbenzene	1.0	U
99-87-6	4-Isopropyltoluene	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
104-51-8	n-Butylbenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
87-68-3	Hexachlorobutadiene	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1.0	U
91-20-3	Naphthalene	1.0	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW-195-1-D

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2168-14A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1542.D

Level: (TRACE or LOW/MED) LOW Date Received: 11/07/2013

% Moisture: not dec. Date Analyzed: 11/11/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Purge Volume: 5.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-206-2-D

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2168-15A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1543.D

Level: (TRACE/LOW/MED) LOW Date Received: 11/07/2013

% Moisture: not dec. Date Analyzed: 11/11/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	1.0	U
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl chloride	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene	17	
67-64-1	Acetone	5.0	U
74-88-4	Iodomethane	1.0	U
75-15-0	Carbon disulfide	1.0	U
75-09-2	Methylene chloride	1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-butyl ether	1.0	U
75-34-3	1,1-Dichloroethane	2.3	
108-05-4	Vinyl acetate	1.0	U
78-93-3	2-Butanone	5.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
594-20-7	2,2-Dichloropropane	1.0	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform	1.0	U
71-55-6	1,1,1-Trichloroethane	21	
563-58-6	1,1-Dichloropropene	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
71-43-2	Benzene	1.0	U
79-01-6	Trichloroethene	34	
78-87-5	1,2-Dichloropropane	1.0	U
74-95-3	Dibromomethane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
142-28-9	1,3-Dichloropropane	1.0	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-206-2-D

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2168-15A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1543.D

Level: (TRACE/LOW/MED) LOW Date Received: 11/07/2013

% Moisture: not dec. Date Analyzed: 11/11/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
127-18-4	Tetrachloroethene	4.0	
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U
108-90-7	Chlorobenzene	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U
100-41-4	Ethylbenzene	1.0	U
179601-23-1	m,p-Xylene	1.0	U
95-47-6	o-Xylene	1.0	U
1330-20-7	Xylene (Total)	1.0	U
100-42-5	Styrene	1.0	U
75-25-2	Bromoform	1.0	U
98-82-8	Isopropylbenzene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
108-86-1	Bromobenzene	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
103-65-1	n-Propylbenzene	1.0	U
95-49-8	2-Chlorotoluene	1.0	U
108-67-8	1,3,5-Trimethylbenzene	1.0	U
106-43-4	4-Chlorotoluene	1.0	U
98-06-6	tert-Butylbenzene	1.0	U
95-63-6	1,2,4-Trimethylbenzene	1.0	U
135-98-8	sec-Butylbenzene	1.0	U
99-87-6	4-Isopropyltoluene	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
104-51-8	n-Butylbenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
87-68-3	Hexachlorobutadiene	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1.0	U
91-20-3	Naphthalene	1.0	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW-206-2-D

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2168-15A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1543.D

Level: (TRACE or LOW/MED) LOW Date Received: 11/07/2013

% Moisture: not dec. Date Analyzed: 11/11/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Purge Volume: 5.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-303-1-I

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2168-16A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1544.D

Level: (TRACE/LOW/MED) LOW Date Received: 11/07/2013

% Moisture: not dec. Date Analyzed: 11/11/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	1.0	U
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl chloride	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene	1.0	U
67-64-1	Acetone	5.0	U
74-88-4	Iodomethane	1.0	U
75-15-0	Carbon disulfide	1.0	U
75-09-2	Methylene chloride	1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-butyl ether	1.0	U
75-34-3	1,1-Dichloroethane	1.0	U
108-05-4	Vinyl acetate	1.0	U
78-93-3	2-Butanone	5.0	U
156-59-2	cis-1,2-Dichloroethene	3.1	
594-20-7	2,2-Dichloropropane	1.0	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
563-58-6	1,1-Dichloropropene	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
71-43-2	Benzene	1.0	U
79-01-6	Trichloroethene	95	
78-87-5	1,2-Dichloropropane	1.0	U
74-95-3	Dibromomethane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
142-28-9	1,3-Dichloropropane	1.0	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-303-1-I

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2168-16A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1544.D

Level: (TRACE/LOW/MED) LOW Date Received: 11/07/2013

% Moisture: not dec. Date Analyzed: 11/11/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
127-18-4	Tetrachloroethene	1.7	
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U
108-90-7	Chlorobenzene	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U
100-41-4	Ethylbenzene	1.0	U
179601-23-1	m,p-Xylene	1.0	U
95-47-6	o-Xylene	1.0	U
1330-20-7	Xylene (Total)	1.0	U
100-42-5	Styrene	1.0	U
75-25-2	Bromoform	1.0	U
98-82-8	Isopropylbenzene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
108-86-1	Bromobenzene	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
103-65-1	n-Propylbenzene	1.0	U
95-49-8	2-Chlorotoluene	1.0	U
108-67-8	1,3,5-Trimethylbenzene	1.0	U
106-43-4	4-Chlorotoluene	1.0	U
98-06-6	tert-Butylbenzene	1.0	U
95-63-6	1,2,4-Trimethylbenzene	1.0	U
135-98-8	sec-Butylbenzene	1.0	U
99-87-6	4-Isopropyltoluene	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
104-51-8	n-Butylbenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
87-68-3	Hexachlorobutadiene	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1.0	U
91-20-3	Naphthalene	1.0	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW-303-1-I

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2168-16A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1544.D

Level: (TRACE or LOW/MED) LOW Date Received: 11/07/2013

% Moisture: not dec. Date Analyzed: 11/11/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Purge Volume: 5.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

RB-11062013

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2168-17A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1545.D

Level: (TRACE/LOW/MED) LOW Date Received: 11/07/2013

% Moisture: not dec. Date Analyzed: 11/11/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	1.0	U
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl chloride	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene	1.0	U
67-64-1	Acetone	5.0	U
74-88-4	Iodomethane	1.0	U
75-15-0	Carbon disulfide	1.0	U
75-09-2	Methylene chloride	1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-butyl ether	1.0	U
75-34-3	1,1-Dichloroethane	1.0	U
108-05-4	Vinyl acetate	1.0	U
78-93-3	2-Butanone	5.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
594-20-7	2,2-Dichloropropane	1.0	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
563-58-6	1,1-Dichloropropene	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
71-43-2	Benzene	1.0	U
79-01-6	Trichloroethene	1.0	U
78-87-5	1,2-Dichloropropane	1.0	U
74-95-3	Dibromomethane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
142-28-9	1,3-Dichloropropane	1.0	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

RB-11062013

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2168-17A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1545.D

Level: (TRACE/LOW/MED) LOW Date Received: 11/07/2013

% Moisture: not dec. Date Analyzed: 11/11/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
127-18-4	Tetrachloroethene	1.0	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U
108-90-7	Chlorobenzene	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U
100-41-4	Ethylbenzene	1.0	U
179601-23-1	m,p-Xylene	1.0	U
95-47-6	o-Xylene	1.0	U
1330-20-7	Xylene (Total)	1.0	U
100-42-5	Styrene	1.0	U
75-25-2	Bromoform	1.0	U
98-82-8	Isopropylbenzene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
108-86-1	Bromobenzene	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
103-65-1	n-Propylbenzene	1.0	U
95-49-8	2-Chlorotoluene	1.0	U
108-67-8	1,3,5-Trimethylbenzene	1.0	U
106-43-4	4-Chlorotoluene	1.0	U
98-06-6	tert-Butylbenzene	1.0	U
95-63-6	1,2,4-Trimethylbenzene	1.0	U
135-98-8	sec-Butylbenzene	1.0	U
99-87-6	4-Isopropyltoluene	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
104-51-8	n-Butylbenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
87-68-3	Hexachlorobutadiene	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1.0	U
91-20-3	Naphthalene	1.0	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

RB-11062013

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2168-17A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1545.D

Level: (TRACE or LOW/MED) LOW Date Received: 11/07/2013

% Moisture: not dec. Date Analyzed: 11/11/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Purge Volume: 5.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-303-1-D

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2168-18A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1546.D

Level: (TRACE/LOW/MED) LOW Date Received: 11/07/2013

% Moisture: not dec. Date Analyzed: 11/11/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	1.0	U
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl chloride	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene	1.0	U
67-64-1	Acetone	10	
74-88-4	Iodomethane	1.0	U
75-15-0	Carbon disulfide	1.0	U
75-09-2	Methylene chloride	1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-butyl ether	1.0	U
75-34-3	1,1-Dichloroethane	1.0	U
108-05-4	Vinyl acetate	1.0	U
78-93-3	2-Butanone	5.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
594-20-7	2,2-Dichloropropane	1.0	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
563-58-6	1,1-Dichloropropene	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
71-43-2	Benzene	1.0	U
79-01-6	Trichloroethene	4.4	
78-87-5	1,2-Dichloropropane	1.0	U
74-95-3	Dibromomethane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
142-28-9	1,3-Dichloropropane	1.0	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-303-1-D

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2168-18A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1546.D

Level: (TRACE/LOW/MED) LOW Date Received: 11/07/2013

% Moisture: not dec. Date Analyzed: 11/11/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
127-18-4	Tetrachloroethene	1.0	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U
108-90-7	Chlorobenzene	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U
100-41-4	Ethylbenzene	1.0	U
179601-23-1	m,p-Xylene	1.0	U
95-47-6	o-Xylene	1.0	U
1330-20-7	Xylene (Total)	1.0	U
100-42-5	Styrene	1.0	U
75-25-2	Bromoform	1.0	U
98-82-8	Isopropylbenzene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
108-86-1	Bromobenzene	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
103-65-1	n-Propylbenzene	1.0	U
95-49-8	2-Chlorotoluene	1.0	U
108-67-8	1,3,5-Trimethylbenzene	1.0	U
106-43-4	4-Chlorotoluene	1.0	U
98-06-6	tert-Butylbenzene	1.0	U
95-63-6	1,2,4-Trimethylbenzene	1.0	U
135-98-8	sec-Butylbenzene	1.0	U
99-87-6	4-Isopropyltoluene	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
104-51-8	n-Butylbenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
87-68-3	Hexachlorobutadiene	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1.0	U
91-20-3	Naphthalene	1.0	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW-303-1-D

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2168-18A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1546.D

Level: (TRACE or LOW/MED) LOW Date Received: 11/07/2013

% Moisture: not dec. Date Analyzed: 11/11/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Purge Volume: 5.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-303-1-S

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2168-19A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1547.D

Level: (TRACE/LOW/MED) LOW Date Received: 11/07/2013

% Moisture: not dec. Date Analyzed: 11/11/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	1.0	U
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl chloride	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene	1.0	U
67-64-1	Acetone	5.0	U
74-88-4	Iodomethane	1.0	U
75-15-0	Carbon disulfide	1.0	U
75-09-2	Methylene chloride	1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-butyl ether	0.75	J
75-34-3	1,1-Dichloroethane	1.0	U
108-05-4	Vinyl acetate	1.0	U
78-93-3	2-Butanone	5.0	U
156-59-2	cis-1,2-Dichloroethene	4.2	
594-20-7	2,2-Dichloropropane	1.0	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform	1.0	U
71-55-6	1,1,1-Trichloroethane	0.92	J
563-58-6	1,1-Dichloropropene	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
71-43-2	Benzene	1.0	U
79-01-6	Trichloroethene	190	
78-87-5	1,2-Dichloropropane	1.0	U
74-95-3	Dibromomethane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
142-28-9	1,3-Dichloropropane	1.0	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-303-1-S

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2168-19A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1547.D

Level: (TRACE/LOW/MED) LOW Date Received: 11/07/2013

% Moisture: not dec. Date Analyzed: 11/11/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
127-18-4	Tetrachloroethene	3.9	
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U
108-90-7	Chlorobenzene	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U
100-41-4	Ethylbenzene	1.0	U
179601-23-1	m,p-Xylene	1.0	U
95-47-6	o-Xylene	1.0	U
1330-20-7	Xylene (Total)	1.0	U
100-42-5	Styrene	1.0	U
75-25-2	Bromoform	1.0	U
98-82-8	Isopropylbenzene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
108-86-1	Bromobenzene	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
103-65-1	n-Propylbenzene	1.0	U
95-49-8	2-Chlorotoluene	1.0	U
108-67-8	1,3,5-Trimethylbenzene	1.0	U
106-43-4	4-Chlorotoluene	1.0	U
98-06-6	tert-Butylbenzene	1.0	U
95-63-6	1,2,4-Trimethylbenzene	1.0	U
135-98-8	sec-Butylbenzene	1.0	U
99-87-6	4-Isopropyltoluene	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
104-51-8	n-Butylbenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
87-68-3	Hexachlorobutadiene	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1.0	U
91-20-3	Naphthalene	1.0	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW-303-1-S

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2168-19A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1547.D

Level: (TRACE or LOW/MED) LOW Date Received: 11/07/2013

% Moisture: not dec. Date Analyzed: 11/11/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Purge Volume: 5.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TB-11062013

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2168-20A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1548.D

Level: (TRACE/LOW/MED) LOW Date Received: 11/07/2013

% Moisture: not dec. Date Analyzed: 11/11/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	1.0	U
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl chloride	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene	1.0	U
67-64-1	Acetone	5.0	U
74-88-4	Iodomethane	1.0	U
75-15-0	Carbon disulfide	1.0	U
75-09-2	Methylene chloride	1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-butyl ether	1.0	U
75-34-3	1,1-Dichloroethane	1.0	U
108-05-4	Vinyl acetate	1.0	U
78-93-3	2-Butanone	5.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
594-20-7	2,2-Dichloropropane	1.0	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
563-58-6	1,1-Dichloropropene	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
71-43-2	Benzene	1.0	U
79-01-6	Trichloroethene	1.0	U
78-87-5	1,2-Dichloropropane	1.0	U
74-95-3	Dibromomethane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
142-28-9	1,3-Dichloropropane	1.0	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TB-11062013

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2168-20A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1548.D

Level: (TRACE/LOW/MED) LOW Date Received: 11/07/2013

% Moisture: not dec. Date Analyzed: 11/11/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
127-18-4	Tetrachloroethene	1.0	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U
108-90-7	Chlorobenzene	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U
100-41-4	Ethylbenzene	1.0	U
179601-23-1	m,p-Xylene	1.0	U
95-47-6	o-Xylene	1.0	U
1330-20-7	Xylene (Total)	1.0	U
100-42-5	Styrene	1.0	U
75-25-2	Bromoform	1.0	U
98-82-8	Isopropylbenzene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
108-86-1	Bromobenzene	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
103-65-1	n-Propylbenzene	1.0	U
95-49-8	2-Chlorotoluene	1.0	U
108-67-8	1,3,5-Trimethylbenzene	1.0	U
106-43-4	4-Chlorotoluene	1.0	U
98-06-6	tert-Butylbenzene	1.0	U
95-63-6	1,2,4-Trimethylbenzene	1.0	U
135-98-8	sec-Butylbenzene	1.0	U
99-87-6	4-Isopropyltoluene	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
104-51-8	n-Butylbenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
87-68-3	Hexachlorobutadiene	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1.0	U
91-20-3	Naphthalene	1.0	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TB-11062013

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2168-20A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1548.D

Level: (TRACE or LOW/MED) LOW Date Received: 11/07/2013

% Moisture: not dec. Date Analyzed: 11/11/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Purge Volume: 5.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MB-74659

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: MB-74659

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1M6036.D

Level: (TRACE/LOW/MED) LOW Date Received:

% Moisture: not dec. Date Analyzed: 11/07/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	1.0	U
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl chloride	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene	1.0	U
67-64-1	Acetone	5.0	U
74-88-4	Iodomethane	1.0	U
75-15-0	Carbon disulfide	1.0	U
75-09-2	Methylene chloride	1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-butyl ether	1.0	U
75-34-3	1,1-Dichloroethane	1.0	U
108-05-4	Vinyl acetate	1.0	U
78-93-3	2-Butanone	5.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
594-20-7	2,2-Dichloropropane	1.0	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
563-58-6	1,1-Dichloropropene	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
71-43-2	Benzene	1.0	U
79-01-6	Trichloroethene	1.0	U
78-87-5	1,2-Dichloropropane	1.0	U
74-95-3	Dibromomethane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
142-28-9	1,3-Dichloropropane	1.0	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MB-74659

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: MB-74659

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1M6036.D

Level: (TRACE/LOW/MED) LOW Date Received:

% Moisture: not dec. Date Analyzed: 11/07/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
127-18-4	Tetrachloroethene	1.0	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U
108-90-7	Chlorobenzene	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U
100-41-4	Ethylbenzene	1.0	U
179601-23-1	m,p-Xylene	1.0	U
95-47-6	o-Xylene	1.0	U
1330-20-7	Xylene (Total)	1.0	U
100-42-5	Styrene	1.0	U
75-25-2	Bromoform	1.0	U
98-82-8	Isopropylbenzene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
108-86-1	Bromobenzene	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
103-65-1	n-Propylbenzene	1.0	U
95-49-8	2-Chlorotoluene	1.0	U
108-67-8	1,3,5-Trimethylbenzene	1.0	U
106-43-4	4-Chlorotoluene	1.0	U
98-06-6	tert-Butylbenzene	1.0	U
95-63-6	1,2,4-Trimethylbenzene	1.0	U
135-98-8	sec-Butylbenzene	1.0	U
99-87-6	4-Isopropyltoluene	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
104-51-8	n-Butylbenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
87-68-3	Hexachlorobutadiene	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1.0	U
91-20-3	Naphthalene	1.0	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MB-74659

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: MB-74659

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1M6036.D

Level: (TRACE or LOW/MED) LOW Date Received:

% Moisture: not dec. Date Analyzed: 11/07/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Purge Volume: 5.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MB-74694

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: MB-74694

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1536.D

Level: (TRACE/LOW/MED) LOW Date Received:

% Moisture: not dec. Date Analyzed: 11/11/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	1.0	U
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl chloride	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene	1.0	U
67-64-1	Acetone	5.0	U
74-88-4	Iodomethane	1.0	U
75-15-0	Carbon disulfide	1.0	U
75-09-2	Methylene chloride	1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-butyl ether	1.0	U
75-34-3	1,1-Dichloroethane	1.0	U
108-05-4	Vinyl acetate	1.0	U
78-93-3	2-Butanone	5.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
594-20-7	2,2-Dichloropropane	1.0	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
563-58-6	1,1-Dichloropropene	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
71-43-2	Benzene	1.0	U
79-01-6	Trichloroethene	1.0	U
78-87-5	1,2-Dichloropropane	1.0	U
74-95-3	Dibromomethane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
142-28-9	1,3-Dichloropropane	1.0	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MB-74694

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: MB-74694

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1536.D

Level: (TRACE/LOW/MED) LOW Date Received:

% Moisture: not dec. Date Analyzed: 11/11/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
127-18-4	Tetrachloroethene	1.0	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U
108-90-7	Chlorobenzene	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U
100-41-4	Ethylbenzene	1.0	U
179601-23-1	m,p-Xylene	1.0	U
95-47-6	o-Xylene	1.0	U
1330-20-7	Xylene (Total)	1.0	U
100-42-5	Styrene	1.0	U
75-25-2	Bromoform	1.0	U
98-82-8	Isopropylbenzene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
108-86-1	Bromobenzene	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
103-65-1	n-Propylbenzene	1.0	U
95-49-8	2-Chlorotoluene	1.0	U
108-67-8	1,3,5-Trimethylbenzene	1.0	U
106-43-4	4-Chlorotoluene	1.0	U
98-06-6	tert-Butylbenzene	1.0	U
95-63-6	1,2,4-Trimethylbenzene	1.0	U
135-98-8	sec-Butylbenzene	1.0	U
99-87-6	4-Isopropyltoluene	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
104-51-8	n-Butylbenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
87-68-3	Hexachlorobutadiene	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1.0	U
91-20-3	Naphthalene	1.0	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MB-74694

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: MB-74694

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1536.D

Level: (TRACE or LOW/MED) LOW Date Received:

% Moisture: not dec. Date Analyzed: 11/11/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Purge Volume: 5.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LCS-74659

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: LCS-74659

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1M6033.D

Level: (TRACE/LOW/MED) LOW Date Received:

% Moisture: not dec. Date Analyzed: 11/07/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	47	
74-87-3	Chloromethane	41	
75-01-4	Vinyl chloride	43	
74-83-9	Bromomethane	48	
75-00-3	Chloroethane	44	
75-69-4	Trichlorofluoromethane	50	
75-35-4	1,1-Dichloroethene	46	
67-64-1	Acetone	71	
74-88-4	Iodomethane	47	
75-15-0	Carbon disulfide	44	
75-09-2	Methylene chloride	48	
156-60-5	trans-1,2-Dichloroethene	49	
1634-04-4	Methyl tert-butyl ether	54	
75-34-3	1,1-Dichloroethane	46	
108-05-4	Vinyl acetate	48	
78-93-3	2-Butanone	66	
156-59-2	cis-1,2-Dichloroethene	49	
594-20-7	2,2-Dichloropropane	46	
74-97-5	Bromochloromethane	53	
67-66-3	Chloroform	48	
71-55-6	1,1,1-Trichloroethane	46	
563-58-6	1,1-Dichloropropene	46	
56-23-5	Carbon tetrachloride	47	
107-06-2	1,2-Dichloroethane	50	
71-43-2	Benzene	44	
79-01-6	Trichloroethene	48	
78-87-5	1,2-Dichloropropane	47	
74-95-3	Dibromomethane	54	
75-27-4	Bromodichloromethane	51	
10061-01-5	cis-1,3-Dichloropropene	50	
108-10-1	4-Methyl-2-pentanone	58	
108-88-3	Toluene	46	
10061-02-6	trans-1,3-Dichloropropene	53	
79-00-5	1,1,2-Trichloroethane	54	
142-28-9	1,3-Dichloropropane	47	

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LCS-74659

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: LCS-74659

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1M6033.D

Level: (TRACE/LOW/MED) LOW Date Received:

% Moisture: not dec. Date Analyzed: 11/07/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
127-18-4	Tetrachloroethene	42	
591-78-6	2-Hexanone	57	
124-48-1	Dibromochloromethane	51	
106-93-4	1,2-Dibromoethane	52	
108-90-7	Chlorobenzene	46	
630-20-6	1,1,1,2-Tetrachloroethane	49	
100-41-4	Ethylbenzene	44	
179601-23-1	m,p-Xylene	91	
95-47-6	o-Xylene	46	
1330-20-7	Xylene (Total)	140	
100-42-5	Styrene	48	
75-25-2	Bromoform	59	
98-82-8	Isopropylbenzene	44	
79-34-5	1,1,2,2-Tetrachloroethane	50	
108-86-1	Bromobenzene	47	
96-18-4	1,2,3-Trichloropropane	54	
103-65-1	n-Propylbenzene	43	
95-49-8	2-Chlorotoluene	43	
108-67-8	1,3,5-Trimethylbenzene	43	
106-43-4	4-Chlorotoluene	45	
98-06-6	tert-Butylbenzene	42	
95-63-6	1,2,4-Trimethylbenzene	44	
135-98-8	sec-Butylbenzene	42	
99-87-6	4-Isopropyltoluene	44	
541-73-1	1,3-Dichlorobenzene	46	
106-46-7	1,4-Dichlorobenzene	45	
104-51-8	n-Butylbenzene	42	
95-50-1	1,2-Dichlorobenzene	48	
96-12-8	1,2-Dibromo-3-chloropropane	58	
120-82-1	1,2,4-Trichlorobenzene	55	
87-68-3	Hexachlorobutadiene	46	
87-61-6	1,2,3-Trichlorobenzene	59	
91-20-3	Naphthalene	62	

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LCS-74694

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: LCS-74694

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1533.D

Level: (TRACE/LOW/MED) LOW Date Received:

% Moisture: not dec. Date Analyzed: 11/11/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	37	
74-87-3	Chloromethane	40	
75-01-4	Vinyl chloride	42	
74-83-9	Bromomethane	35	
75-00-3	Chloroethane	43	
75-69-4	Trichlorofluoromethane	37	
75-35-4	1,1-Dichloroethene	47	
67-64-1	Acetone	41	
74-88-4	Iodomethane	30	
75-15-0	Carbon disulfide	55	
75-09-2	Methylene chloride	56	
156-60-5	trans-1,2-Dichloroethene	54	
1634-04-4	Methyl tert-butyl ether	47	
75-34-3	1,1-Dichloroethane	50	
108-05-4	Vinyl acetate	43	
78-93-3	2-Butanone	48	
156-59-2	cis-1,2-Dichloroethene	52	
594-20-7	2,2-Dichloropropane	45	
74-97-5	Bromochloromethane	53	
67-66-3	Chloroform	44	
71-55-6	1,1,1-Trichloroethane	41	
563-58-6	1,1-Dichloropropene	54	
56-23-5	Carbon tetrachloride	41	
107-06-2	1,2-Dichloroethane	39	
71-43-2	Benzene	54	
79-01-6	Trichloroethene	51	
78-87-5	1,2-Dichloropropane	57	
74-95-3	Dibromomethane	52	
75-27-4	Bromodichloromethane	52	
10061-01-5	cis-1,3-Dichloropropene	58	
108-10-1	4-Methyl-2-pentanone	42	
108-88-3	Toluene	55	
10061-02-6	trans-1,3-Dichloropropene	50	
79-00-5	1,1,2-Trichloroethane	54	
142-28-9	1,3-Dichloropropane	50	

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LCS-74694

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: LCS-74694

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1533.D

Level: (TRACE/LOW/MED) LOW Date Received:

% Moisture: not dec. Date Analyzed: 11/11/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
127-18-4	Tetrachloroethene	45	
591-78-6	2-Hexanone	38	
124-48-1	Dibromochloromethane	49	
106-93-4	1,2-Dibromoethane	50	
108-90-7	Chlorobenzene	50	
630-20-6	1,1,1,2-Tetrachloroethane	49	
100-41-4	Ethylbenzene	52	
179601-23-1	m,p-Xylene	100	
95-47-6	o-Xylene	54	
1330-20-7	Xylene (Total)	160	
100-42-5	Styrene	52	
75-25-2	Bromoform	45	
98-82-8	Isopropylbenzene	49	
79-34-5	1,1,2,2-Tetrachloroethane	49	
108-86-1	Bromobenzene	48	
96-18-4	1,2,3-Trichloropropane	42	
103-65-1	n-Propylbenzene	48	
95-49-8	2-Chlorotoluene	48	
108-67-8	1,3,5-Trimethylbenzene	47	
106-43-4	4-Chlorotoluene	50	
98-06-6	tert-Butylbenzene	47	
95-63-6	1,2,4-Trimethylbenzene	49	
135-98-8	sec-Butylbenzene	48	
99-87-6	4-Isopropyltoluene	48	
541-73-1	1,3-Dichlorobenzene	48	
106-46-7	1,4-Dichlorobenzene	46	
104-51-8	n-Butylbenzene	48	
95-50-1	1,2-Dichlorobenzene	48	
96-12-8	1,2-Dibromo-3-chloropropane	40	
120-82-1	1,2,4-Trichlorobenzene	47	
87-68-3	Hexachlorobutadiene	45	
87-61-6	1,2,3-Trichlorobenzene	48	
91-20-3	Naphthalene	43	

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LCSD-74694

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: LCSD-74694

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1534.D

Level: (TRACE/LOW/MED) LOW Date Received:

% Moisture: not dec. Date Analyzed: 11/11/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	39	
74-87-3	Chloromethane	42	
75-01-4	Vinyl chloride	46	
74-83-9	Bromomethane	36	
75-00-3	Chloroethane	46	
75-69-4	Trichlorofluoromethane	39	
75-35-4	1,1-Dichloroethene	51	
67-64-1	Acetone	38	
74-88-4	Iodomethane	32	
75-15-0	Carbon disulfide	56	
75-09-2	Methylene chloride	59	
156-60-5	trans-1,2-Dichloroethene	60	
1634-04-4	Methyl tert-butyl ether	55	
75-34-3	1,1-Dichloroethane	57	
108-05-4	Vinyl acetate	52	
78-93-3	2-Butanone	52	
156-59-2	cis-1,2-Dichloroethene	60	
594-20-7	2,2-Dichloropropane	55	
74-97-5	Bromochloromethane	60	
67-66-3	Chloroform	52	
71-55-6	1,1,1-Trichloroethane	51	
563-58-6	1,1-Dichloropropene	62	
56-23-5	Carbon tetrachloride	51	
107-06-2	1,2-Dichloroethane	46	
71-43-2	Benzene	59	
79-01-6	Trichloroethene	54	
78-87-5	1,2-Dichloropropane	59	
74-95-3	Dibromomethane	54	
75-27-4	Bromodichloromethane	55	
10061-01-5	cis-1,3-Dichloropropene	61	
108-10-1	4-Methyl-2-pentanone	46	
108-88-3	Toluene	60	
10061-02-6	trans-1,3-Dichloropropene	51	
79-00-5	1,1,2-Trichloroethane	57	
142-28-9	1,3-Dichloropropane	51	

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LCSD-74694

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: LCSD-74694

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1534.D

Level: (TRACE/LOW/MED) LOW Date Received:

% Moisture: not dec. Date Analyzed: 11/11/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
127-18-4	Tetrachloroethene	51	
591-78-6	2-Hexanone	40	
124-48-1	Dibromochloromethane	52	
106-93-4	1,2-Dibromoethane	53	
108-90-7	Chlorobenzene	53	
630-20-6	1,1,1,2-Tetrachloroethane	52	
100-41-4	Ethylbenzene	57	
179601-23-1	m,p-Xylene	110	
95-47-6	o-Xylene	59	
1330-20-7	Xylene (Total)	170	
100-42-5	Styrene	55	
75-25-2	Bromoform	49	
98-82-8	Isopropylbenzene	55	
79-34-5	1,1,2,2-Tetrachloroethane	52	
108-86-1	Bromobenzene	51	
96-18-4	1,2,3-Trichloropropane	45	
103-65-1	n-Propylbenzene	55	
95-49-8	2-Chlorotoluene	51	
108-67-8	1,3,5-Trimethylbenzene	53	
106-43-4	4-Chlorotoluene	53	
98-06-6	tert-Butylbenzene	57	
95-63-6	1,2,4-Trimethylbenzene	53	
135-98-8	sec-Butylbenzene	54	
99-87-6	4-Isopropyltoluene	53	
541-73-1	1,3-Dichlorobenzene	52	
106-46-7	1,4-Dichlorobenzene	50	
104-51-8	n-Butylbenzene	53	
95-50-1	1,2-Dichlorobenzene	51	
96-12-8	1,2-Dibromo-3-chloropropane	42	
120-82-1	1,2,4-Trichlorobenzene	52	
87-68-3	Hexachlorobutadiene	49	
87-61-6	1,2,3-Trichlorobenzene	55	
91-20-3	Naphthalene	48	

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-NEMF-3-DMS

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2168-09AMS

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1555.D

Level: (TRACE/LOW/MED) LOW Date Received: 11/06/2013

% Moisture: not dec. Date Analyzed: 11/11/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	33	
74-87-3	Chloromethane	36	
75-01-4	Vinyl chloride	38	
74-83-9	Bromomethane	27	
75-00-3	Chloroethane	42	
75-69-4	Trichlorofluoromethane	39	
75-35-4	1,1-Dichloroethene	46	
67-64-1	Acetone	29	
74-88-4	Iodomethane	22	
75-15-0	Carbon disulfide	45	
75-09-2	Methylene chloride	53	
156-60-5	trans-1,2-Dichloroethene	52	
1634-04-4	Methyl tert-butyl ether	51	
75-34-3	1,1-Dichloroethane	51	
108-05-4	Vinyl acetate	49	
78-93-3	2-Butanone	44	
156-59-2	cis-1,2-Dichloroethene	52	
594-20-7	2,2-Dichloropropane	46	
74-97-5	Bromochloromethane	58	
67-66-3	Chloroform	50	
71-55-6	1,1,1-Trichloroethane	50	
563-58-6	1,1-Dichloropropene	54	
56-23-5	Carbon tetrachloride	50	
107-06-2	1,2-Dichloroethane	52	
71-43-2	Benzene	51	
79-01-6	Trichloroethene	70	
78-87-5	1,2-Dichloropropane	53	
74-95-3	Dibromomethane	53	
75-27-4	Bromodichloromethane	54	
10061-01-5	cis-1,3-Dichloropropene	53	
108-10-1	4-Methyl-2-pentanone	44	
108-88-3	Toluene	52	
10061-02-6	trans-1,3-Dichloropropene	46	
79-00-5	1,1,2-Trichloroethane	56	
142-28-9	1,3-Dichloropropane	46	

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-NEMF-3-DMS

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2168-09AMS

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1555.D

Level: (TRACE/LOW/MED) LOW Date Received: 11/06/2013

% Moisture: not dec. Date Analyzed: 11/11/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
127-18-4	Tetrachloroethene	43	
591-78-6	2-Hexanone	33	
124-48-1	Dibromochloromethane	47	
106-93-4	1,2-Dibromoethane	49	
108-90-7	Chlorobenzene	46	
630-20-6	1,1,1,2-Tetrachloroethane	47	
100-41-4	Ethylbenzene	46	
179601-23-1	m,p-Xylene	95	
95-47-6	o-Xylene	49	
1330-20-7	Xylene (Total)	140	
100-42-5	Styrene	45	
75-25-2	Bromoform	42	
98-82-8	Isopropylbenzene	46	
79-34-5	1,1,2,2-Tetrachloroethane	44	
108-86-1	Bromobenzene	42	
96-18-4	1,2,3-Trichloropropane	39	
103-65-1	n-Propylbenzene	42	
95-49-8	2-Chlorotoluene	41	
108-67-8	1,3,5-Trimethylbenzene	43	
106-43-4	4-Chlorotoluene	43	
98-06-6	tert-Butylbenzene	43	
95-63-6	1,2,4-Trimethylbenzene	44	
135-98-8	sec-Butylbenzene	44	
99-87-6	4-Isopropyltoluene	43	
541-73-1	1,3-Dichlorobenzene	43	
106-46-7	1,4-Dichlorobenzene	42	
104-51-8	n-Butylbenzene	42	
95-50-1	1,2-Dichlorobenzene	44	
96-12-8	1,2-Dibromo-3-chloropropane	39	
120-82-1	1,2,4-Trichlorobenzene	40	
87-68-3	Hexachlorobutadiene	39	
87-61-6	1,2,3-Trichlorobenzene	43	
91-20-3	Naphthalene	37	

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-NEMF-3-DMSD

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2168-09AMSD

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1556.D

Level: (TRACE/LOW/MED) LOW Date Received: 11/06/2013

% Moisture: not dec. Date Analyzed: 11/11/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	35	
74-87-3	Chloromethane	40	
75-01-4	Vinyl chloride	42	
74-83-9	Bromomethane	35	
75-00-3	Chloroethane	43	
75-69-4	Trichlorofluoromethane	42	
75-35-4	1,1-Dichloroethene	50	
67-64-1	Acetone	34	
74-88-4	Iodomethane	30	
75-15-0	Carbon disulfide	49	
75-09-2	Methylene chloride	57	
156-60-5	trans-1,2-Dichloroethene	56	
1634-04-4	Methyl tert-butyl ether	53	
75-34-3	1,1-Dichloroethane	54	
108-05-4	Vinyl acetate	52	
78-93-3	2-Butanone	44	
156-59-2	cis-1,2-Dichloroethene	55	
594-20-7	2,2-Dichloropropane	47	
74-97-5	Bromochloromethane	60	
67-66-3	Chloroform	54	
71-55-6	1,1,1-Trichloroethane	53	
563-58-6	1,1-Dichloropropene	54	
56-23-5	Carbon tetrachloride	53	
107-06-2	1,2-Dichloroethane	53	
71-43-2	Benzene	54	
79-01-6	Trichloroethene	74	
78-87-5	1,2-Dichloropropane	56	
74-95-3	Dibromomethane	56	
75-27-4	Bromodichloromethane	57	
10061-01-5	cis-1,3-Dichloropropene	56	
108-10-1	4-Methyl-2-pentanone	47	
108-88-3	Toluene	54	
10061-02-6	trans-1,3-Dichloropropene	48	
79-00-5	1,1,2-Trichloroethane	56	
142-28-9	1,3-Dichloropropane	48	

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-NEMF-3-DMSD

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2168-09AMSD

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D1556.D

Level: (TRACE/LOW/MED) LOW Date Received: 11/06/2013

% Moisture: not dec. Date Analyzed: 11/11/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
127-18-4	Tetrachloroethene	45	
591-78-6	2-Hexanone	36	
124-48-1	Dibromochloromethane	49	
106-93-4	1,2-Dibromoethane	50	
108-90-7	Chlorobenzene	48	
630-20-6	1,1,1,2-Tetrachloroethane	49	
100-41-4	Ethylbenzene	49	
179601-23-1	m,p-Xylene	98	
95-47-6	o-Xylene	51	
1330-20-7	Xylene (Total)	150	
100-42-5	Styrene	48	
75-25-2	Bromoform	43	
98-82-8	Isopropylbenzene	48	
79-34-5	1,1,2,2-Tetrachloroethane	45	
108-86-1	Bromobenzene	46	
96-18-4	1,2,3-Trichloropropane	40	
103-65-1	n-Propylbenzene	46	
95-49-8	2-Chlorotoluene	45	
108-67-8	1,3,5-Trimethylbenzene	46	
106-43-4	4-Chlorotoluene	48	
98-06-6	tert-Butylbenzene	50	
95-63-6	1,2,4-Trimethylbenzene	47	
135-98-8	sec-Butylbenzene	45	
99-87-6	4-Isopropyltoluene	45	
541-73-1	1,3-Dichlorobenzene	46	
106-46-7	1,4-Dichlorobenzene	45	
104-51-8	n-Butylbenzene	45	
95-50-1	1,2-Dichlorobenzene	46	
96-12-8	1,2-Dibromo-3-chloropropane	39	
120-82-1	1,2,4-Trichlorobenzene	44	
87-68-3	Hexachlorobutadiene	42	
87-61-6	1,2,3-Trichlorobenzene	47	
91-20-3	Naphthalene	41	

2B - FORM II VOA-2

WATER VOLATILE DEUTERATED MONITORING COMPOUND RECOVERY

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Level: (TRACE or LOW) LOW

	EPA SAMPLE NO.	VDMC1 (DBFM) #	VDMC2 (DCE) #	VDMC3 (TOL) #	VDMC4 (BFB) #				TOT OUT
01	LCS-74659	107	108	93	100				0
02	MB-74659	106	103	96	98				0
03	TB-11042013	108	110	95	98				0
04	MW-NEMF-1-D	104	104	97	98				0
05	MW-NEMF-1-I	106	108	95	96				0
06	MW-NEMF-1-S	105	105	95	96				0
07	MW-NEMF-2-S	105	105	95	95				0
08	MW-NEMF-2-I	106	105	95	95				0
09	MW-NEMF-2-D	105	99	95	95				0
10	MW-NEMF-3-S	106	103	94	96				0
11	MW-NEMF-3-I	105	99	94	95				0
12	LCS-74694	85	95	97	95				0
13	LCSD-74694	94	105	99	96				0
14	MB-74694	91	101	96	90				0
15	TB-11052013	90	101	101	87				0
16	MW-NEMF-3-D	88	95	97	88				0
17	MW-195-1-S	94	102	101	89				0
18	MW-195-1-I	95	100	99	91				0
19	MW-195-1-D	95	105	97	92				0
20	MW-206-2-D	95	100	99	92				0
21	MW-303-1-I	95	101	96	91				0
22	RB-11062013	93	98	99	94				0
23	MW-303-1-D	97	103	97	91				0
24	MW-303-1-S	97	102	97	93				0
25	TB-11062013	98	109	98	94				0
26	MW-NEMF-3-DMS	103	97	97	102				0

		QC LIMITS
VDMC1	(DBFM) Dibromofluoromethane	(85-115)
VDMC2	(DCE) = 1,2-Dichloroethane-d4	(70-120)
VDMC3	(TOL) = Toluene-d8	(85-120)
VDMC4	(BFB) = Bromofluorobenzene	(75-120)

Column to be used to flag recovery values

* Values outside of contract required QC limits

som13.10.24.A

2B - FORM II VOA-2

WATER VOLATILE DEUTERATED MONITORING COMPOUND RECOVERY

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Level: (TRACE or LOW) LOW

	EPA SAMPLE NO.	VDMC1 (DBFM) #	VDMC2 (DCE) #	VDMC3 (TOL) #	VDMC4 (BFB) #				TOT OUT
27	MW-NEMF-3-DMSD	103	105	95	102				0

		QC LIMITS
VDMC1	(DBFM) Dibromofluoromethane	(85-115)
VDMC2	(DCE) = 1,2-Dichloroethane-d4	(70-120)
VDMC3	(TOL) = Toluene-d8	(85-120)
VDMC4	(BFB) = Bromofluorobenzene	(75-120)

Column to be used to flag recovery values

* Values outside of contract required QC limits

som13.10.24.A

3A - FORM III VOA-1

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Matrix Spike - EPA Sample No.: MW-NEMF-3-D Level: (TRACE or LOW) LOW

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS %REC	#	QC. LIMITS REC.
Dichlorodifluoromethane	50.0000	0.0000	32.9803	66		30-155
Chloromethane	50.0000	0.0000	35.8033	72		40-125
Vinyl chloride	50.0000	0.0000	38.4441	77		50-145
Bromomethane	50.0000	0.0000	26.9186	54		30-145
Chloroethane	50.0000	0.0000	42.1526	84		60-135
Trichlorofluoromethane	50.0000	0.0000	39.3951	79		60-145
1,1-Dichloroethene	50.0000	0.0000	46.1625	92		70-130
Acetone	50.0000	0.0000	28.8927	58		40-140
Iodomethane	50.0000	0.0000	21.9891	44	*	72-121
Carbon disulfide	50.0000	0.0000	45.0539	90		35-160
Methylene chloride	50.0000	0.0000	53.4402	107		55-140
trans-1,2-Dichloroethen	50.0000	0.0000	51.9731	104		60-140
Methyl tert-butyl ether	50.0000	0.0000	50.7931	102		65-125
1,1-Dichloroethane	50.0000	0.0000	51.3450	103		70-135
Vinyl acetate	50.0000	0.0000	48.6445	97		38-163
2-Butanone	50.0000	0.0000	44.3655	89		30-150
cis-1,2-Dichloroethene	50.0000	1.2765	52.3228	102		70-125
2,2-Dichloropropane	50.0000	0.0000	46.0980	92		70-135
Bromochloromethane	50.0000	0.0000	57.6097	115		65-130
Chloroform	50.0000	0.0000	50.2246	100		65-135
1,1,1-Trichloroethane	50.0000	0.0000	50.0922	100		65-130
1,1-Dichloropropene	50.0000	0.0000	53.7392	107		75-130
Carbon tetrachloride	50.0000	0.0000	50.0096	100		65-140
1,2-Dichloroethane	50.0000	0.0000	51.8084	104		70-130
Benzene	50.0000	0.0000	50.5898	101		80-120
Trichloroethene	50.0000	22.8763	70.2280	95		70-125
1,2-Dichloropropane	50.0000	0.0000	52.5125	105		75-125
Dibromomethane	50.0000	0.0000	53.0970	106		75-125
Bromodichloromethane	50.0000	0.0000	53.8070	108		75-120
cis-1,3-Dichloropropene	50.0000	0.0000	53.1036	106		70-130
4-Methyl-2-pentanone	50.0000	0.0000	44.3860	89		60-135
Toluene	50.0000	0.0000	52.1880	104		75-120
trans-1,3-Dichloroprope	50.0000	0.0000	46.1631	92		55-140
1,1,2-Trichloroethane	50.0000	0.0000	55.8329	112		75-125
1,3-Dichloropropane	50.0000	0.0000	46.3846	93		75-125
Tetrachloroethene	50.0000	0.8021	43.4013	85		45-150
2-Hexanone	50.0000	0.0000	32.9486	66		55-130
Dibromochloromethane	50.0000	0.0000	47.0075	94		60-135
1,2-Dibromoethane	50.0000	0.0000	48.8003	98		80-120
Chlorobenzene	50.0000	0.0000	45.9145	92		80-120
1,1,1,2-Tetrachloroetha	50.0000	0.0000	47.4404	95		80-130
Ethylbenzene	50.0000	0.0000	46.4609	93		75-125
m,p-Xylene	100.0000	0.0000	95.2805	95		75-130
o-Xylene	50.0000	0.0000	49.0257	98		80-120

3A - FORM III VOA-1

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Matrix Spike - EPA Sample No.: MW-NEMF-3-D Level: (TRACE or LOW) LOW

Xylene (Total)	150.0000	0.0000	144.3062	96		81-121
Styrene	50.0000	0.0000	45.2602	91		65-135
Bromoform	50.0000	0.0000	41.5341	83		70-130
Isopropylbenzene	50.0000	0.0000	46.2273	92		75-125
1,1,2,2-Tetrachloroetha	50.0000	0.0000	44.1370	88		65-130
Bromobenzene	50.0000	0.0000	42.1525	84		75-125
1,2,3-Trichloropropane	50.0000	0.0000	38.6550	77		75-125
n-Propylbenzene	50.0000	0.0000	42.4354	85		70-130
2-Chlorotoluene	50.0000	0.0000	41.1977	82		75-125
1,3,5-Trimethylbenzene	50.0000	0.0000	42.5403	85		75-130
4-Chlorotoluene	50.0000	0.0000	42.7548	86		75-130
tert-Butylbenzene	50.0000	0.0000	43.1778	86		70-130
1,2,4-Trimethylbenzene	50.0000	0.0000	44.3017	89		75-130
sec-Butylbenzene	50.0000	0.0000	43.6040	87		70-125
4-Isopropyltoluene	50.0000	0.0000	43.2103	86		75-130
1,3-Dichlorobenzene	50.0000	0.0000	42.9222	86		75-125
1,4-Dichlorobenzene	50.0000	0.0000	42.2771	85		75-125
n-Butylbenzene	50.0000	0.0000	42.2996	85		70-135
1,2-Dichlorobenzene	50.0000	0.0000	43.5668	87		70-120
1,2-Dibromo-3-chloropro	50.0000	0.0000	39.4237	79		50-130
1,2,4-Trichlorobenzene	50.0000	0.0000	39.7073	79		65-135
Hexachlorobutadiene	50.0000	0.0000	39.0920	78		50-140
1,2,3-Trichlorobenzene	50.0000	0.0000	43.1155	86		55-140
Naphthalene	50.0000	0.0000	37.1029	74		55-140

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD %REC	#	%RPD	#	QC LIMITS RPD	QC LIMITS REC.
Dichlorodifluoromethane	50.0000	35.3260	71		7		0-40	30-155
Chloromethane	50.0000	39.5753	79		10		0-40	40-125
Vinyl chloride	50.0000	42.3558	85		10		0-40	50-145
Bromomethane	50.0000	35.4805	71		27		0-40	30-145
Chloroethane	50.0000	43.2082	86		2		0-40	60-135
Trichlorofluoromethane	50.0000	41.6650	83		6		0-40	60-145
1,1-Dichloroethene	50.0000	50.2521	101		8		0-40	70-130
Acetone	50.0000	34.1370	68		17		0-40	40-140
Iodomethane	50.0000	29.7435	59	*	30		0-40	72-121
Carbon disulfide	50.0000	48.7344	97		8		0-40	35-160
Methylene chloride	50.0000	57.0942	114		7		0-40	55-140
trans-1,2-Dichloroethen	50.0000	55.8403	112		7		0-40	60-140
Methyl tert-butyl ether	50.0000	52.5923	105		3		0-40	65-125
1,1-Dichloroethane	50.0000	54.2829	109		6		0-40	70-135
Vinyl acetate	50.0000	51.5487	103		6		0-40	38-163
2-Butanone	50.0000	44.0934	88		1		0-40	30-150
cis-1,2-Dichloroethene	50.0000	54.7477	107		5		0-40	70-125
2,2-Dichloropropane	50.0000	47.2725	95		3		0-40	70-135
Bromochloromethane	50.0000	59.5589	119		3		0-40	65-130

3A - FORM III VOA-1

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Matrix Spike - EPA Sample No.: MW-NEMF-3-D Level: (TRACE or LOW) LOW

Chloroform	50.0000	53.7531	108		7		0-40	65-135
1,1,1-Trichloroethane	50.0000	53.0391	106		6		0-40	65-130
1,1-Dichloropropene	50.0000	54.4580	109		1		0-40	75-130
Carbon tetrachloride	50.0000	52.5513	105		5		0-40	65-140
1,2-Dichloroethane	50.0000	52.7852	106		2		0-40	70-130
Benzene	50.0000	53.7166	107		6		0-40	80-120
Trichloroethene	50.0000	74.2003	103		8		0-40	70-125
1,2-Dichloropropane	50.0000	55.5251	111		6		0-40	75-125
Dibromomethane	50.0000	55.5129	111		4		0-40	75-125
Bromodichloromethane	50.0000	56.8301	114		5		0-40	75-120
cis-1,3-Dichloropropene	50.0000	56.3402	113		6		0-40	70-130
4-Methyl-2-pentanone	50.0000	46.7346	93		5		0-40	60-135
Toluene	50.0000	53.5433	107		3		0-40	75-120
trans-1,3-Dichloroprope	50.0000	48.0997	96		4		0-40	55-140
1,1,2-Trichloroethane	50.0000	56.0166	112		0		0-40	75-125
1,3-Dichloropropane	50.0000	47.8169	96		3		0-40	75-125
Tetrachloroethene	50.0000	45.0360	88		4		0-40	45-150
2-Hexanone	50.0000	36.2759	73		10		0-40	55-130
Dibromochloromethane	50.0000	49.2819	99		5		0-40	60-135
1,2-Dibromoethane	50.0000	49.5341	99		1		0-40	80-120
Chlorobenzene	50.0000	47.7135	95		4		0-40	80-120
1,1,1,2-Tetrachloroetha	50.0000	48.5931	97		2		0-40	80-130
Ethylbenzene	50.0000	48.6288	97		5		0-40	75-125
m,p-Xylene	100.0000	98.3900	98		3		0-40	75-130
o-Xylene	50.0000	51.2549	103		4		0-40	80-120
Xylene (Total)	150.0000	149.6449	100		4		0-40	81-121
Styrene	50.0000	47.9693	96		6		0-40	65-135
Bromoform	50.0000	43.2861	87		4		0-40	70-130
Isopropylbenzene	50.0000	48.2221	96		4		0-40	75-125
1,1,2,2-Tetrachloroetha	50.0000	45.0980	90		2		0-40	65-130
Bromobenzene	50.0000	46.0090	92		9		0-40	75-125
1,2,3-Trichloropropane	50.0000	39.9577	80		3		0-40	75-125
n-Propylbenzene	50.0000	45.8470	92		8		0-40	70-130
2-Chlorotoluene	50.0000	44.6418	89		8		0-40	75-125
1,3,5-Trimethylbenzene	50.0000	45.6197	91		7		0-40	75-130
4-Chlorotoluene	50.0000	48.2532	97		12		0-40	75-130
tert-Butylbenzene	50.0000	50.2210	100		15		0-40	70-130
1,2,4-Trimethylbenzene	50.0000	47.1919	94		6		0-40	75-130
sec-Butylbenzene	50.0000	45.3436	91		4		0-40	70-125
4-Isopropyltoluene	50.0000	45.3253	91		5		0-40	75-130
1,3-Dichlorobenzene	50.0000	46.4859	93		8		0-40	75-125
1,4-Dichlorobenzene	50.0000	45.0111	90		6		0-40	75-125
n-Butylbenzene	50.0000	44.8262	90		6		0-40	70-135
1,2-Dichlorobenzene	50.0000	46.3556	93		6		0-40	70-120
1,2-Dibromo-3-chloropro	50.0000	39.4098	79		0		0-40	50-130
1,2,4-Trichlorobenzene	50.0000	43.9430	88		10		0-40	65-135
Hexachlorobutadiene	50.0000	42.1742	84		8		0-40	50-140

3A - FORM III VOA-1

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Matrix Spike - EPA Sample No.: MW-NEMF-3-D Level: (TRACE or LOW) LOW

1,2,3-Trichlorobenzene	50.0000	46.8401	94		8		0-40	55-140
Naphthalene	50.0000	40.7470	81		9		0-40	55-140

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 68 outside limits

Spike Recovery: 2 out of 136 outside limits

COMMENTS:

3 - FORM III
WATER LABORATORY CONTROL
SAMPLE RECOVERY

EPA SAMPLE NO.
LCS-74659

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Lab Sample ID: LCS-74659 LCS Lot No.:

Date Extracted: 11/07/2013 Date Analyzed (1): 11/07/2013

COMPOUND	SPIKE ADDED	SAMPLE CONCENTRATION	LCS CONCENTRATION	LCS %REC	#	QC. LIMITS REC.
Dichlorodifluoromethane	50.0000	0.0000	47.3735	95		30 - 155
Chloromethane	50.0000	0.0000	41.0659	82		40 - 125
Vinyl chloride	50.0000	0.0000	42.6957	85		50 - 145
Bromomethane	50.0000	0.0000	47.5454	95		30 - 145
Chloroethane	50.0000	0.0000	44.4700	89		60 - 135
Trichlorofluoromethane	50.0000	0.0000	50.0078	100		60 - 145
1,1-Dichloroethene	50.0000	0.0000	46.2088	92		70 - 130
Acetone	50.0000	0.0000	71.0528	142	*	40 - 140
Iodomethane	50.0000	0.0000	47.1268	94		72 - 121
Carbon disulfide	50.0000	0.0000	43.6236	87		35 - 160
Methylene chloride	50.0000	0.0000	48.0996	96		55 - 140
trans-1,2-Dichloroethene	50.0000	0.0000	49.1068	98		60 - 140
Methyl tert-butyl ether	50.0000	0.0000	54.2056	108		65 - 125
1,1-Dichloroethane	50.0000	0.0000	46.4627	93		70 - 135
Vinyl acetate	50.0000	0.0000	47.5083	95		38 - 163
2-Butanone	50.0000	0.0000	65.8633	132		30 - 150
cis-1,2-Dichloroethene	50.0000	0.0000	48.5590	97		70 - 125
2,2-Dichloropropane	50.0000	0.0000	45.9550	92		70 - 135
Bromochloromethane	50.0000	0.0000	53.3442	107		65 - 130
Chloroform	50.0000	0.0000	48.4704	97		65 - 135
1,1,1-Trichloroethane	50.0000	0.0000	46.1777	92		65 - 130
1,1-Dichloropropene	50.0000	0.0000	46.2981	93		75 - 130
Carbon tetrachloride	50.0000	0.0000	46.5999	93		65 - 140
1,2-Dichloroethane	50.0000	0.0000	50.1478	100		70 - 130
Benzene	50.0000	0.0000	44.3744	89		80 - 120
Trichloroethene	50.0000	0.0000	48.0485	96		70 - 125
1,2-Dichloropropane	50.0000	0.0000	46.8814	94		75 - 125
Dibromomethane	50.0000	0.0000	53.6792	107		75 - 125
Bromodichloromethane	50.0000	0.0000	50.9045	102		75 - 120
cis-1,3-Dichloropropene	50.0000	0.0000	50.4792	101		70 - 130
4-Methyl-2-pentanone	50.0000	0.0000	57.5963	115		60 - 135
Toluene	50.0000	0.0000	46.4482	93		75 - 120
trans-1,3-Dichloropropene	50.0000	0.0000	52.6320	105		55 - 140
1,1,2-Trichloroethane	50.0000	0.0000	54.0672	108		75 - 125
1,3-Dichloropropane	50.0000	0.0000	47.3915	95		75 - 125
Tetrachloroethene	50.0000	0.0000	42.3474	85		45 - 150
2-Hexanone	50.0000	0.0000	56.5460	113		55 - 130
Dibromochloromethane	50.0000	0.0000	51.1383	102		60 - 135
1,2-Dibromoethane	50.0000	0.0000	51.9575	104		80 - 120
Chlorobenzene	50.0000	0.0000	46.1574	92		80 - 120
1,1,1,2-Tetrachloroethane	50.0000	0.0000	48.5686	97		80 - 130
Ethylbenzene	50.0000	0.0000	44.3127	89		75 - 125
m,p-Xylene	100.0000	0.0000	90.7750	91		75 - 130
o-Xylene	50.0000	0.0000	46.3076	93		80 - 120

3 - FORM III
WATER LABORATORY CONTROL
SAMPLE RECOVERY

EPA SAMPLE NO.
LCS-74659

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Lab Sample ID: LCS-74659 LCS Lot No.:

Date Extracted: 11/07/2013 Date Analyzed (1): 11/07/2013

COMPOUND	SPIKE ADDED	SAMPLE CONCENTRATION	LCS CONCENTRATION	LCS %REC	#	QC. LIMITS REC.
Xylene (Total)	150.0000	0.0000	137.0826	91		81 - 121
Styrene	50.0000	0.0000	47.6532	95		65 - 135
Bromoform	50.0000	0.0000	58.9577	118		70 - 130
Isopropylbenzene	50.0000	0.0000	44.0322	88		75 - 125
1,1,2,2-Tetrachloroethane	50.0000	0.0000	50.2777	101		65 - 130
Bromobenzene	50.0000	0.0000	47.2146	94		75 - 125
1,2,3-Trichloropropane	50.0000	0.0000	53.7494	107		75 - 125
n-Propylbenzene	50.0000	0.0000	43.2073	86		70 - 130
2-Chlorotoluene	50.0000	0.0000	43.4630	87		75 - 125
1,3,5-Trimethylbenzene	50.0000	0.0000	43.2448	86		75 - 130
4-Chlorotoluene	50.0000	0.0000	44.8911	90		75 - 130
tert-Butylbenzene	50.0000	0.0000	42.4367	85		70 - 130
1,2,4-Trimethylbenzene	50.0000	0.0000	43.5858	87		75 - 130
sec-Butylbenzene	50.0000	0.0000	42.4524	85		70 - 125
4-Isopropyltoluene	50.0000	0.0000	43.5058	87		75 - 130
1,3-Dichlorobenzene	50.0000	0.0000	46.0105	92		75 - 125
1,4-Dichlorobenzene	50.0000	0.0000	44.6390	89		75 - 125
n-Butylbenzene	50.0000	0.0000	42.3839	85		70 - 135
1,2-Dichlorobenzene	50.0000	0.0000	48.4010	97		70 - 120
1,2-Dibromo-3-chloropropan	50.0000	0.0000	57.5423	115		50 - 130
1,2,4-Trichlorobenzene	50.0000	0.0000	54.9192	110		65 - 135
Hexachlorobutadiene	50.0000	0.0000	46.1750	92		50 - 140
1,2,3-Trichlorobenzene	50.0000	0.0000	58.7361	117		55 - 140
Naphthalene	50.0000	0.0000	62.2573	125		55 - 140

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

Spike Recovery: 1 out of 68 outside limits

COMMENTS:

3 - FORM III
WATER LABORATORY CONTROL
SAMPLE RECOVERY

EPA SAMPLE NO.
LCS-74694

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Lab Sample ID: LCS-74694 LCS Lot No.:

Date Extracted: 11/11/2013 Date Analyzed (1): 11/11/2013

COMPOUND	SPIKE ADDED	SAMPLE CONCENTRATION	LCS CONCENTRATION	LCS %REC	#	QC. LIMITS REC.
Dichlorodifluoromethane	50.0000	0.0000	36.7817	74		30 - 155
Chloromethane	50.0000	0.0000	40.2769	81		40 - 125
Vinyl chloride	50.0000	0.0000	41.6907	83		50 - 145
Bromomethane	50.0000	0.0000	35.0522	70		30 - 145
Chloroethane	50.0000	0.0000	42.8269	86		60 - 135
Trichlorofluoromethane	50.0000	0.0000	37.1287	74		60 - 145
1,1-Dichloroethene	50.0000	0.0000	46.8975	94		70 - 130
Acetone	50.0000	0.0000	41.4480	83		40 - 140
Iodomethane	50.0000	0.0000	30.0914	60	*	72 - 121
Carbon disulfide	50.0000	0.0000	55.4228	111		35 - 160
Methylene chloride	50.0000	0.0000	56.1538	112		55 - 140
trans-1,2-Dichloroethene	50.0000	0.0000	54.2628	109		60 - 140
Methyl tert-butyl ether	50.0000	0.0000	47.2043	94		65 - 125
1,1-Dichloroethane	50.0000	0.0000	49.7709	100		70 - 135
Vinyl acetate	50.0000	0.0000	43.3134	87		38 - 163
2-Butanone	50.0000	0.0000	47.5685	95		30 - 150
cis-1,2-Dichloroethene	50.0000	0.0000	52.3651	105		70 - 125
2,2-Dichloropropane	50.0000	0.0000	44.5603	89		70 - 135
Bromochloromethane	50.0000	0.0000	53.2498	106		65 - 130
Chloroform	50.0000	0.0000	43.6702	87		65 - 135
1,1,1-Trichloroethane	50.0000	0.0000	41.1761	82		65 - 130
1,1-Dichloropropene	50.0000	0.0000	53.8971	108		75 - 130
Carbon tetrachloride	50.0000	0.0000	40.6600	81		65 - 140
1,2-Dichloroethane	50.0000	0.0000	38.5171	77		70 - 130
Benzene	50.0000	0.0000	53.5505	107		80 - 120
Trichloroethene	50.0000	0.0000	50.6972	101		70 - 125
1,2-Dichloropropane	50.0000	0.0000	57.1952	114		75 - 125
Dibromomethane	50.0000	0.0000	51.9744	104		75 - 125
Bromodichloromethane	50.0000	0.0000	52.4583	105		75 - 120
cis-1,3-Dichloropropene	50.0000	0.0000	58.3630	117		70 - 130
4-Methyl-2-pentanone	50.0000	0.0000	41.8774	84		60 - 135
Toluene	50.0000	0.0000	54.9714	110		75 - 120
trans-1,3-Dichloropropene	50.0000	0.0000	49.8593	100		55 - 140
1,1,2-Trichloroethane	50.0000	0.0000	53.5957	107		75 - 125
1,3-Dichloropropane	50.0000	0.0000	49.6059	99		75 - 125
Tetrachloroethene	50.0000	0.0000	45.3456	91		45 - 150
2-Hexanone	50.0000	0.0000	37.9397	76		55 - 130
Dibromochloromethane	50.0000	0.0000	48.9390	98		60 - 135
1,2-Dibromoethane	50.0000	0.0000	50.2329	100		80 - 120
Chlorobenzene	50.0000	0.0000	50.4085	101		80 - 120
1,1,1,2-Tetrachloroethane	50.0000	0.0000	48.8416	98		80 - 130
Ethylbenzene	50.0000	0.0000	51.9889	104		75 - 125
m,p-Xylene	100.0000	0.0000	104.8267	105		75 - 130
o-Xylene	50.0000	0.0000	54.0948	108		80 - 120

3 - FORM III
WATER LABORATORY CONTROL
SAMPLE RECOVERY

EPA SAMPLE NO.
LCS-74694

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Lab Sample ID: LCS-74694 LCS Lot No.:

Date Extracted: 11/11/2013 Date Analyzed (1): 11/11/2013

COMPOUND	SPIKE ADDED	SAMPLE CONCENTRATION	LCS CONCENTRATION	LCS %REC	#	QC. LIMITS REC.
Xylene (Total)	150.0000	0.0000	158.9215	106		81 - 121
Styrene	50.0000	0.0000	51.6873	103		65 - 135
Bromoform	50.0000	0.0000	44.5383	89		70 - 130
Isopropylbenzene	50.0000	0.0000	48.7324	97		75 - 125
1,1,2,2-Tetrachloroethane	50.0000	0.0000	49.4476	99		65 - 130
Bromobenzene	50.0000	0.0000	48.2406	96		75 - 125
1,2,3-Trichloropropane	50.0000	0.0000	41.9557	84		75 - 125
n-Propylbenzene	50.0000	0.0000	48.3840	97		70 - 130
2-Chlorotoluene	50.0000	0.0000	47.6662	95		75 - 125
1,3,5-Trimethylbenzene	50.0000	0.0000	47.2619	95		75 - 130
4-Chlorotoluene	50.0000	0.0000	49.5845	99		75 - 130
tert-Butylbenzene	50.0000	0.0000	46.5537	93		70 - 130
1,2,4-Trimethylbenzene	50.0000	0.0000	48.8720	98		75 - 130
sec-Butylbenzene	50.0000	0.0000	47.9360	96		70 - 125
4-Isopropyltoluene	50.0000	0.0000	47.6030	95		75 - 130
1,3-Dichlorobenzene	50.0000	0.0000	48.4389	97		75 - 125
1,4-Dichlorobenzene	50.0000	0.0000	46.1683	92		75 - 125
n-Butylbenzene	50.0000	0.0000	48.2813	97		70 - 135
1,2-Dichlorobenzene	50.0000	0.0000	47.5959	95		70 - 120
1,2-Dibromo-3-chloropropan	50.0000	0.0000	39.7614	80		50 - 130
1,2,4-Trichlorobenzene	50.0000	0.0000	46.6132	93		65 - 135
Hexachlorobutadiene	50.0000	0.0000	45.3767	91		50 - 140
1,2,3-Trichlorobenzene	50.0000	0.0000	47.6746	95		55 - 140
Naphthalene	50.0000	0.0000	42.5583	85		55 - 140

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

Spike Recovery: 1 out of 68 outside limits

COMMENTS:

3 - FORM III

WATER LABORATORY CONTROL

SAMPLE DUPLICATE RECOVERY

EPA SAMPLE NO.

LCSD-74694

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Lab Sample ID: LCSD-74694 LCS Lot No.:

COMPOUND	SPIKE ADDED	LCSD CONCENTRATION	LCSD %REC	#	%RPD	#	QC LIMITS RPD	QC LIMITS REC.
Dichlorodifluoromethane	50.0000	39.0074	78		5		40	30 - 155
Chloromethane	50.0000	41.7183	83		2		40	40 - 125
Vinyl chloride	50.0000	45.9182	92		10		40	50 - 145
Bromomethane	50.0000	36.1080	72		3		40	30 - 145
Chloroethane	50.0000	45.5370	91		6		40	60 - 135
Trichlorofluoromethane	50.0000	38.9936	78		5		40	60 - 145
1,1-Dichloroethene	50.0000	51.1134	102		8		40	70 - 130
Acetone	50.0000	38.0190	76		9		40	40 - 140
Iodomethane	50.0000	31.9324	64	*	6		40	72 - 121
Carbon disulfide	50.0000	55.9295	112		1		40	35 - 160
Methylene chloride	50.0000	59.1853	118		5		40	55 - 140
trans-1,2-Dichloroethene	50.0000	60.1861	120		10		40	60 - 140
Methyl tert-butyl ether	50.0000	54.7702	110		16		40	65 - 125
1,1-Dichloroethane	50.0000	56.5522	113		12		40	70 - 135
Vinyl acetate	50.0000	52.3802	105		19		40	38 - 163
2-Butanone	50.0000	51.5288	103		8		40	30 - 150
cis-1,2-Dichloroethene	50.0000	60.0850	120		13		40	70 - 125
2,2-Dichloropropane	50.0000	55.4585	111		22		40	70 - 135
Bromochloromethane	50.0000	59.7537	120		12		40	65 - 130
Chloroform	50.0000	52.1322	104		18		40	65 - 135
1,1,1-Trichloroethane	50.0000	50.6644	101		21		40	65 - 130
1,1-Dichloropropene	50.0000	62.1509	124		14		40	75 - 130
Carbon tetrachloride	50.0000	50.9977	102		23		40	65 - 140
1,2-Dichloroethane	50.0000	46.1940	92		18		40	70 - 130
Benzene	50.0000	58.7554	118		10		40	80 - 120
Trichloroethene	50.0000	53.7878	108		7		40	70 - 125
1,2-Dichloropropane	50.0000	59.2680	119		4		40	75 - 125
Dibromomethane	50.0000	53.7625	108		4		40	75 - 125
Bromodichloromethane	50.0000	55.4090	111		6		40	75 - 120
cis-1,3-Dichloropropene	50.0000	60.7013	121		3		40	70 - 130
4-Methyl-2-pentanone	50.0000	46.0741	92		9		40	60 - 135
Toluene	50.0000	59.8174	120		9		40	75 - 120
trans-1,3-Dichloropropene	50.0000	51.2631	103		3		40	55 - 140
1,1,2-Trichloroethane	50.0000	57.3423	115		7		40	75 - 125
1,3-Dichloropropane	50.0000	51.2531	103		4		40	75 - 125
Tetrachloroethene	50.0000	50.9284	102		11		40	45 - 150
2-Hexanone	50.0000	40.1396	80		5		40	55 - 130
Dibromochloromethane	50.0000	51.6985	103		5		40	60 - 135
1,2-Dibromoethane	50.0000	53.1350	106		6		40	80 - 120
Chlorobenzene	50.0000	53.4990	107		6		40	80 - 120
1,1,1,2-Tetrachloroethane	50.0000	51.5123	103		5		40	80 - 130
Ethylbenzene	50.0000	56.9497	114		9		40	75 - 125
m,p-Xylene	100.0000	113.5318	114		8		40	75 - 130
o-Xylene	50.0000	58.5862	117		8		40	80 - 120
Xylene (Total)	150.0000	172.1180	115		8		40	81 - 121
Styrene	50.0000	55.1038	110		7		40	65 - 135

3 - FORM III
WATER LABORATORY CONTROL
SAMPLE DUPLICATE RECOVERY

EPA SAMPLE NO.
LCSD-74694

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Lab Sample ID: LCSD-74694 LCS Lot No.:

COMPOUND	SPIKE ADDED	LCSD CONCENTRATION	LCSD %REC	#	%RPD	#	QC LIMITS RPD	QC LIMITS REC.
Bromoform	50.0000	48.8824	98		10		40	70 - 130
Isopropylbenzene	50.0000	55.1209	110		13		40	75 - 125
1,1,2,2-Tetrachloroethane	50.0000	52.4166	105		6		40	65 - 130
Bromobenzene	50.0000	51.4626	103		7		40	75 - 125
1,2,3-Trichloropropane	50.0000	44.8113	90		7		40	75 - 125
n-Propylbenzene	50.0000	55.2699	111		13		40	70 - 130
2-Chlorotoluene	50.0000	51.3860	103		8		40	75 - 125
1,3,5-Trimethylbenzene	50.0000	52.7018	105		10		40	75 - 130
4-Chlorotoluene	50.0000	53.0073	106		7		40	75 - 130
tert-Butylbenzene	50.0000	56.7439	113		19		40	70 - 130
1,2,4-Trimethylbenzene	50.0000	52.8770	106		8		40	75 - 130
sec-Butylbenzene	50.0000	53.8563	108		12		40	70 - 125
4-Isopropyltoluene	50.0000	52.7831	106		11		40	75 - 130
1,3-Dichlorobenzene	50.0000	51.7343	103		6		40	75 - 125
1,4-Dichlorobenzene	50.0000	50.0900	100		8		40	75 - 125
n-Butylbenzene	50.0000	52.9915	106		9		40	70 - 135
1,2-Dichlorobenzene	50.0000	51.1863	102		7		40	70 - 120
1,2-Dibromo-3-chloropropan	50.0000	41.8851	84		5		40	50 - 130
1,2,4-Trichlorobenzene	50.0000	52.1639	104		11		40	65 - 135
Hexachlorobutadiene	50.0000	49.4830	99		8		40	50 - 140
1,2,3-Trichlorobenzene	50.0000	55.2679	111		16		40	55 - 140
Naphthalene	50.0000	47.6552	95		11		40	55 - 140

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 68 outside limits

Spike Recovery: 1 out of 68 outside limits

COMMENTS:

4A - FORM IV VOA
VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.
MB-74659

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Lab File ID: V1M6036.D Lab Sample ID: MB-74659

Instrument ID: V1

Matrix: (SOIL/SED/WATER) WATER Date Analyzed: 11/07/2013

Level: (TRACE or LOW/MED) LOW Time Analyzed: 11:03

GC Column: DB-624 ID: 0.25 (mm) Heated Purge: (Y/N) N

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	LCS-74659	LCS-74659	V1M6033.D	9:43
02	TB-11042013	M2168-06A	V1M6046.D	14:59
03	MW-NEMF-1-D	M2168-01A	V1M6047.D	15:23
04	MW-NEMF-1-I	M2168-02A	V1M6048.D	15:47
05	MW-NEMF-1-S	M2168-03A	V1M6049.D	16:10
06	MW-NEMF-2-S	M2168-04A	V1M6050.D	16:34
07	MW-NEMF-2-I	M2168-05A	V1M6051.D	16:58
08	MW-NEMF-2-D	M2168-07A	V1M6052.D	17:22
09	MW-NEMF-3-S	M2168-08A	V1M6053.D	17:46
10	MW-NEMF-3-I	M2168-10A	V1M6054.D	18:09

COMMENTS:

4A - FORM IV VOA
VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.
MB-74694

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

Lab File ID: V8D1536.D Lab Sample ID: MB-74694

Instrument ID: V10

Matrix: (SOIL/SED/WATER) WATER Date Analyzed: 11/11/2013

Level: (TRACE or LOW/MED) LOW Time Analyzed: 11:09

GC Column: DB-624 ID: 0.25 (mm) Heated Purge: (Y/N) N

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	LCS-74694	LCS-74694	V8D1533.D	9:48
02	LCSD-74694	LCSD-74694	V8D1534.D	10:15
03	TB-11052013	M2168-13A	V8D1538.D	12:10
04	MW-NEMF-3-D	M2168-09A	V8D1539.D	12:37
05	MW-195-1-S	M2168-11A	V8D1540.D	13:04
06	MW-195-1-I	M2168-12A	V8D1541.D	13:31
07	MW-195-1-D	M2168-14A	V8D1542.D	13:58
08	MW-206-2-D	M2168-15A	V8D1543.D	14:25
09	MW-303-1-I	M2168-16A	V8D1544.D	14:52
10	RB-11062013	M2168-17A	V8D1545.D	15:20
11	MW-303-1-D	M2168-18A	V8D1546.D	15:47
12	MW-303-1-S	M2168-19A	V8D1547.D	16:14
13	TB-11062013	M2168-20A	V8D1548.D	16:42
14	MW-NEMF-3-DMS	M2168-09AMS	V8D1555.D	19:53
15	MW-NEMF-3-DMSD	M2168-09AMSD	V8D1556.D	20:20

COMMENTS:

8A - FORM VIII VOA

VOLATILE INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

GC Column: DB-624 ID: 0.25 (mm) Init. Calib. Date(s): 10/30/2013 10/30/2013

EPA Sample No.(VSTD#####): VSTD0501C Date Analyzed: 11/07/2013

Lab File ID (Standard): V1M6032.D Time Analyzed: 8:47

Instrument ID: V1 Heated Purge: (Y/N) N

		IS1 (S1) AREA	#	RT	#	IS2 (S2) AREA	#	RT	#	IS3 (S3) AREA	#	RT	#
	12 HOUR STD	1743029		4.487		1366908		7.352		645367		9.922	
	UPPER LIMIT	3486058		4.987		2733816		7.852		1290734		10.422	
	LOWER LIMIT	871515		3.987		683454		6.852		322684		9.422	
	EPA SAMPLE NO.												
01	LCS-74659	1730473		4.496		1363765		7.362		653138		9.922	
02	MB-74659	1583328		4.495		1208180		7.361		526296		9.921	
03	TB-11042013	1529752		4.494		1176049		7.369		515483		9.929	
04	MW-NEMF-1-D	1556113		4.502		1172871		7.368		513696		9.918	
05	MW-NEMF-1-I	1486640		4.493		1156900		7.358		495885		9.918	
06	MW-NEMF-1-S	1558426		4.486		1190820		7.361		512438		9.931	
07	MW-NEMF-2-S	1485609		4.490		1135206		7.365		474208		9.925	
08	MW-NEMF-2-I	1496482		4.487		1148143		7.362		490844		9.922	
09	MW-NEMF-2-D	1586544		4.495		1204839		7.361		506923		9.921	
10	MW-NEMF-3-S	1573913		4.497		1206973		7.362		505721		9.922	
11	MW-NEMF-3-I	1607040		4.495		1227034		7.361		523879		9.921	

IS1 () = Fluorobenzene
IS2 () = Chlorobenzene-d5
IS3 () = 1,4-Dichlorobenzene-d4
AREA UPPER LIMIT = 200% (Low-Medium Volatiles) and 140% (Trace Volatiles) of internal standard area
AREA LOWER LIMIT = 50% (Low-Medium Volatiles) and 60% (Trace Volatiles) of internal standard area
RT UPPER LIMIT = +0.50 (Low-Medium Volatiles) and +0.33 (Trace Volatiles) minutes of internal standard RT
RT LOWER LIMIT = -0.50 (Low-Medium Volatiles) and -0.33 (Trace Volatiles) minutes of internal standard RT

Column used to flag values outside contract required QC limits with an asterisk.

8A - FORM VIII VOA

VOLATILE INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

GC Column: DB-624 ID: 0.25 (mm) Init. Calib. Date(s): 09/28/2013 09/28/2013

EPA Sample No.(VSTD#####): VSTD05010Z Date Analyzed: 11/11/2013

Lab File ID (Standard): V8D1532.D Time Analyzed: 9:08

Instrument ID: V10 Heated Purge: (Y/N) N

		IS1 (S1) AREA	#	RT	#	IS2 (S2) AREA	#	RT	#	IS3 (S3) AREA	#	RT	#
	12 HOUR STD	217184		5.236		210652		8.223		127926		10.728	
	UPPER LIMIT	434368		5.736		421304		8.723		255852		11.228	
	LOWER LIMIT	108592		4.736		105326		7.723		63963		10.228	
	EPA SAMPLE NO.												
01	LCS-74694	207675		5.233		196690		8.223		118800		10.725	
02	LCSD-74694	206654		5.236		196163		8.226		120191		10.725	
03	MB-74694	195015		5.236		185035		8.223		99619		10.728	
04	TB-11052013	173911		5.236		157948		8.226		85088		10.728	
05	MW-NEMF-3-D	176513		5.236		161389		8.223		91442		10.728	
06	MW-195-1-S	178467		5.239		166857		8.223		90822		10.731	
07	MW-195-1-I	174277		5.236		164708		8.223		88351		10.728	
08	MW-195-1-D	173313		5.236		164730		8.223		85432		10.731	
09	MW-206-2-D	171234		5.239		160560		8.223		83469		10.728	
10	MW-303-1-I	162361		5.236		158743		8.223		85529		10.728	
11	RB-11062013	163848		5.239		154166		8.226		84559		10.728	
12	MW-303-1-D	160643		5.236		154965		8.226		82073		10.728	
13	MW-303-1-S	158035		5.239		152679		8.223		82256		10.728	
14	TB-11062013	153357		5.236		146443		8.226		79482		10.731	
15	MW-NEMF-3-DMS	143703		5.236		144268		8.223		95266		10.725	

IS1 () = Fluorobenzene

IS2 () = Chlorobenzene-d5

IS3 () = 1,4-Dichlorobenzene-d4

AREA UPPER LIMIT = 200% (Low-Medium Volatiles) and 140% (Trace Volatiles) of internal standard area

AREA LOWER LIMIT = 50% (Low-Medium Volatiles) and 60% (Trace Volatiles) of internal standard area

RT UPPER LIMIT = +0.50 (Low-Medium Volatiles) and +0.33 (Trace Volatiles) minutes of internal standard RT

RT LOWER LIMIT = -0.50 (Low-Medium Volatiles) and -0.33 (Trace Volatiles) minutes of internal standard RT

Column used to flag values outside contract required QC limits with an asterisk.

8A - FORM VIII VOA

VOLATILE INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2168 Mod. Ref No.: SDG No.: SM2168

GC Column: DB-624 ID: 0.25 (mm) Init. Calib. Date(s): 09/28/2013 09/28/2013

EPA Sample No.(VSTD#####): VSTD05010Z Date Analyzed: 11/11/2013

Lab File ID (Standard): V8D1532.D Time Analyzed: 9:08

Instrument ID: V10 Heated Purge: (Y/N) N

		IS1 (S1) AREA	#	RT	#	IS2 (S2) AREA	#	RT	#	IS3 (S3) AREA	#	RT	#
	12 HOUR STD	217184		5.236		210652		8.223		127926		10.728	
	UPPER LIMIT	434368		5.736		421304		8.723		255852		11.228	
	LOWER LIMIT	108592		4.736		105326		7.723		63963		10.228	
	EPA SAMPLE NO.												
16	MW-NEMF-3-DMSD	145399		5.236		146779		8.223		93304		10.725	

IS1 () = Fluorobenzene
IS2 () = Chlorobenzene-d5
IS3 () = 1,4-Dichlorobenzene-d4
AREA UPPER LIMIT = 200% (Low-Medium Volatiles) and 140% (Trace Volatiles) of internal standard area
AREA LOWER LIMIT = 50% (Low-Medium Volatiles) and 60% (Trace Volatiles) of internal standard area
RT UPPER LIMIT = +0.50 (Low-Medium Volatiles) and +0.33 (Trace Volatiles) minutes of internal standard RT
RT LOWER LIMIT = -0.50 (Low-Medium Volatiles) and -0.33 (Trace Volatiles) minutes of internal standard RT

Column used to flag values outside contract required QC limits with an asterisk.

Report Date:
18-Dec-13 13:58

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

☑ Final Report
☐ Re-Issued Report
☐ Revised Report

Laboratory Report

HDR LMS, Inc.
One Blue Hill Plaza
Pearl River, NY 10965-

Work Order: M2391
Project : Aluminum Louvre
Project #:

Attn: Patricia Parvis

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
M2391-01	MW-NEMF-4-D	Aqueous	05-Dec-13 11:45	09-Dec-13 09:19
M2391-02	MW-NEMF-4-VD	Aqueous	05-Dec-13 13:40	09-Dec-13 09:19
M2391-03	MW-NEMF-5-VD	Aqueous	05-Dec-13 13:45	09-Dec-13 09:19
M2391-04	MW-NEMF-2-ED	Aqueous	05-Dec-13 15:25	09-Dec-13 09:19
M2391-05	MW-NEMF-3-ED	Aqueous	05-Dec-13 17:40	09-Dec-13 09:19
M2391-06	FB-120513	Aqueous	05-Dec-13 14:45	09-Dec-13 09:19
M2391-07	TB-120513	Aqueous	05-Dec-13 14:50	09-Dec-13 09:19

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. The results relate only to the samples(s) as received. This report may not be reproduced, except in full, without written approval from Spectrum Analytical.

All applicable NELAC or USEPA CLP requirments have been meet.

Spectrum Analytical (Rhode Island) is accredited under the National Environmental Laboratory Approval Program (NELAP) and DoD Environmental Laboratory Accreditation Program (ELAP), holds Organic and Inorganic contracts under the USEPA CLP Program and is certified under several states. The current list of our laboratory approvals and certifications is available on the Certifications page on our web site at www.spectrum-analytical.com.

Please contact the Laboratory or Technical Director at 401-732-3400 with any questions regarding the data contained in the laboratory report.

Department of Defense	N/A
Connecticut	PH-0153
Delaware	N/A
Florida	E87664
Maine	2007037
Massachusetts	M-RI907
New Hampshire	2631
New Jersey	RI001
New York	11522
North Carolina	581
Rhode Island	LAI00301
USDA	P330-08-00023
USEPA - ISM	EP-W-09-039
USEPA - SOM	EP-W-11-033

NELAP ACCREDITED TNI LABORATORY

LABORATORY ACCREDITATION BUREAU ACCREDITED
DoD ELAP
Certificate # L2247 Testing

Authorized by:

Yihai Ding
Laboratory Director

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

* Data Summary Pack *

175 Metro Center Boulevard · Warwick, RI 02886-1755 · 401-732-3400 · FAX 401-732-3499
www.spectrum-analytical.com

Spectrum Analytical Inc. - North Kingstown RI -- Rhode Island Division

New York State Department of Environmental Conservation
Sample Identification and Analytical Requirements Summary

Project Name : Aluminum Louvre **SDG :** M2391

Customer Sample ID	Laboratory Sample ID	Analytical Requirements				
		MSVOA Method #	MSSEMI Method #	GC* Method #	ME	Other
MW-NEMF-4-D	M2391-01	SW8260_W				
MW-NEMF-4-VD	M2391-02	SW8260_W				
MW-NEMF-5-VD	M2391-03	SW8260_W				
MW-NEMF-2-ED	M2391-04	SW8260_W				
MW-NEMF-3-ED	M2391-05	SW8260_W				
FB-120513	M2391-06	SW8260_W				
TB-120513	M2391-07	SW8260_W				

Spectrum Analytical Inc. - North Kingstown RI -- Rhode Island Division

New York State Department of Environmental Conservation
Sample Preparation and Analysis Summary MSVOA

Project Name : Aluminum Louvre **SDG :** M2391

Laboratory Sample ID	Matrix	Date Collected	Date Received By Lab	Date Extracted	Date Analyzed
SW8260_W					
M2391-01A	AQ	12/5/2013	12/9/2013	NA	12/13/2013
M2391-01AMS	AQ	12/5/2013	12/9/2013	NA	12/13/2013
M2391-01AMSD	AQ	12/5/2013	12/9/2013	NA	12/13/2013
M2391-02A	AQ	12/5/2013	12/9/2013	NA	12/13/2013
M2391-03A	AQ	12/5/2013	12/9/2013	NA	12/13/2013
M2391-04A	AQ	12/5/2013	12/9/2013	NA	12/13/2013
M2391-05A	AQ	12/5/2013	12/9/2013	NA	12/13/2013
M2391-06A	AQ	12/5/2013	12/9/2013	NA	12/13/2013
M2391-07A	AQ	12/5/2013	12/9/2013	NA	12/13/2013

Spectrum Analytical Inc. - North Kingstown RI -- Rhode Island Division

New York State Department of Environmental Conservation
Sample Preparation and Analysis Summary MSVOA

Project Name : Aluminum Louvre **SDG :** M2391

Laboratory Sample ID	Matrix	Analytical Protocol	Extraction Method	Low/Medium Level	Dil/Conc Factor
SW8260_W					
M2391-01A	AQ	SW8260_W	NA	LOW	1
M2391-01AMS	AQ	SW8260_W	NA	LOW	1
M2391-01AMSD	AQ	SW8260_W	NA	LOW	1
M2391-02A	AQ	SW8260_W	NA	LOW	1
M2391-03A	AQ	SW8260_W	NA	LOW	1
M2391-04A	AQ	SW8260_W	NA	LOW	1
M2391-05A	AQ	SW8260_W	NA	LOW	1
M2391-06A	AQ	SW8260_W	NA	LOW	1
M2391-07A	AQ	SW8260_W	NA	LOW	1

Spectrum Analytical Inc. - North Kingstown RI -- Rhode Island Division

WorkOrder: M2391

Client ID: HDR
Project: Aluminum Louvre
WO Name: Aluminum Louvre
Location: HDR_ALUMINUM,

Case:
SDG:

HC Due: 12/19/13
Fax Due:
Fax Report: ☐

Report Level: ASP-B
Special Program:
EDD: EQuIS_4_NYSDEC_v3

PO: D006129, WA-4, 130195

Comments: Paperless to HDR. Hardcopy of DSP(and PDF of DP and DSP on CD) to Judy Harry, Data Validation Services, 120 Cobble Creek Rd, North Creek, NY 12853.

Lab Samp ID	Client Sample ID	Collection Date	Date Recv'd	Matrix	Test Code	Samp / Lab Test Comments	HF	HT	MS	SEL	Storage
M2391-01A	MW-NEMF-4-D	12/05/2013 11:45	12/09/2013	Aqueous	SW8260_W	/ +TICs, 1ppb ICAL			Y	Y	VOA
M2391-02A	MW-NEMF-4-VD	12/05/2013 13:40	12/09/2013	Aqueous	SW8260_W	/ +TICs, 1ppb ICAL				Y	VOA
M2391-03A	MW-NEMF-5-VD	12/05/2013 13:45	12/09/2013	Aqueous	SW8260_W	/ +TICs, 1ppb ICAL				Y	VOA
M2391-04A	MW-NEMF-2-ED	12/05/2013 15:25	12/09/2013	Aqueous	SW8260_W	/ +TICs, 1ppb ICAL				Y	VOA
M2391-05A	MW-NEMF-3-ED	12/05/2013 17:40	12/09/2013	Aqueous	SW8260_W	/ +TICs, 1ppb ICAL				Y	VOA
M2391-06A	FB-120513	12/05/2013 14:45	12/09/2013	Aqueous	SW8260_W	/ +TICs, 1ppb ICAL				Y	VOA
M2391-07A	TB-120513	12/05/2013 14:50	12/09/2013	Aqueous	SW8260_W	/ +TICs, 1ppb ICAL				Y	VOA

HF = Fraction logged in but all tests have been placed on hold

HT = Test logged in but has been placed on hold

12/11/2013 08:48 Lab Client Rep: Agnes R Huntley

* Volatiles *

REPORT NARRATIVE

Spectrum Analytical, Inc. Featuring Hanibal Technology, RI Division.

Client : HDR LMS, Inc.

Project: Aluminum Louvre

Laboratory Workorder / SDG #: M2391

SW846 8260C, VOC by GC-MS

I. SAMPLE RECEIPT

No exceptions or unusual conditions were encountered unless a Sample Condition Notification Form, or other record of communication is included with the Sample Receipt Documentation.

II. HOLDING TIMES

A. Sample Preparation:

All samples were prepared within the method-specified holding times.

B. Sample Analysis:

All samples were analyzed within the method-specified holding times.

III. METHODS

Samples were analyzed following procedures in laboratory test code: SW846 8260C

IV. PREPARATION

Aqueous Samples were prepared following procedures in laboratory test code: SW5030B

V. INSTRUMENTATION

The following instrumentation was used

Instrument Code: V1
Instrument Type: GCMS-VOA

Description: HP5890 II / HP5972
Manufacturer: Hewlett-Packard
Model: 5890 / 5972

VI. ANALYSIS

A. Calibration:

Calibrations met the method/SOP acceptance criteria.

B. Blanks:

All method blanks were within the acceptance criteria.

C. Surrogates:

Surrogate standard percent recoveries were within the QC limits.

D. Spikes:

1. Laboratory Control Spikes (LCS):

Percent recoveries for lab control samples were within the QC limits.

2. Matrix Spike / Matrix Spike Duplicate (MS/MSD):

Matrix spikes were performed on samples: MW-NEMF-4-D (M2391-01AMS) and MW-NEMF-4-D (M2391-01AMSD).

Percent recoveries were within the QC limits with the following exceptions:

MW-NEMF-4-D (M2391-01AMS), recovery is above criteria for 4-Methyl-2-pentanone at 137% with criteria of (60-135).

MW-NEMF-4-D (M2391-01AMSD), recovery is above criteria for 4-Methyl-2-pentanone at 140% with criteria of (60-135).

Replicate RPDs were within the advisory QC limits.

E. Internal Standards:

Internal standard peak areas were within the QC limits.

F. Dilutions:

No sample in this SDG required analysis at dilution.

G. Samples:

No other unusual occurrences were noted during sample analysis.

H. Manual Integration

Where needed, manual integrations were performed to improve data quality. The corrections were reviewed and associated hardcopies generated and reported as required. Manual integrations are coded to provide the data reviewer justification for such action. The codes are labeled on the ion chromatogram signal (GC/MS signal) and chromatogram for GC based analysis as follows:

· M1 peak tailing or fronting
· M2 peak co-elution
· M3 rising or falling baseline
· M4 retention time shift
· M5 miscellaneous - under this category, the justification is explained
· M6 software did not integrate peak
· M7 partial peak integration

Manual integration was performed on the following:

LCS-75233 Dichlorodifluoromethane due to M7

MW-NEMF-4-D (M2391-01AMSD) Dichlorodifluoromethane due to M7

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Spectrum, both technically and for completeness, except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Signed:_____ _____

Date:_____12/18/2013_____

Data Flag/Qualifiers:

U Not Detected. This compound was analyzed-for but not detected. For most analyses the reporting limit (lowest standard concentration) is the value listed. For Department of Defense programs, this is the Limit of Detection (LOD).

J This flag indicates an estimated value due to either
- the compound was detected below the reporting limit, or
- estimated concentration for Tentatively Identified Compound

B This flag indicates the compound was also detected in the associated Method Blank. The B flag has an alternative meaning for Inorganics analyses reported using CLP ILM-type metals forms, indicating a "trace" concentration below the reporting limit and equal to or above the detection limit.

D For Organics analysis, this flag indicates the compound concentration was obtained from a secondary dilution analysis

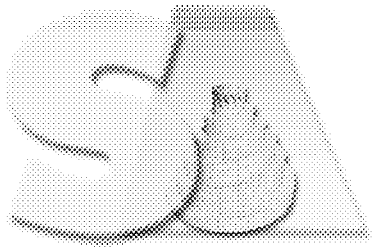
E This flag indicates the compound concentration exceeded the Calibration Range. The E flag has an alternative meaning for Inorganics analyses reported using CLP metals forms, indicating an estimated concentration due to the presence of interferences, as determined by the serial dilution analysis.

P This flag is used for pesticides/PCB/herbicide compound when there is a greater than 40% difference for detected concentration between the two GC columns used for primary and confirmation analyses. This difference typically indicates an interference, causing one value to be unusually high. The **lower** of the two values is generally reported on the Form 1, and both values reported on the Form 10.

A Used to flag semivolatile organic Tentatively Identified Compound library search results for compounds identified as aldol condensation byproducts.

N Used to flag results for volatile and semivolatile Organics analysis Tentatively Identified Compounds where an analyte has passed the identification criteria, and is considered to be positively identified. For Inorganics analysis the N flag indicates the matrix spike recovery falls outside of the control limit.

* For Inorganics analysis the * flag indicates Relative Percent Difference for duplicate analyses is outside of the control limit.



Sample ID Suffixes

DL Diluted analysis. The sample was diluted and reanalyzed. The DL may be followed by a digit if more than one diluted reanalysis is provided. The DL suffix is not attached to an analysis initially performed at dilution, only to reanalyses performed at dilution

RE Reanalysis. Appended to the client sample ID to indicate a reextraction and reanalysis or a reanalysis of the original sample extract.

RA Reanalysis. Appended to the laboratory sample ID indicates a reanalysis of the original sample extract.

RX Reextraction. Appended to the laboratory sample ID indicates a reextraction of the sample.

MS Matrix Spike.

MSD Matrix Spike Duplicate

DUP Duplicate analysis

SD Serial Dilution

PS Post-digestion or Post-distillation spike. For metals or inorganic analyses

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW-NEMF-4-D

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2391 Mod. Ref No.: SDG No.: SM2391

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2391-01A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1M6952.D

Level: (TRACE/LOW/MED) LOW Date Received: 12/09/2013

% Moisture: not dec. Date Analyzed: 12/13/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	1.0	U
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl chloride	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene	1.0	U
67-64-1	Acetone	11	
74-88-4	Iodomethane	1.0	U
75-15-0	Carbon disulfide	1.0	U
75-09-2	Methylene chloride	1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-butyl ether	1.0	U
75-34-3	1,1-Dichloroethane	1.0	U
108-05-4	Vinyl acetate	1.0	U
78-93-3	2-Butanone	5.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
594-20-7	2,2-Dichloropropane	1.0	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform	0.85	J
71-55-6	1,1,1-Trichloroethane	1.0	U
563-58-6	1,1-Dichloropropene	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
71-43-2	Benzene	1.0	U
79-01-6	Trichloroethene	1.0	U
78-87-5	1,2-Dichloropropane	1.0	U
74-95-3	Dibromomethane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	1.0	
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
142-28-9	1,3-Dichloropropane	1.0	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW-NEMF-4-D

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2391 Mod. Ref No.: SDG No.: SM2391

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2391-01A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1M6952.D

Level: (TRACE/LOW/MED) LOW Date Received: 12/09/2013

% Moisture: not dec. Date Analyzed: 12/13/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
127-18-4	Tetrachloroethene	1.0	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U
108-90-7	Chlorobenzene	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U
100-41-4	Ethylbenzene	1.0	U
179601-23-1	m,p-Xylene	1.0	U
95-47-6	o-Xylene	1.0	U
1330-20-7	Xylene (Total)	1.0	U
100-42-5	Styrene	1.0	U
75-25-2	Bromoform	1.0	U
98-82-8	Isopropylbenzene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
108-86-1	Bromobenzene	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
103-65-1	n-Propylbenzene	1.0	U
95-49-8	2-Chlorotoluene	1.0	U
108-67-8	1,3,5-Trimethylbenzene	1.0	U
106-43-4	4-Chlorotoluene	1.0	U
98-06-6	tert-Butylbenzene	1.0	U
95-63-6	1,2,4-Trimethylbenzene	1.0	U
135-98-8	sec-Butylbenzene	1.0	U
99-87-6	4-Isopropyltoluene	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
104-51-8	n-Butylbenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
87-68-3	Hexachlorobutadiene	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1.0	U
91-20-3	Naphthalene	1.0	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

MW-NEMF-4-D

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2391 Mod. Ref No.: SDG No.: SM2391

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2391-01A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1M6952.D

Level: (TRACE or LOW/MED) LOW Date Received: 12/09/2013

% Moisture: not dec. Date Analyzed: 12/13/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Purge Volume: 5.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW-NEMF-4-VD

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2391 Mod. Ref No.: SDG No.: SM2391

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2391-02A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1M6953.D

Level: (TRACE/LOW/MED) LOW Date Received: 12/09/2013

% Moisture: not dec. Date Analyzed: 12/13/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	1.0	U
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl chloride	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene	1.0	U
67-64-1	Acetone	5.0	U
74-88-4	Iodomethane	1.0	U
75-15-0	Carbon disulfide	1.0	U
75-09-2	Methylene chloride	1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-butyl ether	1.0	
75-34-3	1,1-Dichloroethane	1.0	U
108-05-4	Vinyl acetate	1.0	U
78-93-3	2-Butanone	5.0	U
156-59-2	cis-1,2-Dichloroethene	2.1	
594-20-7	2,2-Dichloropropane	1.0	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
563-58-6	1,1-Dichloropropene	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
71-43-2	Benzene	1.0	U
79-01-6	Trichloroethene	29	
78-87-5	1,2-Dichloropropane	1.0	U
74-95-3	Dibromomethane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
142-28-9	1,3-Dichloropropane	1.0	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW-NEMF-4-VD

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2391 Mod. Ref No.: SDG No.: SM2391

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2391-02A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1M6953.D

Level: (TRACE/LOW/MED) LOW Date Received: 12/09/2013

% Moisture: not dec. Date Analyzed: 12/13/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
127-18-4	Tetrachloroethene	0.91	J
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U
108-90-7	Chlorobenzene	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U
100-41-4	Ethylbenzene	1.0	U
179601-23-1	m,p-Xylene	1.0	U
95-47-6	o-Xylene	1.0	U
1330-20-7	Xylene (Total)	1.0	U
100-42-5	Styrene	1.0	U
75-25-2	Bromoform	1.0	U
98-82-8	Isopropylbenzene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
108-86-1	Bromobenzene	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
103-65-1	n-Propylbenzene	1.0	U
95-49-8	2-Chlorotoluene	1.0	U
108-67-8	1,3,5-Trimethylbenzene	1.0	U
106-43-4	4-Chlorotoluene	1.0	U
98-06-6	tert-Butylbenzene	1.0	U
95-63-6	1,2,4-Trimethylbenzene	1.0	U
135-98-8	sec-Butylbenzene	1.0	U
99-87-6	4-Isopropyltoluene	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
104-51-8	n-Butylbenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
87-68-3	Hexachlorobutadiene	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1.0	U
91-20-3	Naphthalene	1.0	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

MW-NEMF-4-VD

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2391 Mod. Ref No.: SDG No.: SM2391

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2391-02A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1M6953.D

Level: (TRACE or LOW/MED) LOW Date Received: 12/09/2013

% Moisture: not dec. Date Analyzed: 12/13/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Purge Volume: 5.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW-NEMF-5-VD

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2391 Mod. Ref No.: SDG No.: SM2391

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2391-03A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1M6954.D

Level: (TRACE/LOW/MED) LOW Date Received: 12/09/2013

% Moisture: not dec. Date Analyzed: 12/13/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	1.0	U
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl chloride	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene	1.0	U
67-64-1	Acetone	5.0	U
74-88-4	Iodomethane	1.0	U
75-15-0	Carbon disulfide	1.0	U
75-09-2	Methylene chloride	1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-butyl ether	0.89	J
75-34-3	1,1-Dichloroethane	1.0	U
108-05-4	Vinyl acetate	1.0	U
78-93-3	2-Butanone	5.0	U
156-59-2	cis-1,2-Dichloroethene	2.3	
594-20-7	2,2-Dichloropropane	1.0	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
563-58-6	1,1-Dichloropropene	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
71-43-2	Benzene	1.0	U
79-01-6	Trichloroethene	29	
78-87-5	1,2-Dichloropropane	1.0	U
74-95-3	Dibromomethane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
142-28-9	1,3-Dichloropropane	1.0	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW-NEMF-5-VD

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2391 Mod. Ref No.: SDG No.: SM2391

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2391-03A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1M6954.D

Level: (TRACE/LOW/MED) LOW Date Received: 12/09/2013

% Moisture: not dec. Date Analyzed: 12/13/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
127-18-4	Tetrachloroethene	0.85	J
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U
108-90-7	Chlorobenzene	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U
100-41-4	Ethylbenzene	1.0	U
179601-23-1	m,p-Xylene	1.0	U
95-47-6	o-Xylene	1.0	U
1330-20-7	Xylene (Total)	1.0	U
100-42-5	Styrene	1.0	U
75-25-2	Bromoform	1.0	U
98-82-8	Isopropylbenzene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
108-86-1	Bromobenzene	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
103-65-1	n-Propylbenzene	1.0	U
95-49-8	2-Chlorotoluene	1.0	U
108-67-8	1,3,5-Trimethylbenzene	1.0	U
106-43-4	4-Chlorotoluene	1.0	U
98-06-6	tert-Butylbenzene	1.0	U
95-63-6	1,2,4-Trimethylbenzene	1.0	U
135-98-8	sec-Butylbenzene	1.0	U
99-87-6	4-Isopropyltoluene	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
104-51-8	n-Butylbenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
87-68-3	Hexachlorobutadiene	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1.0	U
91-20-3	Naphthalene	1.0	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

MW-NEMF-5-VD

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2391 Mod. Ref No.: SDG No.: SM2391

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2391-03A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1M6954.D

Level: (TRACE or LOW/MED) LOW Date Received: 12/09/2013

% Moisture: not dec. Date Analyzed: 12/13/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Purge Volume: 5.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW-NEMF-2-ED

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2391 Mod. Ref No.: SDG No.: SM2391

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2391-04A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1M6955.D

Level: (TRACE/LOW/MED) LOW Date Received: 12/09/2013

% Moisture: not dec. Date Analyzed: 12/13/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	1.0	U
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl chloride	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene	1.0	U
67-64-1	Acetone	5.0	U
74-88-4	Iodomethane	1.0	U
75-15-0	Carbon disulfide	1.0	U
75-09-2	Methylene chloride	1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-butyl ether	1.0	U
75-34-3	1,1-Dichloroethane	1.0	U
108-05-4	Vinyl acetate	1.0	U
78-93-3	2-Butanone	5.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
594-20-7	2,2-Dichloropropane	1.0	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
563-58-6	1,1-Dichloropropene	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
71-43-2	Benzene	1.0	U
79-01-6	Trichloroethene	5.4	
78-87-5	1,2-Dichloropropane	1.0	U
74-95-3	Dibromomethane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
142-28-9	1,3-Dichloropropane	1.0	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW-NEMF-2-ED

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2391 Mod. Ref No.: SDG No.: SM2391

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2391-04A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1M6955.D

Level: (TRACE/LOW/MED) LOW Date Received: 12/09/2013

% Moisture: not dec. Date Analyzed: 12/13/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
127-18-4	Tetrachloroethene	1.3	
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U
108-90-7	Chlorobenzene	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U
100-41-4	Ethylbenzene	1.0	U
179601-23-1	m,p-Xylene	1.0	U
95-47-6	o-Xylene	1.0	U
1330-20-7	Xylene (Total)	1.0	U
100-42-5	Styrene	1.0	U
75-25-2	Bromoform	1.0	U
98-82-8	Isopropylbenzene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
108-86-1	Bromobenzene	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
103-65-1	n-Propylbenzene	1.0	U
95-49-8	2-Chlorotoluene	1.0	U
108-67-8	1,3,5-Trimethylbenzene	1.0	U
106-43-4	4-Chlorotoluene	1.0	U
98-06-6	tert-Butylbenzene	1.0	U
95-63-6	1,2,4-Trimethylbenzene	1.0	U
135-98-8	sec-Butylbenzene	1.0	U
99-87-6	4-Isopropyltoluene	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
104-51-8	n-Butylbenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
87-68-3	Hexachlorobutadiene	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1.0	U
91-20-3	Naphthalene	1.0	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

MW-NEMF-2-ED

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2391 Mod. Ref No.: SDG No.: SM2391

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2391-04A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1M6955.D

Level: (TRACE or LOW/MED) LOW Date Received: 12/09/2013

% Moisture: not dec. Date Analyzed: 12/13/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Purge Volume: 5.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW-NEMF-3-ED

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2391 Mod. Ref No.: SDG No.: SM2391

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2391-05A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1M6956.D

Level: (TRACE/LOW/MED) LOW Date Received: 12/09/2013

% Moisture: not dec. Date Analyzed: 12/13/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	1.0	U
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl chloride	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene	1.0	U
67-64-1	Acetone	5.0	U
74-88-4	Iodomethane	1.0	U
75-15-0	Carbon disulfide	1.0	U
75-09-2	Methylene chloride	1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-butyl ether	1.0	U
75-34-3	1,1-Dichloroethane	1.0	U
108-05-4	Vinyl acetate	1.0	U
78-93-3	2-Butanone	5.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
594-20-7	2,2-Dichloropropane	1.0	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
563-58-6	1,1-Dichloropropene	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
71-43-2	Benzene	1.0	U
79-01-6	Trichloroethene	1.0	U
78-87-5	1,2-Dichloropropane	1.0	U
74-95-3	Dibromomethane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
142-28-9	1,3-Dichloropropane	1.0	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW-NEMF-3-ED

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2391 Mod. Ref No.: SDG No.: SM2391

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2391-05A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1M6956.D

Level: (TRACE/LOW/MED) LOW Date Received: 12/09/2013

% Moisture: not dec. Date Analyzed: 12/13/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
127-18-4	Tetrachloroethene	1.0	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U
108-90-7	Chlorobenzene	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U
100-41-4	Ethylbenzene	1.0	U
179601-23-1	m,p-Xylene	1.0	U
95-47-6	o-Xylene	1.0	U
1330-20-7	Xylene (Total)	1.0	U
100-42-5	Styrene	1.0	U
75-25-2	Bromoform	1.0	U
98-82-8	Isopropylbenzene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
108-86-1	Bromobenzene	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
103-65-1	n-Propylbenzene	1.0	U
95-49-8	2-Chlorotoluene	1.0	U
108-67-8	1,3,5-Trimethylbenzene	1.0	U
106-43-4	4-Chlorotoluene	1.0	U
98-06-6	tert-Butylbenzene	1.0	U
95-63-6	1,2,4-Trimethylbenzene	1.0	U
135-98-8	sec-Butylbenzene	1.0	U
99-87-6	4-Isopropyltoluene	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
104-51-8	n-Butylbenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
87-68-3	Hexachlorobutadiene	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1.0	U
91-20-3	Naphthalene	1.0	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

MW-NEMF-3-ED

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2391 Mod. Ref No.: SDG No.: SM2391

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2391-05A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1M6956.D

Level: (TRACE or LOW/MED) LOW Date Received: 12/09/2013

% Moisture: not dec. Date Analyzed: 12/13/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Purge Volume: 5.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

FB-120513

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2391 Mod. Ref No.: SDG No.: SM2391

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2391-06A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1M6957.D

Level: (TRACE/LOW/MED) LOW Date Received: 12/09/2013

% Moisture: not dec. Date Analyzed: 12/13/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	1.0	U
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl chloride	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene	1.0	U
67-64-1	Acetone	5.0	U
74-88-4	Iodomethane	1.0	U
75-15-0	Carbon disulfide	1.0	U
75-09-2	Methylene chloride	1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-butyl ether	1.0	U
75-34-3	1,1-Dichloroethane	1.0	U
108-05-4	Vinyl acetate	1.0	U
78-93-3	2-Butanone	5.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
594-20-7	2,2-Dichloropropane	1.0	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
563-58-6	1,1-Dichloropropene	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
71-43-2	Benzene	1.0	U
79-01-6	Trichloroethene	1.0	U
78-87-5	1,2-Dichloropropane	1.0	U
74-95-3	Dibromomethane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
142-28-9	1,3-Dichloropropane	1.0	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

FB-120513

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2391 Mod. Ref No.: SDG No.: SM2391

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2391-06A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1M6957.D

Level: (TRACE/LOW/MED) LOW Date Received: 12/09/2013

% Moisture: not dec. Date Analyzed: 12/13/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
127-18-4	Tetrachloroethene	1.0	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U
108-90-7	Chlorobenzene	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U
100-41-4	Ethylbenzene	1.0	U
179601-23-1	m,p-Xylene	1.0	U
95-47-6	o-Xylene	1.0	U
1330-20-7	Xylene (Total)	1.0	U
100-42-5	Styrene	1.0	U
75-25-2	Bromoform	1.0	U
98-82-8	Isopropylbenzene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
108-86-1	Bromobenzene	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
103-65-1	n-Propylbenzene	1.0	U
95-49-8	2-Chlorotoluene	1.0	U
108-67-8	1,3,5-Trimethylbenzene	1.0	U
106-43-4	4-Chlorotoluene	1.0	U
98-06-6	tert-Butylbenzene	1.0	U
95-63-6	1,2,4-Trimethylbenzene	1.0	U
135-98-8	sec-Butylbenzene	1.0	U
99-87-6	4-Isopropyltoluene	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
104-51-8	n-Butylbenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
87-68-3	Hexachlorobutadiene	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1.0	U
91-20-3	Naphthalene	1.0	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

FB-120513

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2391 Mod. Ref No.: SDG No.: SM2391

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2391-06A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1M6957.D

Level: (TRACE or LOW/MED) LOW Date Received: 12/09/2013

% Moisture: not dec. Date Analyzed: 12/13/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Purge Volume: 5.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

TB-120513

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2391 Mod. Ref No.: SDG No.: SM2391

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2391-07A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1M6951.D

Level: (TRACE/LOW/MED) LOW Date Received: 12/09/2013

% Moisture: not dec. Date Analyzed: 12/13/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	1.0	U
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl chloride	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene	1.0	U
67-64-1	Acetone	5.0	U
74-88-4	Iodomethane	1.0	U
75-15-0	Carbon disulfide	1.0	U
75-09-2	Methylene chloride	1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-butyl ether	1.0	U
75-34-3	1,1-Dichloroethane	1.0	U
108-05-4	Vinyl acetate	1.0	U
78-93-3	2-Butanone	5.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
594-20-7	2,2-Dichloropropane	1.0	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
563-58-6	1,1-Dichloropropene	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
71-43-2	Benzene	1.0	U
79-01-6	Trichloroethene	1.0	U
78-87-5	1,2-Dichloropropane	1.0	U
74-95-3	Dibromomethane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
142-28-9	1,3-Dichloropropane	1.0	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

TB-120513

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2391 Mod. Ref No.: SDG No.: SM2391

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2391-07A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1M6951.D

Level: (TRACE/LOW/MED) LOW Date Received: 12/09/2013

% Moisture: not dec. Date Analyzed: 12/13/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
127-18-4	Tetrachloroethene	1.0	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U
108-90-7	Chlorobenzene	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U
100-41-4	Ethylbenzene	1.0	U
179601-23-1	m,p-Xylene	1.0	U
95-47-6	o-Xylene	1.0	U
1330-20-7	Xylene (Total)	1.0	U
100-42-5	Styrene	1.0	U
75-25-2	Bromoform	1.0	U
98-82-8	Isopropylbenzene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
108-86-1	Bromobenzene	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
103-65-1	n-Propylbenzene	1.0	U
95-49-8	2-Chlorotoluene	1.0	U
108-67-8	1,3,5-Trimethylbenzene	1.0	U
106-43-4	4-Chlorotoluene	1.0	U
98-06-6	tert-Butylbenzene	1.0	U
95-63-6	1,2,4-Trimethylbenzene	1.0	U
135-98-8	sec-Butylbenzene	1.0	U
99-87-6	4-Isopropyltoluene	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
104-51-8	n-Butylbenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
87-68-3	Hexachlorobutadiene	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1.0	U
91-20-3	Naphthalene	1.0	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

TB-120513

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2391 Mod. Ref No.: SDG No.: SM2391

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2391-07A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1M6951.D

Level: (TRACE or LOW/MED) LOW Date Received: 12/09/2013

% Moisture: not dec. Date Analyzed: 12/13/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Purge Volume: 5.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MB-75233

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2391 Mod. Ref No.: SDG No.: SM2391

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: MB-75233

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1M6934.D

Level: (TRACE/LOW/MED) LOW Date Received:

% Moisture: not dec. Date Analyzed: 12/13/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	1.0	U
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl chloride	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene	1.0	U
67-64-1	Acetone	5.0	U
74-88-4	Iodomethane	1.0	U
75-15-0	Carbon disulfide	1.0	U
75-09-2	Methylene chloride	1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-butyl ether	1.0	U
75-34-3	1,1-Dichloroethane	1.0	U
108-05-4	Vinyl acetate	1.0	U
78-93-3	2-Butanone	5.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
594-20-7	2,2-Dichloropropane	1.0	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
563-58-6	1,1-Dichloropropene	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
71-43-2	Benzene	1.0	U
79-01-6	Trichloroethene	1.0	U
78-87-5	1,2-Dichloropropane	1.0	U
74-95-3	Dibromomethane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
142-28-9	1,3-Dichloropropane	1.0	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MB-75233

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2391 Mod. Ref No.: SDG No.: SM2391

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: MB-75233

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1M6934.D

Level: (TRACE/LOW/MED) LOW Date Received:

% Moisture: not dec. Date Analyzed: 12/13/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
127-18-4	Tetrachloroethene	1.0	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U
108-90-7	Chlorobenzene	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U
100-41-4	Ethylbenzene	1.0	U
179601-23-1	m,p-Xylene	1.0	U
95-47-6	o-Xylene	1.0	U
1330-20-7	Xylene (Total)	1.0	U
100-42-5	Styrene	1.0	U
75-25-2	Bromoform	1.0	U
98-82-8	Isopropylbenzene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
108-86-1	Bromobenzene	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
103-65-1	n-Propylbenzene	1.0	U
95-49-8	2-Chlorotoluene	1.0	U
108-67-8	1,3,5-Trimethylbenzene	1.0	U
106-43-4	4-Chlorotoluene	1.0	U
98-06-6	tert-Butylbenzene	1.0	U
95-63-6	1,2,4-Trimethylbenzene	1.0	U
135-98-8	sec-Butylbenzene	1.0	U
99-87-6	4-Isopropyltoluene	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
104-51-8	n-Butylbenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
87-68-3	Hexachlorobutadiene	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1.0	U
91-20-3	Naphthalene	1.0	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

MB-75233

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2391 Mod. Ref No.: SDG No.: SM2391

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: MB-75233

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1M6934.D

Level: (TRACE or LOW/MED) LOW Date Received:

% Moisture: not dec. Date Analyzed: 12/13/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Purge Volume: 5.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

LCS-75233

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2391 Mod. Ref No.: SDG No.: SM2391

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: LCS-75233

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1M6932.D

Level: (TRACE/LOW/MED) LOW Date Received:

% Moisture: not dec. Date Analyzed: 12/13/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	38	
74-87-3	Chloromethane	45	
75-01-4	Vinyl chloride	46	
74-83-9	Bromomethane	48	
75-00-3	Chloroethane	49	
75-69-4	Trichlorofluoromethane	43	
75-35-4	1,1-Dichloroethene	49	
67-64-1	Acetone	50	
74-88-4	Iodomethane	52	
75-15-0	Carbon disulfide	46	
75-09-2	Methylene chloride	53	
156-60-5	trans-1,2-Dichloroethene	49	
1634-04-4	Methyl tert-butyl ether	58	
75-34-3	1,1-Dichloroethane	52	
108-05-4	Vinyl acetate	57	
78-93-3	2-Butanone	58	
156-59-2	cis-1,2-Dichloroethene	51	
594-20-7	2,2-Dichloropropane	53	
74-97-5	Bromochloromethane	52	
67-66-3	Chloroform	53	
71-55-6	1,1,1-Trichloroethane	57	
563-58-6	1,1-Dichloropropene	49	
56-23-5	Carbon tetrachloride	49	
107-06-2	1,2-Dichloroethane	57	
71-43-2	Benzene	52	
79-01-6	Trichloroethene	52	
78-87-5	1,2-Dichloropropane	54	
74-95-3	Dibromomethane	57	
75-27-4	Bromodichloromethane	53	
10061-01-5	cis-1,3-Dichloropropene	53	
108-10-1	4-Methyl-2-pentanone	63	
108-88-3	Toluene	52	
10061-02-6	trans-1,3-Dichloropropene	55	
79-00-5	1,1,2-Trichloroethane	55	
142-28-9	1,3-Dichloropropane	55	

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

LCS-75233

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2391 Mod. Ref No.: SDG No.: SM2391

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: LCS-75233

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1M6932.D

Level: (TRACE/LOW/MED) LOW Date Received:

% Moisture: not dec. Date Analyzed: 12/13/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
127-18-4	Tetrachloroethene	52	
591-78-6	2-Hexanone	57	
124-48-1	Dibromochloromethane	49	
106-93-4	1,2-Dibromoethane	54	
108-90-7	Chlorobenzene	49	
630-20-6	1,1,1,2-Tetrachloroethane	48	
100-41-4	Ethylbenzene	48	
179601-23-1	m,p-Xylene	97	
95-47-6	o-Xylene	49	
1330-20-7	Xylene (Total)	150	
100-42-5	Styrene	51	
75-25-2	Bromoform	42	
98-82-8	Isopropylbenzene	48	
79-34-5	1,1,2,2-Tetrachloroethane	56	
108-86-1	Bromobenzene	49	
96-18-4	1,2,3-Trichloropropane	49	
103-65-1	n-Propylbenzene	48	
95-49-8	2-Chlorotoluene	48	
108-67-8	1,3,5-Trimethylbenzene	50	
106-43-4	4-Chlorotoluene	48	
98-06-6	tert-Butylbenzene	46	
95-63-6	1,2,4-Trimethylbenzene	49	
135-98-8	sec-Butylbenzene	47	
99-87-6	4-Isopropyltoluene	48	
541-73-1	1,3-Dichlorobenzene	48	
106-46-7	1,4-Dichlorobenzene	47	
104-51-8	n-Butylbenzene	50	
95-50-1	1,2-Dichlorobenzene	48	
96-12-8	1,2-Dibromo-3-chloropropane	52	
120-82-1	1,2,4-Trichlorobenzene	46	
87-68-3	Hexachlorobutadiene	42	
87-61-6	1,2,3-Trichlorobenzene	41	
91-20-3	Naphthalene	43	

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW-NEMF-4-DMS

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2391 Mod. Ref No.: SDG No.: SM2391

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2391-01AMS

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1M6946.D

Level: (TRACE/LOW/MED) LOW Date Received: 12/09/2013

% Moisture: not dec. Date Analyzed: 12/13/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	38	
74-87-3	Chloromethane	47	
75-01-4	Vinyl chloride	48	
74-83-9	Bromomethane	48	
75-00-3	Chloroethane	51	
75-69-4	Trichlorofluoromethane	49	
75-35-4	1,1-Dichloroethene	52	
67-64-1	Acetone	54	
74-88-4	Iodomethane	52	
75-15-0	Carbon disulfide	49	
75-09-2	Methylene chloride	56	
156-60-5	trans-1,2-Dichloroethene	52	
1634-04-4	Methyl tert-butyl ether	60	
75-34-3	1,1-Dichloroethane	57	
108-05-4	Vinyl acetate	59	
78-93-3	2-Butanone	55	
156-59-2	cis-1,2-Dichloroethene	53	
594-20-7	2,2-Dichloropropane	58	
74-97-5	Bromochloromethane	53	
67-66-3	Chloroform	56	
71-55-6	1,1,1-Trichloroethane	60	
563-58-6	1,1-Dichloropropene	51	
56-23-5	Carbon tetrachloride	52	
107-06-2	1,2-Dichloroethane	59	
71-43-2	Benzene	55	
79-01-6	Trichloroethene	54	
78-87-5	1,2-Dichloropropane	57	
74-95-3	Dibromomethane	57	
75-27-4	Bromodichloromethane	55	
10061-01-5	cis-1,3-Dichloropropene	54	
108-10-1	4-Methyl-2-pentanone	68	
108-88-3	Toluene	55	
10061-02-6	trans-1,3-Dichloropropene	55	
79-00-5	1,1,2-Trichloroethane	56	
142-28-9	1,3-Dichloropropane	55	

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW-NEMF-4-DMS

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2391 Mod. Ref No.: SDG No.: SM2391

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2391-01AMS

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1M6946.D

Level: (TRACE/LOW/MED) LOW Date Received: 12/09/2013

% Moisture: not dec. Date Analyzed: 12/13/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
127-18-4	Tetrachloroethene	56	
591-78-6	2-Hexanone	59	
124-48-1	Dibromochloromethane	49	
106-93-4	1,2-Dibromoethane	53	
108-90-7	Chlorobenzene	50	
630-20-6	1,1,1,2-Tetrachloroethane	50	
100-41-4	Ethylbenzene	50	
179601-23-1	m,p-Xylene	100	
95-47-6	o-Xylene	51	
1330-20-7	Xylene (Total)	150	
100-42-5	Styrene	53	
75-25-2	Bromoform	42	
98-82-8	Isopropylbenzene	51	
79-34-5	1,1,2,2-Tetrachloroethane	54	
108-86-1	Bromobenzene	50	
96-18-4	1,2,3-Trichloropropane	47	
103-65-1	n-Propylbenzene	49	
95-49-8	2-Chlorotoluene	49	
108-67-8	1,3,5-Trimethylbenzene	52	
106-43-4	4-Chlorotoluene	50	
98-06-6	tert-Butylbenzene	48	
95-63-6	1,2,4-Trimethylbenzene	50	
135-98-8	sec-Butylbenzene	49	
99-87-6	4-Isopropyltoluene	50	
541-73-1	1,3-Dichlorobenzene	49	
106-46-7	1,4-Dichlorobenzene	48	
104-51-8	n-Butylbenzene	52	
95-50-1	1,2-Dichlorobenzene	48	
96-12-8	1,2-Dibromo-3-chloropropane	50	
120-82-1	1,2,4-Trichlorobenzene	44	
87-68-3	Hexachlorobutadiene	43	
87-61-6	1,2,3-Trichlorobenzene	36	
91-20-3	Naphthalene	39	

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW-NEMF-4-DMSD

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2391 Mod. Ref No.: SDG No.: SM2391

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2391-01AMSD

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1M6948.D

Level: (TRACE/LOW/MED) LOW Date Received: 12/09/2013

% Moisture: not dec. Date Analyzed: 12/13/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	35	
74-87-3	Chloromethane	44	
75-01-4	Vinyl chloride	45	
74-83-9	Bromomethane	47	
75-00-3	Chloroethane	48	
75-69-4	Trichlorofluoromethane	44	
75-35-4	1,1-Dichloroethene	47	
67-64-1	Acetone	57	
74-88-4	Iodomethane	51	
75-15-0	Carbon disulfide	45	
75-09-2	Methylene chloride	55	
156-60-5	trans-1,2-Dichloroethene	48	
1634-04-4	Methyl tert-butyl ether	59	
75-34-3	1,1-Dichloroethane	53	
108-05-4	Vinyl acetate	56	
78-93-3	2-Butanone	52	
156-59-2	cis-1,2-Dichloroethene	52	
594-20-7	2,2-Dichloropropane	54	
74-97-5	Bromochloromethane	52	
67-66-3	Chloroform	53	
71-55-6	1,1,1-Trichloroethane	55	
563-58-6	1,1-Dichloropropene	48	
56-23-5	Carbon tetrachloride	46	
107-06-2	1,2-Dichloroethane	57	
71-43-2	Benzene	52	
79-01-6	Trichloroethene	50	
78-87-5	1,2-Dichloropropane	55	
74-95-3	Dibromomethane	56	
75-27-4	Bromodichloromethane	53	
10061-01-5	cis-1,3-Dichloropropene	53	
108-10-1	4-Methyl-2-pentanone	70	
108-88-3	Toluene	52	
10061-02-6	trans-1,3-Dichloropropene	53	
79-00-5	1,1,2-Trichloroethane	54	
142-28-9	1,3-Dichloropropane	54	

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW-NEMF-4-DMSD

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2391 Mod. Ref No.: SDG No.: SM2391

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2391-01AMSD

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1M6948.D

Level: (TRACE/LOW/MED) LOW Date Received: 12/09/2013

% Moisture: not dec. Date Analyzed: 12/13/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
127-18-4	Tetrachloroethene	50	
591-78-6	2-Hexanone	59	
124-48-1	Dibromochloromethane	48	
106-93-4	1,2-Dibromoethane	52	
108-90-7	Chlorobenzene	49	
630-20-6	1,1,1,2-Tetrachloroethane	48	
100-41-4	Ethylbenzene	48	
179601-23-1	m,p-Xylene	97	
95-47-6	o-Xylene	48	
1330-20-7	Xylene (Total)	140	
100-42-5	Styrene	51	
75-25-2	Bromoform	41	
98-82-8	Isopropylbenzene	47	
79-34-5	1,1,2,2-Tetrachloroethane	53	
108-86-1	Bromobenzene	47	
96-18-4	1,2,3-Trichloropropane	45	
103-65-1	n-Propylbenzene	45	
95-49-8	2-Chlorotoluene	46	
108-67-8	1,3,5-Trimethylbenzene	48	
106-43-4	4-Chlorotoluene	46	
98-06-6	tert-Butylbenzene	44	
95-63-6	1,2,4-Trimethylbenzene	47	
135-98-8	sec-Butylbenzene	45	
99-87-6	4-Isopropyltoluene	47	
541-73-1	1,3-Dichlorobenzene	46	
106-46-7	1,4-Dichlorobenzene	46	
104-51-8	n-Butylbenzene	47	
95-50-1	1,2-Dichlorobenzene	47	
96-12-8	1,2-Dibromo-3-chloropropane	49	
120-82-1	1,2,4-Trichlorobenzene	43	
87-68-3	Hexachlorobutadiene	41	
87-61-6	1,2,3-Trichlorobenzene	37	
91-20-3	Naphthalene	39	

2B - FORM II VOA-2

WATER VOLATILE DEUTERATED MONITORING COMPOUND RECOVERY

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2391 Mod. Ref No.: SDG No.: SM2391

Level: (TRACE or LOW) LOW

	CLIENT SAMPLE NO.	VDMC1 (DBFM) #	VDMC2 (DCE) #	VDMC3 (TOL) #	VDMC4 (BFB) #				TOT OUT
01	LCS-75233	103	107	98	102				0
02	MB-75233	105	99	99	102				0
03	MW-NEMF-4-DMS	102	105	98	102				0
04	MW-NEMF-4-DMSD	104	108	99	103				0
05	TB-120513	102	99	100	101				0
06	MW-NEMF-4-D	105	101	98	101				0
07	MW-NEMF-4-VD	105	101	96	101				0
08	MW-NEMF-5-VD	102	97	98	99				0
09	MW-NEMF-2-ED	104	100	98	100				0
10	MW-NEMF-3-ED	105	104	99	102				0
11	FB-120513	104	104	98	100				0

		QC LIMITS
VDMC1	(DBFM) Dibromofluoromethane	(85-115)
VDMC2	(DCE) = 1,2-Dichloroethane-d4	(70-120)
VDMC3	(TOL) = Toluene-d8	(85-120)
VDMC4	(BFB) = Bromofluorobenzene	(75-120)

Column to be used to flag recovery values

* Values outside of contract required QC limits

som13.12.05.06.1059

3A - FORM III VOA-1

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2391 Mod. Ref No.: SDG No.: SM2391

Matrix Spike - EPA Sample No.: MW-NEMF-4-D Level: (TRACE or LOW) LOW

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS %REC	#	QC. LIMITS REC.
Dichlorodifluoromethane	50.0000	0.0000	37.6980	75		30-155
Chloromethane	50.0000	0.0000	46.8752	94		40-125
Vinyl chloride	50.0000	0.0000	48.0208	96		50-145
Bromomethane	50.0000	0.0000	48.2963	97		30-145
Chloroethane	50.0000	0.0000	51.0901	102		60-135
Trichlorofluoromethane	50.0000	0.0000	48.8045	98		60-145
1,1-Dichloroethene	50.0000	0.0000	51.6637	103		70-130
Acetone	50.0000	11.2295	53.6625	85		40-140
Iodomethane	50.0000	0.0000	52.2216	104		72-121
Carbon disulfide	50.0000	0.0000	49.3859	99		35-160
Methylene chloride	50.0000	0.0000	55.5053	111		55-140
trans-1,2-Dichloroethen	50.0000	0.0000	52.0600	104		60-140
Methyl tert-butyl ether	50.0000	0.0000	60.2810	121		65-125
1,1-Dichloroethane	50.0000	0.0000	56.6601	113		70-135
Vinyl acetate	50.0000	0.0000	58.6167	117		38-163
2-Butanone	50.0000	0.0000	55.4343	111		30-150
cis-1,2-Dichloroethene	50.0000	0.0000	53.3802	107		70-125
2,2-Dichloropropane	50.0000	0.0000	57.7622	116		70-135
Bromochloromethane	50.0000	0.0000	53.0073	106		65-130
Chloroform	50.0000	0.8508	56.2620	111		65-135
1,1,1-Trichloroethane	50.0000	0.0000	60.4552	121		65-130
1,1-Dichloropropene	50.0000	0.0000	50.9915	102		75-130
Carbon tetrachloride	50.0000	0.0000	51.5859	103		65-140
1,2-Dichloroethane	50.0000	0.0000	59.2031	118		70-130
Benzene	50.0000	0.0000	55.2060	110		80-120
Trichloroethene	50.0000	0.0000	54.3978	109		70-125
1,2-Dichloropropane	50.0000	0.0000	57.3291	115		75-125
Dibromomethane	50.0000	0.0000	57.1589	114		75-125
Bromodichloromethane	50.0000	0.0000	55.4220	111		75-120
cis-1,3-Dichloropropene	50.0000	0.0000	54.4659	109		70-130
4-Methyl-2-pentanone	50.0000	0.0000	68.3164	137	*	60-135
Toluene	50.0000	1.0193	55.1576	108		75-120
trans-1,3-Dichloroprope	50.0000	0.0000	55.1944	110		55-140
1,1,2-Trichloroethane	50.0000	0.0000	56.0406	112		75-125
1,3-Dichloropropane	50.0000	0.0000	55.3923	111		75-125
Tetrachloroethene	50.0000	0.0000	55.5739	111		45-150
2-Hexanone	50.0000	0.0000	59.4354	119		55-130
Dibromochloromethane	50.0000	0.0000	49.2048	98		60-135
1,2-Dibromoethane	50.0000	0.0000	52.8095	106		80-120
Chlorobenzene	50.0000	0.0000	50.2700	101		80-120
1,1,1,2-Tetrachloroetha	50.0000	0.0000	50.3926	101		80-130
Ethylbenzene	50.0000	0.0000	49.9824	100		75-125
m,p-Xylene	100.0000	0.0000	101.8742	102		75-130
o-Xylene	50.0000	0.0000	50.8140	102		80-120

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2391 Mod. Ref No.: SDG No.: SM2391

Matrix Spike - EPA Sample No.: MW-NEMF-4-D Level: (TRACE or LOW) LOW

Xylene (Total)	150.0000	0.0000	152.6883	102		81-121
Styrene	50.0000	0.0000	52.6302	105		65-135
Bromoform	50.0000	0.0000	41.5579	83		70-130
Isopropylbenzene	50.0000	0.0000	50.6356	101		75-125
1,1,2,2-Tetrachloroetha	50.0000	0.0000	54.1416	108		65-130
Bromobenzene	50.0000	0.0000	50.3506	101		75-125
1,2,3-Trichloropropane	50.0000	0.0000	46.5925	93		75-125
n-Propylbenzene	50.0000	0.0000	49.3169	99		70-130
2-Chlorotoluene	50.0000	0.0000	49.0778	98		75-125
1,3,5-Trimethylbenzene	50.0000	0.0000	51.7295	103		75-130
4-Chlorotoluene	50.0000	0.0000	50.0999	100		75-130
tert-Butylbenzene	50.0000	0.0000	47.6150	95		70-130
1,2,4-Trimethylbenzene	50.0000	0.0000	50.4108	101		75-130
sec-Butylbenzene	50.0000	0.0000	48.9212	98		70-125
4-Isopropyltoluene	50.0000	0.0000	49.8314	100		75-130
1,3-Dichlorobenzene	50.0000	0.0000	48.5250	97		75-125
1,4-Dichlorobenzene	50.0000	0.0000	47.9078	96		75-125
n-Butylbenzene	50.0000	0.0000	51.6752	103		70-135
1,2-Dichlorobenzene	50.0000	0.0000	47.8357	96		70-120
1,2-Dibromo-3-chloropro	50.0000	0.0000	49.6245	99		50-130
1,2,4-Trichlorobenzene	50.0000	0.0000	43.7961	88		65-135
Hexachlorobutadiene	50.0000	0.0000	43.3331	87		50-140
1,2,3-Trichlorobenzene	50.0000	0.0000	35.9125	72		55-140
Naphthalene	50.0000	0.0000	39.2603	79		55-140

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD %REC	#	%RPD	#	QC LIMITS RPD	QC LIMITS REC.
Dichlorodifluoromethane	50.0000	35.0703	70		7		0-40	30-155
Chloromethane	50.0000	44.2119	88		6		0-40	40-125
Vinyl chloride	50.0000	44.5277	89		8		0-40	50-145
Bromomethane	50.0000	46.8660	94		3		0-40	30-145
Chloroethane	50.0000	48.2961	97		6		0-40	60-135
Trichlorofluoromethane	50.0000	43.5077	87		11		0-40	60-145
1,1-Dichloroethene	50.0000	46.5967	93		10		0-40	70-130
Acetone	50.0000	56.9361	91		7		0-40	40-140
Iodomethane	50.0000	51.3313	103		2		0-40	72-121
Carbon disulfide	50.0000	45.0827	90		9		0-40	35-160
Methylene chloride	50.0000	54.8389	110		1		0-40	55-140
trans-1,2-Dichloroethen	50.0000	48.4496	97		7		0-40	60-140
Methyl tert-butyl ether	50.0000	58.5445	117		3		0-40	65-125
1,1-Dichloroethane	50.0000	53.2323	106		6		0-40	70-135
Vinyl acetate	50.0000	56.0518	112		4		0-40	38-163
2-Butanone	50.0000	51.6201	103		7		0-40	30-150
cis-1,2-Dichloroethene	50.0000	52.2815	105		2		0-40	70-125
2,2-Dichloropropane	50.0000	53.8506	108		7		0-40	70-135
Bromochloromethane	50.0000	51.7920	104		2		0-40	65-130

3A - FORM III VOA-1

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2391 Mod. Ref No.: SDG No.: SM2391

Matrix Spike - EPA Sample No.: MW-NEMF-4-D Level: (TRACE or LOW) LOW

Chloroform	50.0000	53.4255	105		5		0-40	65-135
1,1,1-Trichloroethane	50.0000	55.3777	111		9		0-40	65-130
1,1-Dichloropropene	50.0000	47.5018	95		7		0-40	75-130
Carbon tetrachloride	50.0000	46.2344	92		11		0-40	65-140
1,2-Dichloroethane	50.0000	57.3471	115		3		0-40	70-130
Benzene	50.0000	52.1812	104		6		0-40	80-120
Trichloroethene	50.0000	50.3086	101		8		0-40	70-125
1,2-Dichloropropane	50.0000	54.6052	109		5		0-40	75-125
Dibromomethane	50.0000	56.2901	113		2		0-40	75-125
Bromodichloromethane	50.0000	52.6216	105		5		0-40	75-120
cis-1,3-Dichloropropene	50.0000	52.8731	106		3		0-40	70-130
4-Methyl-2-pentanone	50.0000	69.9801	140	*	2		0-40	60-135
Toluene	50.0000	52.4964	103		5		0-40	75-120
trans-1,3-Dichloroprope	50.0000	52.7743	106		4		0-40	55-140
1,1,2-Trichloroethane	50.0000	54.0190	108		4		0-40	75-125
1,3-Dichloropropane	50.0000	54.2796	109		2		0-40	75-125
Tetrachloroethene	50.0000	50.3385	101		10		0-40	45-150
2-Hexanone	50.0000	58.9844	118		1		0-40	55-130
Dibromochloromethane	50.0000	48.3054	97		2		0-40	60-135
1,2-Dibromoethane	50.0000	51.9255	104		2		0-40	80-120
Chlorobenzene	50.0000	48.5899	97		3		0-40	80-120
1,1,1,2-Tetrachloroetha	50.0000	48.3516	97		4		0-40	80-130
Ethylbenzene	50.0000	47.8327	96		4		0-40	75-125
m,p-Xylene	100.0000	96.6356	97		5		0-40	75-130
o-Xylene	50.0000	48.0774	96		6		0-40	80-120
Xylene (Total)	150.0000	144.7130	96		5		0-40	81-121
Styrene	50.0000	50.9496	102		3		0-40	65-135
Bromoform	50.0000	40.6663	81		2		0-40	70-130
Isopropylbenzene	50.0000	47.0643	94		7		0-40	75-125
1,1,2,2-Tetrachloroetha	50.0000	52.8141	106		2		0-40	65-130
Bromobenzene	50.0000	47.4401	95		6		0-40	75-125
1,2,3-Trichloropropane	50.0000	44.8920	90		4		0-40	75-125
n-Propylbenzene	50.0000	45.4380	91		8		0-40	70-130
2-Chlorotoluene	50.0000	46.1514	92		6		0-40	75-125
1,3,5-Trimethylbenzene	50.0000	47.5481	95		8		0-40	75-130
4-Chlorotoluene	50.0000	46.4566	93		8		0-40	75-130
tert-Butylbenzene	50.0000	44.2033	88		7		0-40	70-130
1,2,4-Trimethylbenzene	50.0000	47.0840	94		7		0-40	75-130
sec-Butylbenzene	50.0000	45.1981	90		8		0-40	70-125
4-Isopropyltoluene	50.0000	46.8375	94		6		0-40	75-130
1,3-Dichlorobenzene	50.0000	46.3364	93		5		0-40	75-125
1,4-Dichlorobenzene	50.0000	46.1059	92		4		0-40	75-125
n-Butylbenzene	50.0000	47.1400	94		9		0-40	70-135
1,2-Dichlorobenzene	50.0000	46.5793	93		3		0-40	70-120
1,2-Dibromo-3-chloropro	50.0000	48.6264	97		2		0-40	50-130
1,2,4-Trichlorobenzene	50.0000	42.6130	85		3		0-40	65-135
Hexachlorobutadiene	50.0000	40.8543	82		6		0-40	50-140

3A - FORM III VOA-1

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2391 Mod. Ref No.: SDG No.: SM2391

Matrix Spike - EPA Sample No.: MW-NEMF-4-D Level: (TRACE or LOW) LOW

1,2,3-Trichlorobenzene	50.0000	36.9797	74		3		0-40	55-140
Naphthalene	50.0000	39.2554	79		0		0-40	55-140

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 68 outside limits

Spike Recovery: 2 out of 136 outside limits

COMMENTS:

3 - FORM III
WATER LABORATORY CONTROL
SAMPLE RECOVERY

CLIENT SAMPLE NO.
LCS-75233

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2391 Mod. Ref No.: SDG No.: SM2391

Lab Sample ID: LCS-75233 LCS Lot No.:

Date Extracted: 12/13/2013 Date Analyzed (1): 12/13/2013

COMPOUND	SPIKE ADDED	SAMPLE CONCENTRATION	LCS CONCENTRATION	LCS %REC	#	QC. LIMITS REC.
Dichlorodifluoromethane	50.0000	0.0000	38.1845	76		30 - 155
Chloromethane	50.0000	0.0000	45.4081	91		40 - 125
Vinyl chloride	50.0000	0.0000	46.0546	92		50 - 145
Bromomethane	50.0000	0.0000	47.8509	96		30 - 145
Chloroethane	50.0000	0.0000	49.3897	99		60 - 135
Trichlorofluoromethane	50.0000	0.0000	43.0212	86		60 - 145
1,1-Dichloroethene	50.0000	0.0000	48.6548	97		70 - 130
Acetone	50.0000	0.0000	49.9869	100		40 - 140
Iodomethane	50.0000	0.0000	51.6321	103		72 - 121
Carbon disulfide	50.0000	0.0000	46.0446	92		35 - 160
Methylene chloride	50.0000	0.0000	53.2796	107		55 - 140
trans-1,2-Dichloroethene	50.0000	0.0000	48.6679	97		60 - 140
Methyl tert-butyl ether	50.0000	0.0000	58.2105	116		65 - 125
1,1-Dichloroethane	50.0000	0.0000	52.4877	105		70 - 135
Vinyl acetate	50.0000	0.0000	57.0871	114		38 - 163
2-Butanone	50.0000	0.0000	58.0050	116		30 - 150
cis-1,2-Dichloroethene	50.0000	0.0000	51.4191	103		70 - 125
2,2-Dichloropropane	50.0000	0.0000	53.0207	106		70 - 135
Bromochloromethane	50.0000	0.0000	51.5980	103		65 - 130
Chloroform	50.0000	0.0000	52.5441	105		65 - 135
1,1,1-Trichloroethane	50.0000	0.0000	57.1522	114		65 - 130
1,1-Dichloropropene	50.0000	0.0000	48.7187	97		75 - 130
Carbon tetrachloride	50.0000	0.0000	48.7099	97		65 - 140
1,2-Dichloroethane	50.0000	0.0000	57.2216	114		70 - 130
Benzene	50.0000	0.0000	51.8097	104		80 - 120
Trichloroethene	50.0000	0.0000	52.0001	104		70 - 125
1,2-Dichloropropane	50.0000	0.0000	54.2559	109		75 - 125
Dibromomethane	50.0000	0.0000	56.6122	113		75 - 125
Bromodichloromethane	50.0000	0.0000	52.5191	105		75 - 120
cis-1,3-Dichloropropene	50.0000	0.0000	52.5200	105		70 - 130
4-Methyl-2-pentanone	50.0000	0.0000	62.8754	126		60 - 135
Toluene	50.0000	0.0000	51.6681	103		75 - 120
trans-1,3-Dichloropropene	50.0000	0.0000	54.6934	109		55 - 140
1,1,2-Trichloroethane	50.0000	0.0000	55.4062	111		75 - 125
1,3-Dichloropropane	50.0000	0.0000	54.6365	109		75 - 125
Tetrachloroethene	50.0000	0.0000	52.4841	105		45 - 150
2-Hexanone	50.0000	0.0000	57.0242	114		55 - 130
Dibromochloromethane	50.0000	0.0000	48.7586	98		60 - 135
1,2-Dibromoethane	50.0000	0.0000	53.5977	107		80 - 120
Chlorobenzene	50.0000	0.0000	48.5726	97		80 - 120
1,1,1,2-Tetrachloroethane	50.0000	0.0000	48.4908	97		80 - 130
Ethylbenzene	50.0000	0.0000	47.9221	96		75 - 125
m,p-Xylene	100.0000	0.0000	97.0683	97		75 - 130
o-Xylene	50.0000	0.0000	48.7800	98		80 - 120

3 - FORM III
WATER LABORATORY CONTROL
SAMPLE RECOVERY

CLIENT SAMPLE NO.
LCS-75233

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2391 Mod. Ref No.: SDG No.: SM2391

Lab Sample ID: LCS-75233 LCS Lot No.:

Date Extracted: 12/13/2013 Date Analyzed (1): 12/13/2013

COMPOUND	SPIKE ADDED	SAMPLE CONCENTRATION	LCS CONCENTRATION	LCS %REC	#	QC. LIMITS REC.
Xylene (Total)	150.0000	0.0000	145.8483	97		81 - 121
Styrene	50.0000	0.0000	50.8759	102		65 - 135
Bromoform	50.0000	0.0000	41.9884	84		70 - 130
Isopropylbenzene	50.0000	0.0000	48.3419	97		75 - 125
1,1,2,2-Tetrachloroethane	50.0000	0.0000	55.7790	112		65 - 130
Bromobenzene	50.0000	0.0000	48.8094	98		75 - 125
1,2,3-Trichloropropane	50.0000	0.0000	48.9515	98		75 - 125
n-Propylbenzene	50.0000	0.0000	47.9140	96		70 - 130
2-Chlorotoluene	50.0000	0.0000	47.5603	95		75 - 125
1,3,5-Trimethylbenzene	50.0000	0.0000	49.8028	100		75 - 130
4-Chlorotoluene	50.0000	0.0000	47.6811	95		75 - 130
tert-Butylbenzene	50.0000	0.0000	45.9462	92		70 - 130
1,2,4-Trimethylbenzene	50.0000	0.0000	48.8933	98		75 - 130
sec-Butylbenzene	50.0000	0.0000	47.1747	94		70 - 125
4-Isopropyltoluene	50.0000	0.0000	48.0760	96		75 - 130
1,3-Dichlorobenzene	50.0000	0.0000	47.5252	95		75 - 125
1,4-Dichlorobenzene	50.0000	0.0000	47.2251	94		75 - 125
n-Butylbenzene	50.0000	0.0000	49.8655	100		70 - 135
1,2-Dichlorobenzene	50.0000	0.0000	47.5401	95		70 - 120
1,2-Dibromo-3-chloropropan	50.0000	0.0000	51.5715	103		50 - 130
1,2,4-Trichlorobenzene	50.0000	0.0000	45.8810	92		65 - 135
Hexachlorobutadiene	50.0000	0.0000	41.6414	83		50 - 140
1,2,3-Trichlorobenzene	50.0000	0.0000	40.9395	82		55 - 140
Naphthalene	50.0000	0.0000	43.1968	86		55 - 140

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

Spike Recovery: 0 out of 68 outside limits

COMMENTS:

4A - FORM IV VOA
VOLATILE METHOD BLANK SUMMARY

CLIENT SAMPLE NO.
MB-75233

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2391 Mod. Ref No.: SDG No.: SM2391

Lab File ID: V1M6934.D Lab Sample ID: MB-75233

Instrument ID: V1

Matrix: (SOIL/SED/WATER) WATER Date Analyzed: 12/13/2013

Level: (TRACE or LOW/MED) LOW Time Analyzed: 10:40

GC Column: DB-624 ID: 0.25 (mm) Heated Purge: (Y/N) N

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	LCS-75233	LCS-75233	V1M6932.D	9:50
02	MW-NEMF-4-DMS	M2391-01AMS	V1M6946.D	15:36
03	MW-NEMF-4-DMSD	M2391-01AMSD	V1M6948.D	16:26
04	TB-120513	M2391-07A	V1M6951.D	17:39
05	MW-NEMF-4-D	M2391-01A	V1M6952.D	18:04
06	MW-NEMF-4-VD	M2391-02A	V1M6953.D	18:29
07	MW-NEMF-5-VD	M2391-03A	V1M6954.D	18:54
08	MW-NEMF-2-ED	M2391-04A	V1M6955.D	19:18
09	MW-NEMF-3-ED	M2391-05A	V1M6956.D	19:43
10	FB-120513	M2391-06A	V1M6957.D	20:08

COMMENTS:

som13.12.05.06.1059

8A - FORM VIII VOA

VOLATILE INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2391 Mod. Ref No.: SDG No.: SM2391

GC Column: DB-624 ID: 0.25 (mm) Init. Calib. Date(s): 12/02/2013 12/02/2013

EPA Sample No.(VSTD#####): VSTD0501I Date Analyzed: 12/13/2013

Lab File ID (Standard): V1M6931.D Time Analyzed: 9:25

Instrument ID: V1 Heated Purge: (Y/N) N

		IS1 (S1) AREA	#	RT	#	IS2 (S2) AREA	#	RT	#	IS3 (S3) AREA	#	RT	#
	12 HOUR STD	1035803		4.486		763878		7.342		380075		9.911	
	UPPER LIMIT	2071606		4.986		1527756		7.842		760150		10.411	
	LOWER LIMIT	517902		3.986		381939		6.842		190038		9.411	
	SAMPLE NO.												
01	LCS-75233	1002372		4.480		735858		7.345		360140		9.905	
02	MB-75233	989746		4.481		721124		7.346		340021		9.916	
03	MW-NEMF-4-DMS	973210		4.477		718997		7.342		353360		9.912	
04	MW-NEMF-4-DMSD	976036		4.472		718944		7.347		360321		9.907	
05	TB-120513	984098		4.471		707862		7.346		327970		9.906	
06	MW-NEMF-4-D	1005487		4.474		739466		7.339		347562		9.909	
07	MW-NEMF-4-VD	975981		4.476		712193		7.341		338770		9.901	
08	MW-NEMF-5-VD	1003129		4.470		740649		7.335		333749		9.905	
09	MW-NEMF-2-ED	1017701		4.471		737920		7.336		338412		9.906	
10	MW-NEMF-3-ED	1005908		4.482		732475		7.337		341353		9.897	
11	FB-120513	1002733		4.467		736029		7.333		342804		9.902	

IS1 () = Fluorobenzene
IS2 () = Chlorobenzene-d5
IS3 () = 1,4-Dichlorobenzene-d4
AREA UPPER LIMIT = 200% (Low-Medium Volatiles) and 140% (Trace Volatiles) of internal standard area
AREA LOWER LIMIT = 50% (Low-Medium Volatiles) and 60% (Trace Volatiles) of internal standard area
RT UPPER LIMIT = +0.50 (Low-Medium Volatiles) and +0.33 (Trace Volatiles) minutes of internal standard RT
RT LOWER LIMIT = -0.50 (Low-Medium Volatiles) and -0.33 (Trace Volatiles) minutes of internal standard RT

Column used to flag values outside contract required QC limits with an asterisk.

Report Date:
23-Dec-13 08:56

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

☑ Final Report
☐ Re-Issued Report
☐ Revised Report

Laboratory Report

HDR LMS, Inc.
One Blue Hill Plaza
Pearl River, NY 10965-

Work Order: M2448
Project : Aluminum Louvre
Project #:

Attn: Patricia Parvis

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
M2448-01	MW-NEMF-4-ED	Aqueous	13-Dec-13 11:20	14-Dec-13 09:39
M2448-02	MW-175-1-S	Aqueous	13-Dec-13 14:00	14-Dec-13 09:39
M2448-03	TB-121213	Aqueous	13-Dec-13 00:00	14-Dec-13 09:39

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. The results relate only to the samples(s) as received. This report may not be reproduced, except in full, without written approval from Spectrum Analytical.

All applicable NELAC or USEPA CLP requirments have been meet.

Spectrum Analytical (Rhode Island) is accredited under the National Environmental Laboratory Approval Program (NELAP) and DoD Environmental Laboratory Accreditation Program (ELAP), holds Organic and Inorganic contracts under the USEPA CLP Program and is certified under several states. The current list of our laboratory approvals and certifications is available on the Certifications page on our web site at www.spectrum-analytical.com.

Please contact the Laboratory or Technical Director at 401-732-3400 with any questions regarding the data contained in the laboratory report.

Department of Defense	N/A
Connecticut	PH-0153
Delaware	N/A
Florida	E87664
Maine	2007037
Massachusetts	M-RI907
New Hampshire	2631
New Jersey	RI001
New York	11522
North Carolina	581
Rhode Island	LAI00301
USDA	P330-08-00023
USEPA - ISM	EP-W-09-039
USEPA - SOM	EP-W-11-033

NELAP ACCREDITED TNI LABORATORY

LABORATORY ACCREDITATION BUREAU ACCREDITED
Certificate # L2247 Testing

Authorized by:

Yihai Ding
Laboratory Director

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

* Data Summary Pack *

175 Metro Center Boulevard · Warwick, RI 02886-1755 · 401-732-3400 · FAX 401-732-3499
www.spectrum-analytical.com

Spectrum Analytical Inc. - North Kingstown RI -- Rhode Island Division

New York State Department of Environmental Conservation
Sample Identification and Analytical Requirements Summary

Project Name : Aluminum Louvre **SDG :** M2448

Customer Sample ID	Laboratory Sample ID	Analytical Requirements				
		MSVOA Method #	MSSEMI Method #	GC* Method #	ME	Other
MW-NEMF-4-ED	M2448-01	SW8260_W				
MW-175-1-S	M2448-02	SW8260_W				
TB-121213	M2448-03	SW8260_W				

Spectrum Analytical Inc. - North Kingstown RI -- Rhode Island Division

New York State Department of Environmental Conservation
Sample Preparation and Analysis Summary MSVOA

Project Name : Aluminum Louvre **SDG :** M2448

Laboratory Sample ID	Matrix	Date Collected	Date Received By Lab	Date Extracted	Date Analyzed
SW8260_W					
M2448-01A	AQ	12/13/2013	12/14/2013	NA	12/18/2013
M2448-02A	AQ	12/13/2013	12/14/2013	NA	12/18/2013
M2448-03A	AQ	12/13/2013	12/14/2013	NA	12/18/2013

Spectrum Analytical Inc. - North Kingstown RI -- Rhode Island Division

New York State Department of Environmental Conservation
Sample Preparation and Analysis Summary MSVOA

Project Name : Aluminum Louvre **SDG :** M2448

Laboratory Sample ID	Matrix	Analytical Protocol	Extraction Method	Low/Medium Level	Dil/Conc Factor
SW8260_W					
M2448-01A	AQ	SW8260_W	NA	LOW	1
M2448-02A	AQ	SW8260_W	NA	LOW	1
M2448-03A	AQ	SW8260_W	NA	LOW	1

Spectrum Analytical Inc. - North Kingstown RI -- Rhode Island Division

WorkOrder: M2448

Client ID: HDR
Project: Aluminum Louvre
WO Name: Aluminum Louvre
Location: HDR_ALUMINUM,

Case:
SDG:

HC Due: 12/26/13
Fax Due:
Fax Report: ☐

Report Level: ASP-B
Special Program:
EDD: EQuIS_4_NYSDEC_v3

PO: D006129, WA-4, 130195

Comments: Paperless to HDR. Hardcopy of DSP(and PDF of DP and DSP on CD) to Judy Harry, Data Validation Services, 120 Cobble Creek Rd, North Creek, NY 12853.

Lab Samp ID	Client Sample ID	Collection Date	Date Recv'd	Matrix	Test Code	Samp / Lab Test Comments	HF	HT	MS	SEL	Storage
M2448-01A	MW-NEMF-4-ED	12/13/2013 11:20	12/14/2013	Aqueous	SW8260_W	/ +TICs, 1ppb ICAL				Y	VOA
M2448-02A	MW-175-1-S	12/13/2013 14:00	12/14/2013	Aqueous	SW8260_W	1 40ML VOA LOW RECOVERY / +TICs, 1ppb ICAL				Y	VOA
M2448-03A	TB-121213	12/13/2013 00:00	12/14/2013	Aqueous	SW8260_W	/ +TICs, 1ppb ICAL				Y	VOA

HF = Fraction logged in but all tests have been placed on hold

HT = Test logged in but has been placed on hold

12/17/2013 12:23 Lab Client Rep: Agnes R Huntley

* Volatiles *

REPORT NARRATIVE

Spectrum Analytical, Inc. Featuring Hanibal Technology, RI Division.

Client : HDR LMS, Inc.

Project: Aluminum Louvre

Laboratory Workorder / SDG #: M2448

SW846 8260C, VOC by GC-MS

I. SAMPLE RECEIPT

No exceptions or unusual conditions were encountered unless a Sample Condition Notification Form, or other record of communication is included with the Sample Receipt Documentation.

II. HOLDING TIMES

A. Sample Preparation:

All samples were prepared within the method-specified holding times.

B. Sample Analysis:

All samples were analyzed within the method-specified holding times.

III. METHODS

Samples were analyzed following procedures in laboratory test code: SW846 8260C

IV. PREPARATION

Aqueous Samples were prepared following procedures in laboratory test code: SW5030B

V. INSTRUMENTATION

The following instrumentation was used

Instrument Code: V10
Instrument Type: GCMS-VOA

Description: HP7890A
Manufacturer: Agilent
Model: 7890A / 5975C

VI. ANALYSIS

A. Calibration:

Calibrations met the method/SOP acceptance criteria.

B. Blanks:

All method blanks were within the acceptance criteria.

C. Surrogates:

Surrogate standard percent recoveries were within the QC limits.

D. Spikes:

1. Laboratory Control Spikes (LCS):

Percent recoveries for lab control samples were within the QC limits.

2. Matrix Spike / Matrix Spike Duplicate (MS/MSD):

No client-requested MS/MSD analyses were included in this SDG.

E. Internal Standards:

Internal standard peak areas were within the QC limits.

F. Dilutions:

No sample in this SDG required analysis at dilution.

G. Samples:

No other unusual occurrences were noted during sample analysis.

H. Manual Integration

Where needed, manual integrations were performed to improve data quality. The corrections were reviewed and associated hardcopies generated and reported as required. Manual integrations are coded to provide the data reviewer justification for such action. The codes

are labeled on the ion chromatogram signal (GC/MS signal) and chromatogram for GC based analysis as follows:

· M1 peak tailing or fronting
· M2 peak co-elution
· M3 rising or falling baseline
· M4 retention time shift
· M5 miscellaneous - under this category, the justification is explained
· M6 software did not integrate peak
· M7 partial peak integration

Manual integration was performed on the following:

VSTD00110Z Iodomethane due to M7

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Spectrum, both technically and for completeness, except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Signed:_____ _____

Date:_____12/20/2013_____

Data Flag/Qualifiers:

U Not Detected. This compound was analyzed-for but not detected. For most analyses the reporting limit (lowest standard concentration) is the value listed. For Department of Defense programs, this is the Limit of Detection (LOD).

J This flag indicates an estimated value due to either
- the compound was detected below the reporting limit, or
- estimated concentration for Tentatively Identified Compound

B This flag indicates the compound was also detected in the associated Method Blank. The B flag has an alternative meaning for Inorganics analyses reported using CLP ILM-type metals forms, indicating a "trace" concentration below the reporting limit and equal to or above the detection limit.

D For Organics analysis, this flag indicates the compound concentration was obtained from a secondary dilution analysis

E This flag indicates the compound concentration exceeded the Calibration Range. The E flag has an alternative meaning for Inorganics analyses reported using CLP metals forms, indicating an estimated concentration due to the presence of interferences, as determined by the serial dilution analysis.

P This flag is used for pesticides/PCB/herbicide compound when there is a greater than 40% difference for detected concentration between the two GC columns used for primary and confirmation analyses. This difference typically indicates an interference, causing one value to be unusually high. The **lower** of the two values is generally reported on the Form 1, and both values reported on the Form 10.

A Used to flag semivolatile organic Tentatively Identified Compound library search results for compounds identified as aldol condensation byproducts.

N Used to flag results for volatile and semivolatile Organics analysis Tentatively Identified Compounds where an analyte has passed the identification criteria, and is considered to be positively identified. For Inorganics analysis the N flag indicates the matrix spike recovery falls outside of the control limit.

* For Inorganics analysis the * flag indicates Relative Percent Difference for duplicate analyses is outside of the control limit.

Sample ID Suffixes

DL Diluted analysis. The sample was diluted and reanalyzed. The DL may be followed by a digit if more than one diluted reanalysis is provided. The DL suffix is not attached to an analysis initially performed at dilution, only to reanalyses performed at dilution

RE Reanalysis. Appended to the client sample ID to indicate a reextraction and reanalysis or a reanalysis of the original sample extract.

RA Reanalysis. Appended to the laboratory sample ID indicates a reanalysis of the original sample extract.

RX Reextraction. Appended to the laboratory sample ID indicates a reextraction of the sample.

MS Matrix Spike.

MSD Matrix Spike Duplicate

DUP Duplicate analysis

SD Serial Dilution

PS Post-digestion or Post-distillation spike. For metals or inorganic analyses

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW-NEMF-4-ED

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2448 Mod. Ref No.: SDG No.: SM2448

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2448-01A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D2340.D

Level: (TRACE/LOW/MED) LOW Date Received: 12/14/2013

% Moisture: not dec. Date Analyzed: 12/18/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	1.0	U
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl chloride	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene	1.0	U
67-64-1	Acetone	7.0	
74-88-4	Iodomethane	1.0	U
75-15-0	Carbon disulfide	1.0	U
75-09-2	Methylene chloride	1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-butyl ether	1.2	
75-34-3	1,1-Dichloroethane	1.0	U
108-05-4	Vinyl acetate	1.0	U
78-93-3	2-Butanone	5.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
594-20-7	2,2-Dichloropropane	1.0	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
563-58-6	1,1-Dichloropropene	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
71-43-2	Benzene	1.0	U
79-01-6	Trichloroethene	71	
78-87-5	1,2-Dichloropropane	1.0	U
74-95-3	Dibromomethane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
142-28-9	1,3-Dichloropropane	1.0	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW-NEMF-4-ED

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2448 Mod. Ref No.: SDG No.: SM2448

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2448-01A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D2340.D

Level: (TRACE/LOW/MED) LOW Date Received: 12/14/2013

% Moisture: not dec. Date Analyzed: 12/18/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
127-18-4	Tetrachloroethene	3.1	
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U
108-90-7	Chlorobenzene	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U
100-41-4	Ethylbenzene	1.0	U
179601-23-1	m,p-Xylene	1.0	U
95-47-6	o-Xylene	1.0	U
1330-20-7	Xylene (Total)	1.0	U
100-42-5	Styrene	1.0	U
75-25-2	Bromoform	1.0	U
98-82-8	Isopropylbenzene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
108-86-1	Bromobenzene	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
103-65-1	n-Propylbenzene	1.0	U
95-49-8	2-Chlorotoluene	1.0	U
108-67-8	1,3,5-Trimethylbenzene	1.0	U
106-43-4	4-Chlorotoluene	1.0	U
98-06-6	tert-Butylbenzene	1.0	U
95-63-6	1,2,4-Trimethylbenzene	1.0	U
135-98-8	sec-Butylbenzene	1.0	U
99-87-6	4-Isopropyltoluene	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
104-51-8	n-Butylbenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
87-68-3	Hexachlorobutadiene	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1.0	U
91-20-3	Naphthalene	1.0	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

MW-NEMF-4-ED

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2448 Mod. Ref No.: SDG No.: SM2448

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2448-01A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D2340.D

Level: (TRACE or LOW/MED) LOW Date Received: 12/14/2013

% Moisture: not dec. Date Analyzed: 12/18/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown	1.683	30	J

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW-175-1-S

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2448 Mod. Ref No.: SDG No.: SM2448

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2448-02A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D2341.D

Level: (TRACE/LOW/MED) LOW Date Received: 12/14/2013

% Moisture: not dec. Date Analyzed: 12/18/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	1.0	U
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl chloride	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene	1.0	U
67-64-1	Acetone	5.0	U
74-88-4	Iodomethane	1.0	U
75-15-0	Carbon disulfide	1.0	U
75-09-2	Methylene chloride	1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-butyl ether	1.0	U
75-34-3	1,1-Dichloroethane	1.0	U
108-05-4	Vinyl acetate	1.0	U
78-93-3	2-Butanone	5.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
594-20-7	2,2-Dichloropropane	1.0	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform	1.0	U
71-55-6	1,1,1-Trichloroethane	1.4	
563-58-6	1,1-Dichloropropene	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
71-43-2	Benzene	1.0	U
79-01-6	Trichloroethene	2.8	
78-87-5	1,2-Dichloropropane	1.0	U
74-95-3	Dibromomethane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
142-28-9	1,3-Dichloropropane	1.0	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW-175-1-S

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2448 Mod. Ref No.: SDG No.: SM2448

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2448-02A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D2341.D

Level: (TRACE/LOW/MED) LOW Date Received: 12/14/2013

% Moisture: not dec. Date Analyzed: 12/18/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
127-18-4	Tetrachloroethene	22	
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U
108-90-7	Chlorobenzene	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U
100-41-4	Ethylbenzene	1.0	U
179601-23-1	m,p-Xylene	1.0	U
95-47-6	o-Xylene	1.0	U
1330-20-7	Xylene (Total)	1.0	U
100-42-5	Styrene	1.0	U
75-25-2	Bromoform	1.0	U
98-82-8	Isopropylbenzene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
108-86-1	Bromobenzene	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
103-65-1	n-Propylbenzene	1.0	U
95-49-8	2-Chlorotoluene	1.0	U
108-67-8	1,3,5-Trimethylbenzene	1.0	U
106-43-4	4-Chlorotoluene	1.0	U
98-06-6	tert-Butylbenzene	1.0	U
95-63-6	1,2,4-Trimethylbenzene	1.0	U
135-98-8	sec-Butylbenzene	1.0	U
99-87-6	4-Isopropyltoluene	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
104-51-8	n-Butylbenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
87-68-3	Hexachlorobutadiene	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1.0	U
91-20-3	Naphthalene	1.0	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

MW-175-1-S

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2448 Mod. Ref No.: SDG No.: SM2448

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2448-02A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D2341.D

Level: (TRACE or LOW/MED) LOW Date Received: 12/14/2013

% Moisture: not dec. Date Analyzed: 12/18/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown	1.683	23	J

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

TB-121213

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2448 Mod. Ref No.: SDG No.: SM2448

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2448-03A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D2339.D

Level: (TRACE/LOW/MED) LOW Date Received: 12/14/2013

% Moisture: not dec. Date Analyzed: 12/18/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	1.0	U
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl chloride	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene	1.0	U
67-64-1	Acetone	5.0	U
74-88-4	Iodomethane	1.0	U
75-15-0	Carbon disulfide	1.0	U
75-09-2	Methylene chloride	1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-butyl ether	1.0	U
75-34-3	1,1-Dichloroethane	1.0	U
108-05-4	Vinyl acetate	1.0	U
78-93-3	2-Butanone	5.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
594-20-7	2,2-Dichloropropane	1.0	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
563-58-6	1,1-Dichloropropene	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
71-43-2	Benzene	1.0	U
79-01-6	Trichloroethene	1.0	U
78-87-5	1,2-Dichloropropane	1.0	U
74-95-3	Dibromomethane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
142-28-9	1,3-Dichloropropane	1.0	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

TB-121213

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2448 Mod. Ref No.: SDG No.: SM2448

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2448-03A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D2339.D

Level: (TRACE/LOW/MED) LOW Date Received: 12/14/2013

% Moisture: not dec. Date Analyzed: 12/18/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
127-18-4	Tetrachloroethene	1.0	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U
108-90-7	Chlorobenzene	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U
100-41-4	Ethylbenzene	1.0	U
179601-23-1	m,p-Xylene	1.0	U
95-47-6	o-Xylene	1.0	U
1330-20-7	Xylene (Total)	1.0	U
100-42-5	Styrene	1.0	U
75-25-2	Bromoform	1.0	U
98-82-8	Isopropylbenzene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
108-86-1	Bromobenzene	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
103-65-1	n-Propylbenzene	1.0	U
95-49-8	2-Chlorotoluene	1.0	U
108-67-8	1,3,5-Trimethylbenzene	1.0	U
106-43-4	4-Chlorotoluene	1.0	U
98-06-6	tert-Butylbenzene	1.0	U
95-63-6	1,2,4-Trimethylbenzene	1.0	U
135-98-8	sec-Butylbenzene	1.0	U
99-87-6	4-Isopropyltoluene	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
104-51-8	n-Butylbenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
87-68-3	Hexachlorobutadiene	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1.0	U
91-20-3	Naphthalene	1.0	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

TB-121213

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2448 Mod. Ref No.: SDG No.: SM2448

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2448-03A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D2339.D

Level: (TRACE or LOW/MED) LOW Date Received: 12/14/2013

% Moisture: not dec. Date Analyzed: 12/18/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown (1.67987)	1.680	120	J
02		Unknown (1.75060)	1.751	150	J

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MB-75299

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2448 Mod. Ref No.: SDG No.: SM2448

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: MB-75299

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D2326.D

Level: (TRACE/LOW/MED) LOW Date Received:

% Moisture: not dec. Date Analyzed: 12/18/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	1.0	U
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl chloride	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene	1.0	U
67-64-1	Acetone	5.0	U
74-88-4	Iodomethane	1.0	U
75-15-0	Carbon disulfide	1.0	U
75-09-2	Methylene chloride	1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-butyl ether	1.0	U
75-34-3	1,1-Dichloroethane	1.0	U
108-05-4	Vinyl acetate	1.0	U
78-93-3	2-Butanone	5.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
594-20-7	2,2-Dichloropropane	1.0	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
563-58-6	1,1-Dichloropropene	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
71-43-2	Benzene	1.0	U
79-01-6	Trichloroethene	1.0	U
78-87-5	1,2-Dichloropropane	1.0	U
74-95-3	Dibromomethane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
142-28-9	1,3-Dichloropropane	1.0	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MB-75299

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2448 Mod. Ref No.: SDG No.: SM2448

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: MB-75299

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D2326.D

Level: (TRACE/LOW/MED) LOW Date Received:

% Moisture: not dec. Date Analyzed: 12/18/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
127-18-4	Tetrachloroethene	1.0	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U
108-90-7	Chlorobenzene	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U
100-41-4	Ethylbenzene	1.0	U
179601-23-1	m,p-Xylene	1.0	U
95-47-6	o-Xylene	1.0	U
1330-20-7	Xylene (Total)	1.0	U
100-42-5	Styrene	1.0	U
75-25-2	Bromoform	1.0	U
98-82-8	Isopropylbenzene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
108-86-1	Bromobenzene	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
103-65-1	n-Propylbenzene	1.0	U
95-49-8	2-Chlorotoluene	1.0	U
108-67-8	1,3,5-Trimethylbenzene	1.0	U
106-43-4	4-Chlorotoluene	1.0	U
98-06-6	tert-Butylbenzene	1.0	U
95-63-6	1,2,4-Trimethylbenzene	1.0	U
135-98-8	sec-Butylbenzene	1.0	U
99-87-6	4-Isopropyltoluene	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
104-51-8	n-Butylbenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
87-68-3	Hexachlorobutadiene	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1.0	U
91-20-3	Naphthalene	1.0	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

MB-75299

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2448 Mod. Ref No.: SDG No.: SM2448

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: MB-75299

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D2326.D

Level: (TRACE or LOW/MED) LOW Date Received:

% Moisture: not dec. Date Analyzed: 12/18/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Purge Volume: 5.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

LCS-75299

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2448 Mod. Ref No.: SDG No.: SM2448

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: LCS-75299

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D2324.D

Level: (TRACE/LOW/MED) LOW Date Received:

% Moisture: not dec. Date Analyzed: 12/18/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	36	
74-87-3	Chloromethane	42	
75-01-4	Vinyl chloride	42	
74-83-9	Bromomethane	47	
75-00-3	Chloroethane	42	
75-69-4	Trichlorofluoromethane	42	
75-35-4	1,1-Dichloroethene	41	
67-64-1	Acetone	53	
74-88-4	Iodomethane	58	
75-15-0	Carbon disulfide	39	
75-09-2	Methylene chloride	46	
156-60-5	trans-1,2-Dichloroethene	43	
1634-04-4	Methyl tert-butyl ether	48	
75-34-3	1,1-Dichloroethane	44	
108-05-4	Vinyl acetate	47	
78-93-3	2-Butanone	51	
156-59-2	cis-1,2-Dichloroethene	45	
594-20-7	2,2-Dichloropropane	46	
74-97-5	Bromochloromethane	48	
67-66-3	Chloroform	45	
71-55-6	1,1,1-Trichloroethane	44	
563-58-6	1,1-Dichloropropene	45	
56-23-5	Carbon tetrachloride	43	
107-06-2	1,2-Dichloroethane	47	
71-43-2	Benzene	45	
79-01-6	Trichloroethene	44	
78-87-5	1,2-Dichloropropane	45	
74-95-3	Dibromomethane	48	
75-27-4	Bromodichloromethane	47	
10061-01-5	cis-1,3-Dichloropropene	47	
108-10-1	4-Methyl-2-pentanone	48	
108-88-3	Toluene	45	
10061-02-6	trans-1,3-Dichloropropene	44	
79-00-5	1,1,2-Trichloroethane	49	
142-28-9	1,3-Dichloropropane	47	

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

LCS-75299

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2448 Mod. Ref No.: SDG No.: SM2448

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: LCS-75299

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V8D2324.D

Level: (TRACE/LOW/MED) LOW Date Received:

% Moisture: not dec. Date Analyzed: 12/18/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
127-18-4	Tetrachloroethene	44	
591-78-6	2-Hexanone	47	
124-48-1	Dibromochloromethane	48	
106-93-4	1,2-Dibromoethane	48	
108-90-7	Chlorobenzene	44	
630-20-6	1,1,1,2-Tetrachloroethane	46	
100-41-4	Ethylbenzene	45	
179601-23-1	m,p-Xylene	90	
95-47-6	o-Xylene	45	
1330-20-7	Xylene (Total)	130	
100-42-5	Styrene	44	
75-25-2	Bromoform	43	
98-82-8	Isopropylbenzene	46	
79-34-5	1,1,2,2-Tetrachloroethane	47	
108-86-1	Bromobenzene	45	
96-18-4	1,2,3-Trichloropropane	46	
103-65-1	n-Propylbenzene	46	
95-49-8	2-Chlorotoluene	45	
108-67-8	1,3,5-Trimethylbenzene	46	
106-43-4	4-Chlorotoluene	45	
98-06-6	tert-Butylbenzene	49	
95-63-6	1,2,4-Trimethylbenzene	46	
135-98-8	sec-Butylbenzene	46	
99-87-6	4-Isopropyltoluene	47	
541-73-1	1,3-Dichlorobenzene	45	
106-46-7	1,4-Dichlorobenzene	44	
104-51-8	n-Butylbenzene	47	
95-50-1	1,2-Dichlorobenzene	46	
96-12-8	1,2-Dibromo-3-chloropropane	49	
120-82-1	1,2,4-Trichlorobenzene	46	
87-68-3	Hexachlorobutadiene	46	
87-61-6	1,2,3-Trichlorobenzene	47	
91-20-3	Naphthalene	49	

2B - FORM II VOA-2

WATER VOLATILE DEUTERATED MONITORING COMPOUND RECOVERY

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2448 Mod. Ref No.: SDG No.: SM2448

Level: (TRACE or LOW) LOW

	CLIENT SAMPLE NO.	VDMC1 (DBFM) #	VDMC2 (DCE) #	VDMC3 (TOL) #	VDMC4 (BFB) #				TOT OUT
01	LCS-75299	102	99	97	101				0
02	MB-75299	101	105	98	94				0
03	TB-121213	105	103	96	96				0
04	MW-NEMF-4-ED	104	101	95	93				0
05	MW-175-1-S	106	102	96	96				0

		QC LIMITS
VDMC1	(DBFM) Dibromofluoromethane	(85-115)
VDMC2	(DCE) = 1,2-Dichloroethane-d4	(70-120)
VDMC3	(TOL) = Toluene-d8	(85-120)
VDMC4	(BFB) = Bromofluorobenzene	(75-120)

Column to be used to flag recovery values

* Values outside of contract required QC limits

som13.12.05.06.1059

3 - FORM III
WATER LABORATORY CONTROL
SAMPLE RECOVERY

CLIENT SAMPLE NO.
LCS-75299

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2448 Mod. Ref No.: SDG No.: SM2448

Lab Sample ID: LCS-75299 LCS Lot No.:

Date Extracted: 12/18/2013 Date Analyzed (1): 12/18/2013

COMPOUND	SPIKE ADDED	SAMPLE CONCENTRATION	LCS CONCENTRATION	LCS %REC	#	QC. LIMITS REC.
Dichlorodifluoromethane	50.0000	0.0000	36.4378	73		30 - 155
Chloromethane	50.0000	0.0000	41.6417	83		40 - 125
Vinyl chloride	50.0000	0.0000	41.6911	83		50 - 145
Bromomethane	50.0000	0.0000	46.5686	93		30 - 145
Chloroethane	50.0000	0.0000	42.3491	85		60 - 135
Trichlorofluoromethane	50.0000	0.0000	42.0689	84		60 - 145
1,1-Dichloroethene	50.0000	0.0000	41.1954	82		70 - 130
Acetone	50.0000	0.0000	52.8922	106		40 - 140
Iodomethane	50.0000	0.0000	57.6101	115		72 - 121
Carbon disulfide	50.0000	0.0000	39.1922	78		35 - 160
Methylene chloride	50.0000	0.0000	46.1176	92		55 - 140
trans-1,2-Dichloroethene	50.0000	0.0000	42.7783	86		60 - 140
Methyl tert-butyl ether	50.0000	0.0000	47.5186	95		65 - 125
1,1-Dichloroethane	50.0000	0.0000	43.8867	88		70 - 135
Vinyl acetate	50.0000	0.0000	46.5171	93		38 - 163
2-Butanone	50.0000	0.0000	50.8525	102		30 - 150
cis-1,2-Dichloroethene	50.0000	0.0000	45.3515	91		70 - 125
2,2-Dichloropropane	50.0000	0.0000	45.6776	91		70 - 135
Bromochloromethane	50.0000	0.0000	47.5158	95		65 - 130
Chloroform	50.0000	0.0000	45.0696	90		65 - 135
1,1,1-Trichloroethane	50.0000	0.0000	44.1963	88		65 - 130
1,1-Dichloropropene	50.0000	0.0000	44.5416	89		75 - 130
Carbon tetrachloride	50.0000	0.0000	43.2511	87		65 - 140
1,2-Dichloroethane	50.0000	0.0000	46.7850	94		70 - 130
Benzene	50.0000	0.0000	44.5533	89		80 - 120
Trichloroethene	50.0000	0.0000	43.7575	88		70 - 125
1,2-Dichloropropane	50.0000	0.0000	44.7838	90		75 - 125
Dibromomethane	50.0000	0.0000	47.8938	96		75 - 125
Bromodichloromethane	50.0000	0.0000	46.5880	93		75 - 120
cis-1,3-Dichloropropene	50.0000	0.0000	47.4923	95		70 - 130
4-Methyl-2-pentanone	50.0000	0.0000	48.2764	97		60 - 135
Toluene	50.0000	0.0000	44.8369	90		75 - 120
trans-1,3-Dichloropropene	50.0000	0.0000	43.8331	88		55 - 140
1,1,2-Trichloroethane	50.0000	0.0000	48.9927	98		75 - 125
1,3-Dichloropropane	50.0000	0.0000	47.1871	94		75 - 125
Tetrachloroethene	50.0000	0.0000	44.3739	89		45 - 150
2-Hexanone	50.0000	0.0000	46.7920	94		55 - 130
Dibromochloromethane	50.0000	0.0000	48.1185	96		60 - 135
1,2-Dibromoethane	50.0000	0.0000	48.4269	97		80 - 120
Chlorobenzene	50.0000	0.0000	44.3148	89		80 - 120
1,1,1,2-Tetrachloroethane	50.0000	0.0000	46.1324	92		80 - 130
Ethylbenzene	50.0000	0.0000	45.1806	90		75 - 125
m,p-Xylene	100.0000	0.0000	89.6472	90		75 - 130
o-Xylene	50.0000	0.0000	45.3309	91		80 - 120

3 - FORM III
WATER LABORATORY CONTROL
SAMPLE RECOVERY

CLIENT SAMPLE NO.
LCS-75299

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2448 Mod. Ref No.: SDG No.: SM2448

Lab Sample ID: LCS-75299 LCS Lot No.:

Date Extracted: 12/18/2013 Date Analyzed (1): 12/18/2013

COMPOUND	SPIKE ADDED	SAMPLE CONCENTRATION	LCS CONCENTRATION	LCS %REC	#	QC. LIMITS REC.
Xylene (Total)	150.0000	0.0000	134.9781	90		81 - 121
Styrene	50.0000	0.0000	44.4226	89		65 - 135
Bromoform	50.0000	0.0000	43.2383	86		70 - 130
Isopropylbenzene	50.0000	0.0000	45.8417	92		75 - 125
1,1,2,2-Tetrachloroethane	50.0000	0.0000	46.5724	93		65 - 130
Bromobenzene	50.0000	0.0000	45.1756	90		75 - 125
1,2,3-Trichloropropane	50.0000	0.0000	46.2356	92		75 - 125
n-Propylbenzene	50.0000	0.0000	45.6401	91		70 - 130
2-Chlorotoluene	50.0000	0.0000	45.0583	90		75 - 125
1,3,5-Trimethylbenzene	50.0000	0.0000	45.8261	92		75 - 130
4-Chlorotoluene	50.0000	0.0000	44.9351	90		75 - 130
tert-Butylbenzene	50.0000	0.0000	48.6231	97		70 - 130
1,2,4-Trimethylbenzene	50.0000	0.0000	46.3574	93		75 - 130
sec-Butylbenzene	50.0000	0.0000	45.5996	91		70 - 125
4-Isopropyltoluene	50.0000	0.0000	46.9071	94		75 - 130
1,3-Dichlorobenzene	50.0000	0.0000	44.6976	89		75 - 125
1,4-Dichlorobenzene	50.0000	0.0000	43.7088	87		75 - 125
n-Butylbenzene	50.0000	0.0000	46.5660	93		70 - 135
1,2-Dichlorobenzene	50.0000	0.0000	45.8819	92		70 - 120
1,2-Dibromo-3-chloropropan	50.0000	0.0000	48.6206	97		50 - 130
1,2,4-Trichlorobenzene	50.0000	0.0000	45.5422	91		65 - 135
Hexachlorobutadiene	50.0000	0.0000	45.9131	92		50 - 140
1,2,3-Trichlorobenzene	50.0000	0.0000	47.1353	94		55 - 140
Naphthalene	50.0000	0.0000	48.8576	98		55 - 140

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

Spike Recovery: 0 out of 68 outside limits

COMMENTS:

4A - FORM IV VOA

VOLATILE METHOD BLANK SUMMARY

CLIENT SAMPLE NO.

MB-75299

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2448 Mod. Ref No.: SDG No.: SM2448

Lab File ID: V8D2326.D Lab Sample ID: MB-75299

Instrument ID: V10

Matrix: (SOIL/SED/WATER) WATER Date Analyzed: 12/18/2013

Level: (TRACE or LOW/MED) LOW Time Analyzed: 10:49

GC Column: DB-624 ID: 0.25 (mm) Heated Purge: (Y/N) N

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	LCS-75299	LCS-75299	V8D2324.D	9:55
02	TB-121213	M2448-03A	V8D2339.D	16:44
03	MW-NEMF-4-ED	M2448-01A	V8D2340.D	17:11
04	MW-175-1-S	M2448-02A	V8D2341.D	17:39

COMMENTS:

som13.12.05.06.1059

8A - FORM VIII VOA

VOLATILE INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2448 Mod. Ref No.: SDG No.: SM2448

GC Column: DB-624 ID: 0.25 (mm) Init. Calib. Date(s): 12/17/2013 12/17/2013

EPA Sample No.(VSTD#####): VSTD05010A Date Analyzed: 12/18/2013

Lab File ID (Standard): V8D2323.D Time Analyzed: 9:27

Instrument ID: V10 Heated Purge: (Y/N) N

		IS1 (S1) AREA	#	RT	#	IS2 (S2) AREA	#	RT	#	IS3 (S3) AREA	#	RT	#
	12 HOUR STD	979819		5.236		966207		8.223		551950		10.725	
	UPPER LIMIT	1959638		5.736		1932414		8.723		1103900		11.225	
	LOWER LIMIT	489910		4.736		483104		7.723		275975		10.225	
	SAMPLE NO.												
01	LCS-75299	969089		5.236		955018		8.223		534489		10.725	
02	MB-75299	930858		5.236		921797		8.223		453491		10.728	
03	TB-121213	849920		5.236		861047		8.223		440035		10.728	
04	MW-NEMF-4-ED	832515		5.236		849829		8.223		422309		10.728	
05	MW-175-1-S	834042		5.236		842997		8.226		428944		10.728	

IS1 () = Fluorobenzene
IS2 () = Chlorobenzene-d5
IS3 () = 1,4-Dichlorobenzene-d4
AREA UPPER LIMIT = 200% (Low-Medium Volatiles) and 140% (Trace Volatiles) of internal standard area
AREA LOWER LIMIT = 50% (Low-Medium Volatiles) and 60% (Trace Volatiles) of internal standard area
RT UPPER LIMIT = +0.50 (Low-Medium Volatiles) and +0.33 (Trace Volatiles) minutes of internal standard RT
RT LOWER LIMIT = -0.50 (Low-Medium Volatiles) and -0.33 (Trace Volatiles) minutes of internal standard RT

Column used to flag values outside contract required QC limits with an asterisk.

Report Date:
18-Dec-13 13:53

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

☑ Final Report
☐ Re-Issued Report
☐ Revised Report

Laboratory Report

HDR LMS, Inc.
One Blue Hill Plaza
Pearl River, NY 10965-

Work Order: M2361
Project : Aluminum Louvre
Project #:

Attn: Patricia Parvis

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
M2361-01	MW-175-1-D	Aqueous	03-Dec-13 09:45	04-Dec-13 10:15
M2361-02	MW-175-1-I	Aqueous	03-Dec-13 12:10	04-Dec-13 10:15
M2361-03	MW-175-1VD	Aqueous	03-Dec-13 17:20	04-Dec-13 10:15
M2361-04	TB-12032013	Aqueous	03-Dec-13 00:00	04-Dec-13 10:15
M2361-05	MW-NEMF-3-VD	Aqueous	04-Dec-13 10:45	06-Dec-13 10:45
M2361-06	MW-NEMF-2-VD	Aqueous	04-Dec-13 15:35	06-Dec-13 10:45
M2361-07	TB-12052013	Aqueous	05-Dec-13 08:30	06-Dec-13 10:45

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. The results relate only to the samples(s) as received. This report may not be reproduced, except in full, without written approval from Spectrum Analytical.

All applicable NELAC or USEPA CLP requirments have been meet.

Spectrum Analytical (Rhode Island) is accredited under the National Environmental Laboratory Approval Program (NELAP) and DoD Environmental Laboratory Accreditation Program (ELAP), holds Organic and Inorganic contracts under the USEPA CLP Program and is certified under several states. The current list of our laboratory approvals and certifications is available on the Certifications page on our web site at www.spectrum-analytical.com.

Please contact the Laboratory or Technical Director at 401-732-3400 with any questions regarding the data contained in the laboratory report.

Department of Defense	N/A
Connecticut	PH-0153
Delaware	N/A
Florida	E87664
Maine	2007037
Massachusetts	M-RI907
New Hampshire	2631
New Jersey	RI001
New York	11522
North Carolina	581
Rhode Island	LAI00301
USDA	P330-08-00023
USEPA - ISM	EP-W-09-039
USEPA - SOM	EP-W-11-033

NELAP ACCREDITED TNI LABORATORY

LABORATORY ACCREDITATION BUREAU ACCREDITED
DoD ELAP
Certificate # L2247 Testing

Authorized by:

Yihai Ding
Laboratory Director

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

* Data Summary Pack *

175 Metro Center Boulevard · Warwick, RI 02886-1755 · 401-732-3400 · FAX 401-732-3499
www.spectrum-analytical.com

Spectrum Analytical Inc. - North Kingstown RI -- Rhode Island Division

New York State Department of Environmental Conservation
Sample Identification and Analytical Requirements Summary

Project Name : Aluminum Louvre **SDG :** M2361

Customer Sample ID	Laboratory Sample ID	Analytical Requirements				
		MSVOA Method #	MSSEMI Method #	GC* Method #	ME	Other
MW-175-1-D	M2361-01	SW8260_W				
MW-175-1-I	M2361-02	SW8260_W				
MW-175-1VD	M2361-03	SW8260_W				
TB-12032013	M2361-04	SW8260_W				
MW-NEMF-3-VD	M2361-05	SW8260_W				
MW-NEMF-2-VD	M2361-06	SW8260_W				
TB-12052013	M2361-07	SW8260_W				

Spectrum Analytical Inc. - North Kingstown RI -- Rhode Island Division

New York State Department of Environmental Conservation
Sample Preparation and Analysis Summary MSVOA

Project Name : Aluminum Louvre **SDG :** M2361

Laboratory Sample ID	Matrix	Date Collected	Date Received By Lab	Date Extracted	Date Analyzed
SW8260_W					
M2361-01A	AQ	12/3/2013	12/4/2013	NA	12/12/2013
M2361-02A	AQ	12/3/2013	12/4/2013	NA	12/12/2013
M2361-03A	AQ	12/3/2013	12/4/2013	NA	12/12/2013
M2361-04A	AQ	12/3/2013	12/4/2013	NA	12/12/2013
M2361-05A	AQ	12/4/2013	12/6/2013	NA	12/12/2013
M2361-06A	AQ	12/4/2013	12/6/2013	NA	12/12/2013
M2361-07A	AQ	12/5/2013	12/6/2013	NA	12/12/2013

Spectrum Analytical Inc. - North Kingstown RI -- Rhode Island Division

New York State Department of Environmental Conservation
Sample Preparation and Analysis Summary MSVOA

Project Name : Aluminum Louvre **SDG :** M2361

Laboratory Sample ID	Matrix	Analytical Protocol	Extraction Method	Low/Medium Level	Dil/Conc Factor
SW8260_W					
M2361-01A	AQ	SW8260_W	NA	LOW	1
M2361-02A	AQ	SW8260_W	NA	LOW	1
M2361-03A	AQ	SW8260_W	NA	LOW	1
M2361-04A	AQ	SW8260_W	NA	LOW	1
M2361-05A	AQ	SW8260_W	NA	LOW	1
M2361-06A	AQ	SW8260_W	NA	LOW	1
M2361-07A	AQ	SW8260_W	NA	LOW	1

Spectrum Analytical Inc. - North Kingstown RI -- Rhode Island Division

WorkOrder: M2361

Client ID: HDR
Project: Aluminum Louvre
WO Name: Aluminum Louvre
Location: HDR_ALUMINUM,

Case:
SDG:

HC Due: 12/18/13
Fax Due:
Fax Report: ☐

Report Level: ASP-B
Special Program:
EDD: EQuIS_4_NYSDEC_v3

PO: D006129, WA-4, 130195

Comments: Paperless to HDR. Hardcopy of DSP(and PDF of DP and DSP on CD) to Judy Harry, Data Validation Services, 120 Cobble Creek Rd, North Creek, NY 12853.

Lab Samp ID	Client Sample ID	Collection Date	Date Recv'd	Matrix	Test Code	Samp / Lab Test Comments	HF	HT	MS	SEL	Storage
M2361-01A	MW-175-1-D	12/03/2013 09:45	12/04/2013	Aqueous	SW8260_W	/ +TICs, 1ppb ICAL				Y	VOA
M2361-02A	MW-175-1-I	12/03/2013 12:10	12/04/2013	Aqueous	SW8260_W	/ +TICs, 1ppb ICAL				Y	VOA
M2361-03A	MW-175-1VD	12/03/2013 17:20	12/04/2013	Aqueous	SW8260_W	/ +TICs, 1ppb ICAL				Y	VOA
M2361-04A	TB-12032013	12/03/2013 00:00	12/04/2013	Aqueous	SW8260_W	/ +TICs, 1ppb ICAL				Y	VOA
M2361-05A	MW-NEMF-3-VD	12/04/2013 10:45	12/06/2013	Aqueous	SW8260_W	/ +TICs, 1ppb ICAL				Y	VOA
M2361-06A	MW-NEMF-2-VD	12/04/2013 15:35	12/06/2013	Aqueous	SW8260_W	/ +TICs, 1ppb ICAL				Y	VOA
M2361-07A	TB-12052013	12/05/2013 08:30	12/06/2013	Aqueous	SW8260_W	/ +TICs, 1ppb ICAL				Y	VOA

HF = Fraction logged in but all tests have been placed on hold

HT = Test logged in but has been placed on hold

12/11/2013 08:45 Lab Client Rep: Agnes R Huntley

* Volatiles *

REPORT NARRATIVE

Spectrum Analytical, Inc. Featuring Hanibal Technology, RI Division.

Client : HDR LMS, Inc.

Project: Aluminum Louvre

Laboratory Workorder / SDG #: M2361

SW846 8260C, VOC by GC-MS

I. SAMPLE RECEIPT

No exceptions or unusual conditions were encountered unless a Sample Condition Notification Form, or other record of communication is included with the Sample Receipt Documentation.

II. HOLDING TIMES

A. Sample Preparation:

All samples were prepared within the method-specified holding times.

B. Sample Analysis:

All samples were analyzed within the method-specified holding times.

III. METHODS

Samples were analyzed following procedures in laboratory test code: SW846 8260C

IV. PREPARATION

Aqueous Samples were prepared following procedures in laboratory test code: SW5030B

V. INSTRUMENTATION

The following instrumentation was used

Instrument Code: V5
Instrument Type: GCMS-VOA

Description: HP6890 / HP6890
Manufacturer: Hewlett-Packard
Model: 6890 / 6890

VI. ANALYSIS

A. Calibration:

Calibrations met the method/SOP acceptance criteria.

B. Blanks:

All method blanks were within the acceptance criteria.

C. Surrogates:

Surrogate standard percent recoveries were within the QC limits.

D. Spikes:

1. Laboratory Control Spikes (LCS):

Percent recoveries for lab control samples were within the QC limits with the following exceptions. Please note that most test procedures allow for several compounds outside of the QC limits for the LCS, although this may indicate a bias for this specific compound.

LCS-75202 in batch 75202, recovery is below criteria for 2,2-Dichloropropane at 60% with criteria of (70-135).

2. Matrix Spike / Matrix Spike Duplicate (MS/MSD):

No client-requested MS/MSD analyses were included in this SDG.

E. Internal Standards:

Internal standard peak areas were within the QC limits.

F. Dilutions:

No sample in this SDG required analysis at dilution.

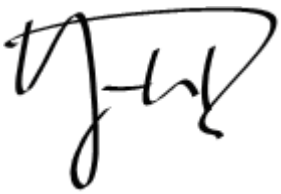
G. Samples:

No other unusual occurrences were noted during sample analysis.

H. Manual Integration

No manual integrations were performed on any sample or standard.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Spectrum, both technically and for completeness, except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.



Signed:_____ _____

Date:_____12/18/2013_____

Data Flag/Qualifiers:

U Not Detected. This compound was analyzed-for but not detected. For most analyses the reporting limit (lowest standard concentration) is the value listed. For Department of Defense programs, this is the Limit of Detection (LOD).

J This flag indicates an estimated value due to either
- the compound was detected below the reporting limit, or
- estimated concentration for Tentatively Identified Compound

B This flag indicates the compound was also detected in the associated Method Blank. The B flag has an alternative meaning for Inorganics analyses reported using CLP ILM-type metals forms, indicating a "trace" concentration below the reporting limit and equal to or above the detection limit.

D For Organics analysis, this flag indicates the compound concentration was obtained from a secondary dilution analysis

E This flag indicates the compound concentration exceeded the Calibration Range. The E flag has an alternative meaning for Inorganics analyses reported using CLP metals forms, indicating an estimated concentration due to the presence of interferences, as determined by the serial dilution analysis.

P This flag is used for pesticides/PCB/herbicide compound when there is a greater than 40% difference for detected concentration between the two GC columns used for primary and confirmation analyses. This difference typically indicates an interference, causing one value to be unusually high. The **lower** of the two values is generally reported on the Form 1, and both values reported on the Form 10.

A Used to flag semivolatile organic Tentatively Identified Compound library search results for compounds identified as aldol condensation byproducts.

N Used to flag results for volatile and semivolatile Organics analysis Tentatively Identified Compounds where an analyte has passed the identification criteria, and is considered to be positively identified. For Inorganics analysis the N flag indicates the matrix spike recovery falls outside of the control limit.

* For Inorganics analysis the * flag indicates Relative Percent Difference for duplicate analyses is outside of the control limit.

Sample ID Suffixes

DL Diluted analysis. The sample was diluted and reanalyzed. The DL may be followed by a digit if more than one diluted reanalysis is provided. The DL suffix is not attached to an analysis initially performed at dilution, only to reanalyses performed at dilution

RE Reanalysis. Appended to the client sample ID to indicate a reextraction and reanalysis or a reanalysis of the original sample extract.

RA Reanalysis. Appended to the laboratory sample ID indicates a reanalysis of the original sample extract.

RX Reextraction. Appended to the laboratory sample ID indicates a reextraction of the sample.

MS Matrix Spike.

MSD Matrix Spike Duplicate

DUP Duplicate analysis

SD Serial Dilution

PS Post-digestion or Post-distillation spike. For metals or inorganic analyses

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW-175-1-D

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2361 Mod. Ref No.: SDG No.: SM2361

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2361-01A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5O8896.D

Level: (TRACE/LOW/MED) LOW Date Received: 12/04/2013

% Moisture: not dec. Date Analyzed: 12/12/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	1.0	U
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl chloride	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene	1.0	U
67-64-1	Acetone	5.0	U
74-88-4	Iodomethane	1.0	U
75-15-0	Carbon disulfide	1.0	U
75-09-2	Methylene chloride	1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-butyl ether	1.0	U
75-34-3	1,1-Dichloroethane	1.0	U
108-05-4	Vinyl acetate	1.0	U
78-93-3	2-Butanone	5.0	U
156-59-2	cis-1,2-Dichloroethene	2.4	
594-20-7	2,2-Dichloropropane	1.0	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
563-58-6	1,1-Dichloropropene	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
71-43-2	Benzene	1.0	U
79-01-6	Trichloroethene	51	
78-87-5	1,2-Dichloropropane	1.0	U
74-95-3	Dibromomethane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
142-28-9	1,3-Dichloropropane	1.0	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW-175-1-D

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2361 Mod. Ref No.: SDG No.: SM2361

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2361-01A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5O8896.D

Level: (TRACE/LOW/MED) LOW Date Received: 12/04/2013

% Moisture: not dec. Date Analyzed: 12/12/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
127-18-4	Tetrachloroethene	1.0	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U
108-90-7	Chlorobenzene	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U
100-41-4	Ethylbenzene	1.0	U
179601-23-1	m,p-Xylene	1.0	U
95-47-6	o-Xylene	1.0	U
1330-20-7	Xylene (Total)	1.0	U
100-42-5	Styrene	1.0	U
75-25-2	Bromoform	1.0	U
98-82-8	Isopropylbenzene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
108-86-1	Bromobenzene	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
103-65-1	n-Propylbenzene	1.0	U
95-49-8	2-Chlorotoluene	1.0	U
108-67-8	1,3,5-Trimethylbenzene	1.0	U
106-43-4	4-Chlorotoluene	1.0	U
98-06-6	tert-Butylbenzene	1.0	U
95-63-6	1,2,4-Trimethylbenzene	1.0	U
135-98-8	sec-Butylbenzene	1.0	U
99-87-6	4-Isopropyltoluene	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
104-51-8	n-Butylbenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
87-68-3	Hexachlorobutadiene	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1.0	U
91-20-3	Naphthalene	1.0	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

MW-175-1-D

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2361 Mod. Ref No.: SDG No.: SM2361

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2361-01A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5O8896.D

Level: (TRACE or LOW/MED) LOW Date Received: 12/04/2013

% Moisture: not dec. Date Analyzed: 12/12/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Purge Volume: 5.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW-175-1-I

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2361 Mod. Ref No.: SDG No.: SM2361

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2361-02A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5O8897.D

Level: (TRACE/LOW/MED) LOW Date Received: 12/04/2013

% Moisture: not dec. Date Analyzed: 12/12/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	1.0	U
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl chloride	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene	1.0	U
67-64-1	Acetone	5.0	U
74-88-4	Iodomethane	1.0	U
75-15-0	Carbon disulfide	1.0	U
75-09-2	Methylene chloride	1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-butyl ether	1.0	U
75-34-3	1,1-Dichloroethane	1.0	U
108-05-4	Vinyl acetate	1.0	U
78-93-3	2-Butanone	5.0	U
156-59-2	cis-1,2-Dichloroethene	3.1	
594-20-7	2,2-Dichloropropane	1.0	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform	1.0	U
71-55-6	1,1,1-Trichloroethane	2.4	
563-58-6	1,1-Dichloropropene	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
71-43-2	Benzene	1.0	U
79-01-6	Trichloroethene	120	
78-87-5	1,2-Dichloropropane	1.0	U
74-95-3	Dibromomethane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
142-28-9	1,3-Dichloropropane	1.0	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW-175-1-I

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2361 Mod. Ref No.: SDG No.: SM2361

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2361-02A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5O8897.D

Level: (TRACE/LOW/MED) LOW Date Received: 12/04/2013

% Moisture: not dec. Date Analyzed: 12/12/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
127-18-4	Tetrachloroethene	2.5	
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U
108-90-7	Chlorobenzene	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U
100-41-4	Ethylbenzene	1.0	U
179601-23-1	m,p-Xylene	1.0	U
95-47-6	o-Xylene	1.0	U
1330-20-7	Xylene (Total)	1.0	U
100-42-5	Styrene	1.0	U
75-25-2	Bromoform	1.0	U
98-82-8	Isopropylbenzene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
108-86-1	Bromobenzene	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
103-65-1	n-Propylbenzene	1.0	U
95-49-8	2-Chlorotoluene	1.0	U
108-67-8	1,3,5-Trimethylbenzene	1.0	U
106-43-4	4-Chlorotoluene	1.0	U
98-06-6	tert-Butylbenzene	1.0	U
95-63-6	1,2,4-Trimethylbenzene	1.0	U
135-98-8	sec-Butylbenzene	1.0	U
99-87-6	4-Isopropyltoluene	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
104-51-8	n-Butylbenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
87-68-3	Hexachlorobutadiene	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1.0	U
91-20-3	Naphthalene	1.0	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

MW-175-1-I

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2361 Mod. Ref No.: SDG No.: SM2361

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2361-02A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5O8897.D

Level: (TRACE or LOW/MED) LOW Date Received: 12/04/2013

% Moisture: not dec. Date Analyzed: 12/12/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Purge Volume: 5.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW-175-1VD

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2361 Mod. Ref No.: SDG No.: SM2361

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2361-03A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5O8898.D

Level: (TRACE/LOW/MED) LOW Date Received: 12/04/2013

% Moisture: not dec. Date Analyzed: 12/12/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	1.0	U
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl chloride	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene	1.0	U
67-64-1	Acetone	5.0	U
74-88-4	Iodomethane	1.0	U
75-15-0	Carbon disulfide	1.0	U
75-09-2	Methylene chloride	1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-butyl ether	1.0	U
75-34-3	1,1-Dichloroethane	1.0	U
108-05-4	Vinyl acetate	1.0	U
78-93-3	2-Butanone	5.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
594-20-7	2,2-Dichloropropane	1.0	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
563-58-6	1,1-Dichloropropene	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
71-43-2	Benzene	1.0	U
79-01-6	Trichloroethene	1.1	
78-87-5	1,2-Dichloropropane	1.0	U
74-95-3	Dibromomethane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
142-28-9	1,3-Dichloropropane	1.0	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW-175-1VD

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2361 Mod. Ref No.: SDG No.: SM2361

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2361-03A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5O8898.D

Level: (TRACE/LOW/MED) LOW Date Received: 12/04/2013

% Moisture: not dec. Date Analyzed: 12/12/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
127-18-4	Tetrachloroethene	1.0	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U
108-90-7	Chlorobenzene	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U
100-41-4	Ethylbenzene	1.0	U
179601-23-1	m,p-Xylene	1.0	U
95-47-6	o-Xylene	1.0	U
1330-20-7	Xylene (Total)	1.0	U
100-42-5	Styrene	1.0	U
75-25-2	Bromoform	1.0	U
98-82-8	Isopropylbenzene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
108-86-1	Bromobenzene	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
103-65-1	n-Propylbenzene	1.0	U
95-49-8	2-Chlorotoluene	1.0	U
108-67-8	1,3,5-Trimethylbenzene	1.0	U
106-43-4	4-Chlorotoluene	1.0	U
98-06-6	tert-Butylbenzene	1.0	U
95-63-6	1,2,4-Trimethylbenzene	1.0	U
135-98-8	sec-Butylbenzene	1.0	U
99-87-6	4-Isopropyltoluene	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
104-51-8	n-Butylbenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
87-68-3	Hexachlorobutadiene	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1.0	U
91-20-3	Naphthalene	1.0	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

MW-175-1VD

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2361 Mod. Ref No.: SDG No.: SM2361

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2361-03A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5O8898.D

Level: (TRACE or LOW/MED) LOW Date Received: 12/04/2013

% Moisture: not dec. Date Analyzed: 12/12/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Purge Volume: 5.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

TB-12032013

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2361 Mod. Ref No.: SDG No.: SM2361

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2361-04A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5O8899.D

Level: (TRACE/LOW/MED) LOW Date Received: 12/04/2013

% Moisture: not dec. Date Analyzed: 12/12/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	1.0	U
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl chloride	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene	1.0	U
67-64-1	Acetone	5.0	U
74-88-4	Iodomethane	1.0	U
75-15-0	Carbon disulfide	1.0	U
75-09-2	Methylene chloride	1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-butyl ether	1.0	U
75-34-3	1,1-Dichloroethane	1.0	U
108-05-4	Vinyl acetate	1.0	U
78-93-3	2-Butanone	5.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
594-20-7	2,2-Dichloropropane	1.0	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
563-58-6	1,1-Dichloropropene	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
71-43-2	Benzene	1.0	U
79-01-6	Trichloroethene	1.0	U
78-87-5	1,2-Dichloropropane	1.0	U
74-95-3	Dibromomethane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
142-28-9	1,3-Dichloropropane	1.0	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

TB-12032013

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2361 Mod. Ref No.: SDG No.: SM2361

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2361-04A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5O8899.D

Level: (TRACE/LOW/MED) LOW Date Received: 12/04/2013

% Moisture: not dec. Date Analyzed: 12/12/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
127-18-4	Tetrachloroethene	6.7	
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U
108-90-7	Chlorobenzene	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U
100-41-4	Ethylbenzene	1.0	U
179601-23-1	m,p-Xylene	1.0	U
95-47-6	o-Xylene	1.0	U
1330-20-7	Xylene (Total)	1.0	U
100-42-5	Styrene	1.0	U
75-25-2	Bromoform	1.0	U
98-82-8	Isopropylbenzene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
108-86-1	Bromobenzene	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
103-65-1	n-Propylbenzene	1.0	U
95-49-8	2-Chlorotoluene	1.0	U
108-67-8	1,3,5-Trimethylbenzene	1.0	U
106-43-4	4-Chlorotoluene	1.0	U
98-06-6	tert-Butylbenzene	1.0	U
95-63-6	1,2,4-Trimethylbenzene	1.0	U
135-98-8	sec-Butylbenzene	1.0	U
99-87-6	4-Isopropyltoluene	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
104-51-8	n-Butylbenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
87-68-3	Hexachlorobutadiene	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1.0	U
91-20-3	Naphthalene	1.0	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

TB-12032013

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2361 Mod. Ref No.: SDG No.: SM2361

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2361-04A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5O8899.D

Level: (TRACE or LOW/MED) LOW Date Received: 12/04/2013

% Moisture: not dec. Date Analyzed: 12/12/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Purge Volume: 5.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW-NEMF-3-VD

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2361 Mod. Ref No.: SDG No.: SM2361

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2361-05A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5O8900.D

Level: (TRACE/LOW/MED) LOW Date Received: 12/06/2013

% Moisture: not dec. Date Analyzed: 12/12/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	1.0	U
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl chloride	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene	1.0	U
67-64-1	Acetone	5.0	U
74-88-4	Iodomethane	1.0	U
75-15-0	Carbon disulfide	1.0	U
75-09-2	Methylene chloride	1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-butyl ether	1.0	U
75-34-3	1,1-Dichloroethane	1.0	U
108-05-4	Vinyl acetate	1.0	U
78-93-3	2-Butanone	5.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
594-20-7	2,2-Dichloropropane	1.0	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
563-58-6	1,1-Dichloropropene	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
71-43-2	Benzene	1.0	U
79-01-6	Trichloroethene	1.0	U
78-87-5	1,2-Dichloropropane	1.0	U
74-95-3	Dibromomethane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
142-28-9	1,3-Dichloropropane	1.0	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW-NEMF-3-VD

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2361 Mod. Ref No.: SDG No.: SM2361

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2361-05A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5O8900.D

Level: (TRACE/LOW/MED) LOW Date Received: 12/06/2013

% Moisture: not dec. Date Analyzed: 12/12/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
127-18-4	Tetrachloroethene	1.0	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U
108-90-7	Chlorobenzene	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U
100-41-4	Ethylbenzene	1.0	U
179601-23-1	m,p-Xylene	1.0	U
95-47-6	o-Xylene	1.0	U
1330-20-7	Xylene (Total)	1.0	U
100-42-5	Styrene	1.0	U
75-25-2	Bromoform	1.0	U
98-82-8	Isopropylbenzene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
108-86-1	Bromobenzene	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
103-65-1	n-Propylbenzene	1.0	U
95-49-8	2-Chlorotoluene	1.0	U
108-67-8	1,3,5-Trimethylbenzene	1.0	U
106-43-4	4-Chlorotoluene	1.0	U
98-06-6	tert-Butylbenzene	1.0	U
95-63-6	1,2,4-Trimethylbenzene	1.0	U
135-98-8	sec-Butylbenzene	1.0	U
99-87-6	4-Isopropyltoluene	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
104-51-8	n-Butylbenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
87-68-3	Hexachlorobutadiene	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1.0	U
91-20-3	Naphthalene	1.0	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

MW-NEMF-3-VD

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2361 Mod. Ref No.: SDG No.: SM2361

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2361-05A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5O8900.D

Level: (TRACE or LOW/MED) LOW Date Received: 12/06/2013

% Moisture: not dec. Date Analyzed: 12/12/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Purge Volume: 5.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW-NEMF-2-VD

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2361 Mod. Ref No.: SDG No.: SM2361

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2361-06A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5O8901.D

Level: (TRACE/LOW/MED) LOW Date Received: 12/06/2013

% Moisture: not dec. Date Analyzed: 12/12/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	1.0	U
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl chloride	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene	1.0	U
67-64-1	Acetone	5.0	U
74-88-4	Iodomethane	1.0	U
75-15-0	Carbon disulfide	1.0	U
75-09-2	Methylene chloride	1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-butyl ether	1.2	
75-34-3	1,1-Dichloroethane	1.0	U
108-05-4	Vinyl acetate	1.0	U
78-93-3	2-Butanone	5.0	U
156-59-2	cis-1,2-Dichloroethene	1.4	
594-20-7	2,2-Dichloropropane	1.0	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
563-58-6	1,1-Dichloropropene	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
71-43-2	Benzene	1.0	U
79-01-6	Trichloroethene	31	
78-87-5	1,2-Dichloropropane	1.0	U
74-95-3	Dibromomethane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
142-28-9	1,3-Dichloropropane	1.0	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW-NEMF-2-VD

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2361 Mod. Ref No.: SDG No.: SM2361

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2361-06A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5O8901.D

Level: (TRACE/LOW/MED) LOW Date Received: 12/06/2013

% Moisture: not dec. Date Analyzed: 12/12/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
127-18-4	Tetrachloroethene	1.0	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U
108-90-7	Chlorobenzene	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U
100-41-4	Ethylbenzene	1.0	U
179601-23-1	m,p-Xylene	1.0	U
95-47-6	o-Xylene	1.0	U
1330-20-7	Xylene (Total)	1.0	U
100-42-5	Styrene	1.0	U
75-25-2	Bromoform	1.0	U
98-82-8	Isopropylbenzene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
108-86-1	Bromobenzene	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
103-65-1	n-Propylbenzene	1.0	U
95-49-8	2-Chlorotoluene	1.0	U
108-67-8	1,3,5-Trimethylbenzene	1.0	U
106-43-4	4-Chlorotoluene	1.0	U
98-06-6	tert-Butylbenzene	1.0	U
95-63-6	1,2,4-Trimethylbenzene	1.0	U
135-98-8	sec-Butylbenzene	1.0	U
99-87-6	4-Isopropyltoluene	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
104-51-8	n-Butylbenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
87-68-3	Hexachlorobutadiene	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1.0	U
91-20-3	Naphthalene	1.0	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

MW-NEMF-2-VD

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2361 Mod. Ref No.: SDG No.: SM2361

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2361-06A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5O8901.D

Level: (TRACE or LOW/MED) LOW Date Received: 12/06/2013

% Moisture: not dec. Date Analyzed: 12/12/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Purge Volume: 5.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

TB-12052013

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2361 Mod. Ref No.: SDG No.: SM2361

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2361-07A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5O8902.D

Level: (TRACE/LOW/MED) LOW Date Received: 12/06/2013

% Moisture: not dec. Date Analyzed: 12/12/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	1.0	U
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl chloride	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene	1.0	U
67-64-1	Acetone	5.0	U
74-88-4	Iodomethane	1.0	U
75-15-0	Carbon disulfide	1.0	U
75-09-2	Methylene chloride	1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-butyl ether	1.0	U
75-34-3	1,1-Dichloroethane	1.0	U
108-05-4	Vinyl acetate	1.0	U
78-93-3	2-Butanone	5.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
594-20-7	2,2-Dichloropropane	1.0	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
563-58-6	1,1-Dichloropropene	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
71-43-2	Benzene	1.0	U
79-01-6	Trichloroethene	1.0	U
78-87-5	1,2-Dichloropropane	1.0	U
74-95-3	Dibromomethane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
142-28-9	1,3-Dichloropropane	1.0	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

TB-12052013

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2361 Mod. Ref No.: SDG No.: SM2361

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2361-07A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5O8902.D

Level: (TRACE/LOW/MED) LOW Date Received: 12/06/2013

% Moisture: not dec. Date Analyzed: 12/12/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
127-18-4	Tetrachloroethene	4.0	
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U
108-90-7	Chlorobenzene	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U
100-41-4	Ethylbenzene	1.0	U
179601-23-1	m,p-Xylene	1.0	U
95-47-6	o-Xylene	1.0	U
1330-20-7	Xylene (Total)	1.0	U
100-42-5	Styrene	1.0	U
75-25-2	Bromoform	1.0	U
98-82-8	Isopropylbenzene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
108-86-1	Bromobenzene	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
103-65-1	n-Propylbenzene	1.0	U
95-49-8	2-Chlorotoluene	1.0	U
108-67-8	1,3,5-Trimethylbenzene	1.0	U
106-43-4	4-Chlorotoluene	1.0	U
98-06-6	tert-Butylbenzene	1.0	U
95-63-6	1,2,4-Trimethylbenzene	1.0	U
135-98-8	sec-Butylbenzene	1.0	U
99-87-6	4-Isopropyltoluene	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
104-51-8	n-Butylbenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
87-68-3	Hexachlorobutadiene	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1.0	U
91-20-3	Naphthalene	1.0	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

TB-12052013

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2361 Mod. Ref No.: SDG No.: SM2361

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: M2361-07A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5O8902.D

Level: (TRACE or LOW/MED) LOW Date Received: 12/06/2013

% Moisture: not dec. Date Analyzed: 12/12/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Purge Volume: 5.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MB-75202

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2361 Mod. Ref No.: SDG No.: SM2361

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: MB-75202

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5O8894.D

Level: (TRACE/LOW/MED) LOW Date Received:

% Moisture: not dec. Date Analyzed: 12/12/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	1.0	U
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl chloride	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene	1.0	U
67-64-1	Acetone	5.0	U
74-88-4	Iodomethane	1.0	U
75-15-0	Carbon disulfide	1.0	U
75-09-2	Methylene chloride	1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-butyl ether	1.0	U
75-34-3	1,1-Dichloroethane	1.0	U
108-05-4	Vinyl acetate	1.0	U
78-93-3	2-Butanone	5.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
594-20-7	2,2-Dichloropropane	1.0	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
563-58-6	1,1-Dichloropropene	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
71-43-2	Benzene	1.0	U
79-01-6	Trichloroethene	1.0	U
78-87-5	1,2-Dichloropropane	1.0	U
74-95-3	Dibromomethane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
142-28-9	1,3-Dichloropropane	1.0	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MB-75202

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2361 Mod. Ref No.: SDG No.: SM2361

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: MB-75202

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5O8894.D

Level: (TRACE/LOW/MED) LOW Date Received:

% Moisture: not dec. Date Analyzed: 12/12/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
127-18-4	Tetrachloroethene	1.0	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U
108-90-7	Chlorobenzene	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U
100-41-4	Ethylbenzene	1.0	U
179601-23-1	m,p-Xylene	1.0	U
95-47-6	o-Xylene	1.0	U
1330-20-7	Xylene (Total)	1.0	U
100-42-5	Styrene	1.0	U
75-25-2	Bromoform	1.0	U
98-82-8	Isopropylbenzene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
108-86-1	Bromobenzene	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
103-65-1	n-Propylbenzene	1.0	U
95-49-8	2-Chlorotoluene	1.0	U
108-67-8	1,3,5-Trimethylbenzene	1.0	U
106-43-4	4-Chlorotoluene	1.0	U
98-06-6	tert-Butylbenzene	1.0	U
95-63-6	1,2,4-Trimethylbenzene	1.0	U
135-98-8	sec-Butylbenzene	1.0	U
99-87-6	4-Isopropyltoluene	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
104-51-8	n-Butylbenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
87-68-3	Hexachlorobutadiene	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1.0	U
91-20-3	Naphthalene	1.0	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

MB-75202

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2361 Mod. Ref No.: SDG No.: SM2361

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: MB-75202

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5O8894.D

Level: (TRACE or LOW/MED) LOW Date Received:

% Moisture: not dec. Date Analyzed: 12/12/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Purge Volume: 5.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

LCS-75202

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2361 Mod. Ref No.: SDG No.: SM2361

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: LCS-75202

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5O8892.D

Level: (TRACE/LOW/MED) LOW Date Received:

% Moisture: not dec. Date Analyzed: 12/12/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	53	
74-87-3	Chloromethane	55	
75-01-4	Vinyl chloride	54	
74-83-9	Bromomethane	45	
75-00-3	Chloroethane	46	
75-69-4	Trichlorofluoromethane	59	
75-35-4	1,1-Dichloroethene	48	
67-64-1	Acetone	51	
74-88-4	Iodomethane	50	
75-15-0	Carbon disulfide	43	
75-09-2	Methylene chloride	45	
156-60-5	trans-1,2-Dichloroethene	50	
1634-04-4	Methyl tert-butyl ether	50	
75-34-3	1,1-Dichloroethane	47	
108-05-4	Vinyl acetate	46	
78-93-3	2-Butanone	44	
156-59-2	cis-1,2-Dichloroethene	49	
594-20-7	2,2-Dichloropropane	30	
74-97-5	Bromochloromethane	56	
67-66-3	Chloroform	56	
71-55-6	1,1,1-Trichloroethane	54	
563-58-6	1,1-Dichloropropene	52	
56-23-5	Carbon tetrachloride	58	
107-06-2	1,2-Dichloroethane	57	
71-43-2	Benzene	46	
79-01-6	Trichloroethene	54	
78-87-5	1,2-Dichloropropane	46	
74-95-3	Dibromomethane	51	
75-27-4	Bromodichloromethane	59	
10061-01-5	cis-1,3-Dichloropropene	47	
108-10-1	4-Methyl-2-pentanone	47	
108-88-3	Toluene	52	
10061-02-6	trans-1,3-Dichloropropene	53	
79-00-5	1,1,2-Trichloroethane	52	
142-28-9	1,3-Dichloropropane	52	

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

LCS-75202

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2361 Mod. Ref No.: SDG No.: SM2361

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: LCS-75202

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V5O8892.D

Level: (TRACE/LOW/MED) LOW Date Received:

% Moisture: not dec. Date Analyzed: 12/12/2013

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
127-18-4	Tetrachloroethene	50	
591-78-6	2-Hexanone	43	
124-48-1	Dibromochloromethane	50	
106-93-4	1,2-Dibromoethane	47	
108-90-7	Chlorobenzene	47	
630-20-6	1,1,1,2-Tetrachloroethane	53	
100-41-4	Ethylbenzene	51	
179601-23-1	m,p-Xylene	92	
95-47-6	o-Xylene	52	
1330-20-7	Xylene (Total)	140	
100-42-5	Styrene	47	
75-25-2	Bromoform	51	
98-82-8	Isopropylbenzene	49	
79-34-5	1,1,2,2-Tetrachloroethane	40	
108-86-1	Bromobenzene	49	
96-18-4	1,2,3-Trichloropropane	44	
103-65-1	n-Propylbenzene	49	
95-49-8	2-Chlorotoluene	50	
108-67-8	1,3,5-Trimethylbenzene	51	
106-43-4	4-Chlorotoluene	51	
98-06-6	tert-Butylbenzene	53	
95-63-6	1,2,4-Trimethylbenzene	53	
135-98-8	sec-Butylbenzene	52	
99-87-6	4-Isopropyltoluene	53	
541-73-1	1,3-Dichlorobenzene	51	
106-46-7	1,4-Dichlorobenzene	51	
104-51-8	n-Butylbenzene	51	
95-50-1	1,2-Dichlorobenzene	51	
96-12-8	1,2-Dibromo-3-chloropropane	39	
120-82-1	1,2,4-Trichlorobenzene	49	
87-68-3	Hexachlorobutadiene	51	
87-61-6	1,2,3-Trichlorobenzene	46	
91-20-3	Naphthalene	44	

2B - FORM II VOA-2

WATER VOLATILE DEUTERATED MONITORING COMPOUND RECOVERY

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2361 Mod. Ref No.: SDG No.: SM2361

Level: (TRACE or LOW) LOW

	CLIENT SAMPLE NO.	VDMC1 (DBFM) #	VDMC2 (DCE) #	VDMC3 (TOL) #	VDMC4 (BFB) #				TOT OUT
01	LCS-75202	104	93	92	97				0
02	MB-75202	108	101	98	94				0
03	MW-175-1-D	111	97	98	99				0
04	MW-175-1-I	112	108	96	103				0
05	MW-175-1VD	101	86	98	98				0
06	TB-12032013	105	86	99	96				0
07	MW-NEMF-3-VD	103	94	104	103				0
08	MW-NEMF-2-VD	109	99	102	98				0
09	TB-12052013	106	99	99	99				0

		QC LIMITS
VDMC1	(DBFM) Dibromofluoromethane	(85-115)
VDMC2	(DCE) = 1,2-Dichloroethane-d4	(70-120)
VDMC3	(TOL) = Toluene-d8	(85-120)
VDMC4	(BFB) = Bromofluorobenzene	(75-120)

Column to be used to flag recovery values

* Values outside of contract required QC limits

som13.12.05.06.1059

3 - FORM III
WATER LABORATORY CONTROL
SAMPLE RECOVERY

CLIENT SAMPLE NO.
LCS-75202

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2361 Mod. Ref No.: SDG No.: SM2361

Lab Sample ID: LCS-75202 LCS Lot No.:

Date Extracted: 12/11/2013 Date Analyzed (1): 12/12/2013

COMPOUND	SPIKE ADDED	SAMPLE CONCENTRATION	LCS CONCENTRATION	LCS %REC	#	QC. LIMITS REC.
Dichlorodifluoromethane	50.0000	0.0000	53.1632	106		30 - 155
Chloromethane	50.0000	0.0000	55.3980	111		40 - 125
Vinyl chloride	50.0000	0.0000	54.0081	108		50 - 145
Bromomethane	50.0000	0.0000	44.8061	90		30 - 145
Chloroethane	50.0000	0.0000	46.4846	93		60 - 135
Trichlorofluoromethane	50.0000	0.0000	59.3796	119		60 - 145
1,1-Dichloroethene	50.0000	0.0000	47.6613	95		70 - 130
Acetone	50.0000	0.0000	50.7209	101		40 - 140
Iodomethane	50.0000	0.0000	49.9204	100		72 - 121
Carbon disulfide	50.0000	0.0000	43.0912	86		35 - 160
Methylene chloride	50.0000	0.0000	44.9930	90		55 - 140
trans-1,2-Dichloroethene	50.0000	0.0000	49.6783	99		60 - 140
Methyl tert-butyl ether	50.0000	0.0000	50.3796	101		65 - 125
1,1-Dichloroethane	50.0000	0.0000	46.9767	94		70 - 135
Vinyl acetate	50.0000	0.0000	46.2485	92		38 - 163
2-Butanone	50.0000	0.0000	43.7476	87		30 - 150
cis-1,2-Dichloroethene	50.0000	0.0000	49.3278	99		70 - 125
2,2-Dichloropropane	50.0000	0.0000	30.1028	60	*	70 - 135
Bromochloromethane	50.0000	0.0000	55.9987	112		65 - 130
Chloroform	50.0000	0.0000	56.4727	113		65 - 135
1,1,1-Trichloroethane	50.0000	0.0000	53.5738	107		65 - 130
1,1-Dichloropropene	50.0000	0.0000	51.9038	104		75 - 130
Carbon tetrachloride	50.0000	0.0000	57.7695	116		65 - 140
1,2-Dichloroethane	50.0000	0.0000	56.6328	113		70 - 130
Benzene	50.0000	0.0000	46.4188	93		80 - 120
Trichloroethene	50.0000	0.0000	54.0526	108		70 - 125
1,2-Dichloropropane	50.0000	0.0000	45.9270	92		75 - 125
Dibromomethane	50.0000	0.0000	50.5524	101		75 - 125
Bromodichloromethane	50.0000	0.0000	58.9495	118		75 - 120
cis-1,3-Dichloropropene	50.0000	0.0000	47.4520	95		70 - 130
4-Methyl-2-pentanone	50.0000	0.0000	47.0554	94		60 - 135
Toluene	50.0000	0.0000	51.5541	103		75 - 120
trans-1,3-Dichloropropene	50.0000	0.0000	52.5173	105		55 - 140
1,1,2-Trichloroethane	50.0000	0.0000	51.5561	103		75 - 125
1,3-Dichloropropane	50.0000	0.0000	51.8529	104		75 - 125
Tetrachloroethene	50.0000	0.0000	49.9407	100		45 - 150
2-Hexanone	50.0000	0.0000	42.9222	86		55 - 130
Dibromochloromethane	50.0000	0.0000	50.4961	101		60 - 135
1,2-Dibromoethane	50.0000	0.0000	47.4761	95		80 - 120
Chlorobenzene	50.0000	0.0000	46.7916	94		80 - 120
1,1,1,2-Tetrachloroethane	50.0000	0.0000	53.4241	107		80 - 130
Ethylbenzene	50.0000	0.0000	51.2922	103		75 - 125
m,p-Xylene	100.0000	0.0000	91.9106	92		75 - 130
o-Xylene	50.0000	0.0000	52.0694	104		80 - 120

3 - FORM III
WATER LABORATORY CONTROL
SAMPLE RECOVERY

CLIENT SAMPLE NO.
LCS-75202

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2361 Mod. Ref No.: SDG No.: SM2361

Lab Sample ID: LCS-75202 LCS Lot No.:

Date Extracted: 12/11/2013 Date Analyzed (1): 12/12/2013

COMPOUND	SPIKE ADDED	SAMPLE CONCENTRATION	LCS CONCENTRATION	LCS %REC	#	QC. LIMITS REC.
Xylene (Total)	150.0000	0.0000	143.9801	96		81 - 121
Styrene	50.0000	0.0000	47.0948	94		65 - 135
Bromoform	50.0000	0.0000	50.7269	101		70 - 130
Isopropylbenzene	50.0000	0.0000	48.6595	97		75 - 125
1,1,2,2-Tetrachloroethane	50.0000	0.0000	40.1398	80		65 - 130
Bromobenzene	50.0000	0.0000	49.0077	98		75 - 125
1,2,3-Trichloropropane	50.0000	0.0000	44.2148	88		75 - 125
n-Propylbenzene	50.0000	0.0000	49.0540	98		70 - 130
2-Chlorotoluene	50.0000	0.0000	49.5128	99		75 - 125
1,3,5-Trimethylbenzene	50.0000	0.0000	50.5504	101		75 - 130
4-Chlorotoluene	50.0000	0.0000	51.4937	103		75 - 130
tert-Butylbenzene	50.0000	0.0000	52.8813	106		70 - 130
1,2,4-Trimethylbenzene	50.0000	0.0000	53.0290	106		75 - 130
sec-Butylbenzene	50.0000	0.0000	51.5882	103		70 - 125
4-Isopropyltoluene	50.0000	0.0000	53.4276	107		75 - 130
1,3-Dichlorobenzene	50.0000	0.0000	50.8920	102		75 - 125
1,4-Dichlorobenzene	50.0000	0.0000	51.0459	102		75 - 125
n-Butylbenzene	50.0000	0.0000	51.1730	102		70 - 135
1,2-Dichlorobenzene	50.0000	0.0000	51.3418	103		70 - 120
1,2-Dibromo-3-chloropropan	50.0000	0.0000	38.7990	78		50 - 130
1,2,4-Trichlorobenzene	50.0000	0.0000	48.9842	98		65 - 135
Hexachlorobutadiene	50.0000	0.0000	50.9190	102		50 - 140
1,2,3-Trichlorobenzene	50.0000	0.0000	46.3313	93		55 - 140
Naphthalene	50.0000	0.0000	43.7348	87		55 - 140

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

Spike Recovery: 1 out of 68 outside limits

COMMENTS:

4A - FORM IV VOA

VOLATILE METHOD BLANK SUMMARY

CLIENT SAMPLE NO.

MB-75202

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2361 Mod. Ref No.: SDG No.: SM2361

Lab File ID: V5O8894.D Lab Sample ID: MB-75202

Instrument ID: V5

Matrix: (SOIL/SED/WATER) WATER Date Analyzed: 12/12/2013

Level: (TRACE or LOW/MED) LOW Time Analyzed: 2:47

GC Column: DB-624 ID: 0.25 (mm) Heated Purge: (Y/N) N

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	LCS-75202	LCS-75202	V5O8892.D	1:56
02	MW-175-1-D	M2361-01A	V5O8896.D	3:37
03	MW-175-1-I	M2361-02A	V5O8897.D	4:03
04	MW-175-1VD	M2361-03A	V5O8898.D	4:28
05	TB-12032013	M2361-04A	V5O8899.D	4:54
06	MW-NEMF-3-VD	M2361-05A	V5O8900.D	5:19
07	MW-NEMF-2-VD	M2361-06A	V5O8901.D	5:44
08	TB-12052013	M2361-07A	V5O8902.D	6:10

COMMENTS:

som13.12.05.06.1059

8A - FORM VIII VOA

VOLATILE INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: M2361 Mod. Ref No.: SDG No.: SM2361

GC Column: DB-624 ID: 0.25 (mm) Init. Calib. Date(s): 12/10/2013 12/10/2013

EPA Sample No.(VSTD#####): VSTD0505L Date Analyzed: 12/12/2013

Lab File ID (Standard): V5O8891.D Time Analyzed: 1:30

Instrument ID: V5 Heated Purge: (Y/N) N

		IS1 (S1) AREA	#	RT	#	IS2 (S2) AREA	#	RT	#	IS3 (S3) AREA	#	RT	#
	12 HOUR STD	81386		5.576		82864		9.048		44198		12.205	
	UPPER LIMIT	162772		6.076		165728		9.548		88396		12.705	
	LOWER LIMIT	40693		5.076		41432		8.548		22099		11.705	
	SAMPLE NO.												
01	LCS-75202	85170		5.581		87520		9.041		44491		12.210	
02	MB-75202	84829		5.577		85465		9.048		40843		12.206	
03	MW-175-1-D	81036		5.577		81354		9.048		42506		12.206	
04	MW-175-1-I	83320		5.577		80643		9.048		41257		12.206	
05	MW-175-1VD	85962		5.577		80796		9.049		38241		12.207	
06	TB-12032013	81849		5.576		78780		9.048		38454		12.206	
07	MW-NEMF-3-VD	82757		5.576		75196		9.048		38867		12.205	
08	MW-NEMF-2-VD	79304		5.578		74320		9.050		36608		12.207	
09	TB-12052013	79780		5.578		74636		9.049		38465		12.207	

IS1 () = Fluorobenzene
IS2 () = Chlorobenzene-d5
IS3 () = 1,4-Dichlorobenzene-d4
AREA UPPER LIMIT = 200% (Low-Medium Volatiles) and 140% (Trace Volatiles) of internal standard area
AREA LOWER LIMIT = 50% (Low-Medium Volatiles) and 60% (Trace Volatiles) of internal standard area
RT UPPER LIMIT = +0.50 (Low-Medium Volatiles) and +0.33 (Trace Volatiles) minutes of internal standard RT
RT LOWER LIMIT = -0.50 (Low-Medium Volatiles) and -0.33 (Trace Volatiles) minutes of internal standard RT

Column used to flag values outside contract required QC limits with an asterisk.

som13.12.05.06.1059

Appendix F

Analytical Data Packages for Soil Vapor/Ambient Air Samples

TO-15 Package Review Checklist

Client: HDR One Co. Project: Aluminum Louvre SDG: C13110578

		YES	NO	NA
Analytical Results	Present and Complete	✓		
TIC's present	Present and Complete	✓		
	Holding Times Met	✓		

Comments:

Chain-of-Custody	Present and Complete	✓		
Surrogate Recovery	Present and Complete	✓		
	Recoveries within limits	✓		
	Sample(s) reanalyzed			✓
Internal Standards Recovery	Present and Complete	✓		
	Recoveries within limits		✓	
	Sample(s) reanalyzed	✓		

Comments: *SEE CASE NARRATIVE

Lab Control Sample (LCS)	Present and Complete	✓		
	Recoveries within limits	✓		
Lab Control Sample Dupe (LCSD)	Present and Complete	✓		
	Recoveries within limits	✓		
MS/MSD	Present and Complete	✓		
	Recoveries within limits			✓

Comments: *SEE CASE NARRATIVE

Sample Raw Data	Present and Complete	✓		
	Spectra present for all samples	✓		

Comments:

TO-15 Package Review Checklist

Client: HDR One Co. Project: _____ SDG: _____

		YES	NO	NA
Standards Data				
Initial Calibration Summary	Present and Complete	✓		
	Calibration(s) met criteria	✓		
Continuing Calibration Summary	Present and Complete	✓		
	Calibration(s) met criteria	✓		
Standards Raw Data	Present and Complete	✓		

Comments: _____

Raw Quality Control Data

Tune Criteria Report	Present and Complete	✓		
Method Blank Data	MB Results <PQL	✓		
	Associated results flagged "B"			✓
LCS sample data	Present and Complete	✓		
LCSD sample data	Present and Complete	✓		
MS/MSD sample data	Present and Complete	✓		

Comments: _____

Logbooks

Injection Log	Present and Complete	✓		
Standards Log	Present and Complete	✓		
Can Cleaning Log	Present and Complete	✓		
	Raw Data Present	✓		
Calculation sheet	Present and Complete	✓		
IDL's	Present and Complete	✓		
Bottle Order Form	Present and Complete	✓		
Sample Tracking Form	Present and Complete	✓		

Additional Comments: *SEE CASE NARRATIVE

Section Supervisor: [signature] Date: 12/18/13

QC Supervisor: [signature] Date: 12/17/13

CENTEK LABORATORIES, LLC
143 Midler Park Drive * Syracuse, NY 13206
Phone (315) 431-9730 * Emergency 24/7 (315) 416-2752
NYSDOH ELAP Certificate No. 11830

Analytical Report

Edward Brandt
HDR Engineering
Corporate Woods
16 Corporate Woods Blvd
Suite 2
Albany, NY 12211

TEL: (845) 548-9784
FAX 518.937.9555

Monday, December 02, 2013
Order No.: C1311058

RE: Aluminum Louvre

Dear Edward Brandt:

Centek Laboratories, LLC received 8 sample(s) on 11/20/2013 for the analyses presented in the following report.

I certify that this data package is in compliance with the terms and conditions of the Contract, both technically and for completeness. Release of the data contained in this hardcopy data package and/or in the computer readable data submitted has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objective except as indicated in the case narrative. All samples were received and analyzed within the EPA recommended holding times. Test results are not Method Blank (MB) corrected for contamination.

Centek Laboratories is distinctively qualified to meet your needs for precise and timely volatile organic compound analysis. We perform all analyses according to EPA, NIOSH or OSHA-approved analytical methods. Centek Laboratories is dedicated to providing quality analyses and exceptional customer service. Samples were analyzed using the methods outlined in the following references:

Compendium of Methods for the Determination of Toxic Organic Compounds, Compendium Method TO-15, January 1999.

Analytical results relate to samples as received at laboratory. We do our best to make our reporting format clear and understandable and hope you are thoroughly satisfied with our services.

Please contact your client service representative at (315) 431-9730 or myself, if you would like any additional information regarding this report.

Sincerely,

William Dobbin
Lead Technical Director

Disclaimer: The test results and procedures utilized, and laboratory interpretations of the data obtained by Centek as contained in this report are believed by Centek to be accurate and reliable for sample(s) tested. In accepting this report, the customer agrees that the full extent of any and all liability for actual and consequential damages of Centek for the services performed shall be equal to the fee charged to the customer for the services as liquidated damages. ELAP does not offer certification for the following parameters by this method at present time, they are: 4-ethyltoluene, ethyl acetate and propylene.4-ethyltoluene, ethyl acetate and propylene.

Centek Laboratories, LLC Terms and Conditions

Sample Submission

All samples sent to Centek Laboratories should be accompanied by our Request for Analysis Form or Chain of Custody Form. A Chain of Custody will be provided with each order shipped for all sampling events, or if needed, one is available at our website www.CentekLabs.com. Samples received after 3:00pm are considered to be a part of the next day's business.

Sample Media

Samples can be collected in an canister or a Tedlar bag. Depending on your analytical needs, Centek Laboratories may receive a bulk, liquid, soil or other matrix sample for headspace analysis.

Blanks

Every sample is run with a surrogate or tracer compound at a pre-established concentration. The surrogate compound run with each sample is used as a standard to measure the performance of each run of the instrument. If required, a Minican can be provided containing nitrogen to be run as a trip blank with your samples.

Sampling Equipment

Centek Laboratories will be happy to provide the canisters to carry-out your sampling event at no charge. The necessary accessories, such as regulators, tubing or personal sampling belts, are also provided to meet your sampling needs. The customer is responsible for all shipping charges to the client's destination and return shipping to the laboratory. Client assumes all responsibility for lost, stolen and any dameges of equipment.

Turn Around time (TAT)

Centek Laboratories will provide results to its clients in one business-week by 6:00pm EST after receipt of samples. For example, if samples are received on a Monday they are due on the following Monday by 6:00pm EST. Results are faxed or emailed to the requested location indicated on the Chain of Custody. Non-routine analysis may require more than the one business-week turnaround time. Please confirm non-routine sample turnaround times.

Reporting

Results are emailed or faxed at no additional charge. A hard copy of the result report is mailed within 24 hours of the faxing or emailing of your results. Cat "B" like packages are within 3-4 weeks from time of analysis. Standard Electronic Disk Deliverables (EDD) is also available at no additional charge.

Payment Terms

Payment for all purchases shall be due within 30 days from date of invoice. The client agrees to pay a finance charge of 1.5% per month on the overdue balance and cost of collection, including attorney fees, if collection proceedings are necessary. You must have a completed credit application on file to extend credit. Purchase orders or checks information must be submitted for us to release results

Rush Turnaround Samples

Expedited turn around times is available. Please confirm rush turnaround times with Client Services before submitting samples.

Applicable Surcharges for Rush Turnaround Samples:
Same day TAT = 200%
Next business day TAT by Noon = 150%
Next business day TAT by 6:00pm = 100%
Second business day TAT by 6:00pm = 75%
Third business day TAT by 6:00pm = 50%
Fourth business day TAT by 6:00pm = 35%
Fifth business day = Standard

Statement of Confidentiality

Centek Laboratories, LLC is aware of the importance of the confidentiality of results to many of our clients. Your name and data will be held in the strictest of confidence. We will not accept business that may constitute a conflict of interest. We commonly sign Confidential Nondisclosure Agreements with clients prior to beginning work. All research, results and reports will be kept strictly confidential. Secrecy Agreements and Disclosure Statements will be signed for the client if so specified. Results will be provided only to the addressee specified on the Chain of Custody Form submitted with the samples unless law requires release. Written permission is required from the addressee to release results to any other party.

Limitation on Liability

Centek Laboratories, LLC warrants the test results to be accurate to the methodology and sample type for each sample submitted to Centek Laboratories, LLC. In no event shall Centek Laboratories, LLC be liable for direct, indirect, special, punitive, incidental, exemplary or consequential damages, or any damages whatsoever, even if Centek Laboratories, LLC has been previously advised of the possibility of such damages whether in an action under contract, negligence, or any other theory, arising out of or in connection with the use, inability to use or performance of the information, services, products and materials available from the laboratory or this site. These limitations shall apply notwithstanding any failure of essential purpose of any limited remedy. Because some jurisdictions do not allow limitations on how long an implied warranty lasts, or the exclusion or limitation of liability for consequential or incidental damages, the above limitations may not apply to you. This is a comprehensive limitation of liability that applies to all damages of any kind, including (without limitation) compensatory,

direct, indirect or consequential damages, loss of data, income or profit and or loss of or damage to property and claims of third parties.

ASP CAT B DELIVERABLE PACKAGE
Table of Contents

CENTEK LABORATORIES, LLC

Date: *17-Dec-13*

CLIENT: HDR Engineering
Project: Aluminum Louvre
Lab Order: C1311058

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

Compendium of Methods for the Determination of Toxic Organic Compounds, Compendium Method TO-15, January 1999 and Centek Laboratories, LLC SOP TS-80:

All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objective except as indicated in the corrective action report(s). All samples were received and analyzed within the EPA recommended holding times. Test results are not Method Blank (MB) corrected for contamination.

NYSDEC ASP samples:
Canisters should be evacuated to a reading of less than or equal to 50 millitorr prior to shipment to sampling personnel. The vacuum in the canister will be field checked prior to sampling, and must read 28" of Hg (±2", vacuum, absolute) before a sample can be collected. After the sample has been collected, the pressure of the canister will be read and recorded again, and must be 5" of Hg (±1", vacuum, absolute) for the sample to be valid. Once received at the laboratory, the canister vacuum should be confirmed to be 5" of Hg,±1". Please record and report the pressure/vacuum of received canisters on the sample receipt paperwork. A pressure/vacuum reading should also be taken just prior to the withdrawal of sample from the canister, and recorded on the sample preparation log sheet. All regulators are calibrated to meet these requirements before they leave the laboratory. However, due to environmental conditions and use of the equipment Centek can not guarantee that this criteria can always be achieved.

See Corrective Action: [2934] Sample ID's needed to be changed
See Corrective Action: [2944] IS did not meet criteria.
See Corrective Action: [2945] MS/MSD did not meet criteria.

Centek Laboratories, LLC

Corrective Action Report

Date Initiated: 21-Nov-13 **Corrective Action Report ID:** 2934

Initiated By: Janice Scala **Department:** LOGIN

Corrective Action Description

CAR Summary: Sample ID's needed to be changed

Description of Nonconformance: Client requested sample ID's be changed

Description of Corrective Action: Changed ID's on COC & login.

Performed By: Janice Scala **Completion Date:** 21-Nov-13

Client Notification

Client Notification Required: Yes **Notified By:** Janice Scala

Comment:

Quality Assurance Review

Nonconformance Type: Anomaly

Further Action required by QA: Client sent email with new sample ID's listed on COC

Approval and Closure

Technical Director / Deputy Tech. Dir.: Russell Pellegrino Close Date: 21-Nov-13

QA Officer Approval: Janice Scala QA Date: 21-Nov-13

Last Updated BY russ Updated: 17-Dec-2013 3:59 PM Reported: 17-Dec-2013 3:59 PM

Centek Laboratories, LLC

Corrective Action Report

Date Initiated: 26-Nov-13 **Corrective Action Report ID:** 2944

Initiated By: Russell Pellegrino **Department:** MSVOA

Corrective Action Description

CAR Summary: IS did not meet criteria.

Description of Nonconformance: IS was high and did not meet criteria for samples C1311058-004 & 006. Based on the chromatographic evidence, it appears that the contamination is from a high concentration of interfering compounds

Description of Corrective Action: Samples were analyzed further as dilutions with criteria being made.

Performed By: Russell Pellegrino **Completion Date:** 28-Nov-13

Client Notification

Client Notification Required: No **Notified By:**

Comment:

Quality Assurance Review

Nonconformance Type: Deficiency

Further Action required by QA: No further corrective action taken. All sets of data submitted

Approval and Closure

Technical Director / Deputy Tech. Dir.: Will Dobbin Close Date: 29-Nov-13

QA Officer Approval: Nick Scala QA Date: 29-Nov-13

Last Updated BY russ Updated: 17-Dec-2013 3:53 PM Reported: 17-Dec-2013 3:53 PM

Centek Laboratories, LLC

Corrective Action Report

Date Initiated: 26-Nov-13 **Corrective Action Report ID:** 2945

Initiated By: Russell Pellegrino **Department:** MSVOA

Corrective Action Description

CAR Summary: MS/MSD did not meet criteria.

Description of Nonconformance: MS/MSD did not meet criteria for samples C1311058-002 MS/MSD. Based on the chromatographic evidence this is most likely due to matrix interference.

Description of Corrective Action: Since MS/MSD show similar results at this time no further corrective action taken. All other QC meets criteria. The samples show many hits in the matrix which will interfere with spike results. All sets of data submitted

Performed By: Russell Pellegrino **Completion Date:** 28-Nov-13

Client Notification

Client Notification Required: No **Notified By:**

Comment:

Quality Assurance Review

Nonconformance Type: Deficiency

Further Action required by QA: No further corrective action taken. All sets of data submitted

Approval and Closure

Technical Director / Deputy Tech. Dir.: William Dobbin **Close Date:** 29-Nov-13

QA Officer Approval: Nick Scala **QA Date:** 29-Nov-13

Last Updated BY russ Updated: 17-Dec-2013 3:55 PM Reported: 17-Dec-2013 3:56 PM

Centek Chain of Custody

Centek Laboratories
143 Midler Park Drive
Syracuse, NY 13206
315-431-9730
www.CentekLabs.com

Vapor Intrusion & IAQ

Site Name: Al Louvre
Project: NYSDEC
PO#:
Quote # Q-SP/B04006
Other:

Detection Limit	Report Level
☐ 5ppbv	☐ Level I
☐ 1ug/M3	☐ Level II
☑ 1ug/M3 +TCE .25	☐ Cat "B" Like

Turnaround Time:	Check One	Rush TAT Surcharge %	Due Date:
5 Business Days	☑	0%	
4 Business Days	☐	25%	
3 Business Days	☐	50%	
2 Business Days	☐	75%	
Next Day by 5pm	☐	100%	
Next Day by Noon	☐	150%	
Same Day	☐	200%	

Company: HDR

Report to:
Address: 1 Blue Hill Plaza
City, State, Zip Pearl River NY 10965
Email: Patti.Bevis@HDRINC.com
Phone: 845-735-8300

Company:
Check Here If Same: ☑

Invoice to:
Address:
City, State, Zip
Email:
Phone: Time

Sample ID	Date Sampled	Canister Number	Regulator Number	Analysis Request	~~Comments~~		Vacuum Start/Stop	
✓ 175W-1A-~~Shamrock~~	11-18-13	366	438	TO-15	1504	0615	30+	8
✓ 175W-SS		217	308		1505	0615	27.5	7
✓ OA-11-2013		190	373		1508	610	26	6
✓ 303-E-1A-~~Shamrock~~		94	390		1521	0756	28	2
✓ 303-E-SS		365	436		1627	0756	27	0
✓ 303-E-SS D		406	436		1620	0756	27	0
✓ 303-W-1A		171	455		1538	0626	27.0	6
303-W-SS		~~411~~ 133	384		1539	0626	27.0	7

Chain of Custody	Print Name	Signature	Date/Time	Courier: CIRCLE ONE
Sampled by:	M.V. Pantlin		11.18.13	FedEx UPS Pickup/Dropoff
Relinquished by:				For LAB USE ONLY
Received at Lab by:	Jan Scala		11/20/13	Work Order # C1311058

*** By signing Centek Labs Chain of Custody, you are accepting Centek Labs Terms and Conditions listed on the reverse side.

CENTEK LABORATORIES, LLC

Date: *17-Dec-13*

CLIENT: HDR, Inc.
Project: Aluminum Louvre
Lab Order: C1311058

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
C1311058-001A	175-W-IA	366,438	11/18/2013	11/20/2013
C1311058-002A	175-W-SS	217,308	11/18/2013	11/20/2013
C1311058-003A	OA-11-2013	190,373	11/18/2013	11/20/2013
C1311058-004A	303- E-IA	94,390	11/18/2013	11/20/2013
C1311058-005A	303-E-SS	365,436	11/18/2013	11/20/2013
C1311058-006A	303-E-SSD	406,436	11/18/2013	11/20/2013
C1311058-007A	303-W-IA	171,455	11/18/2013	11/20/2013

CLIENT:	HDR, Inc.
Project:	Aluminum Louvre
Lab Order:	C1311058

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
C1311058-008A	303-W-SS	133,384	11/18/2013	11/20/2013

CENTEK LABORATORIES, LLC

Sample Receipt Checklist

Client Name **HDR - ALBANY** Date and Time Receive **11/20/2013**

Work Order Numbe **C1311058** Received by **JDS**

Checklist completed by _____ 11/20/13 Reviewed by WD 11/20/13

Signature | Date | Initials | Date

Matrix: Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Presen ☐
Custody seals intact on shippping container/cooler?	Yes ☐	No ☐	Not Presen ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Presen ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Water - VOA vials have zero headspace?	No VOA vials submitted ☑	Yes ☐	No ☐
Water - pH acceptable upon receipt?	Yes ☐	No ☑	

Adjusted? _____ Checked by _____

Any No and/or NA (not applicable) response must be detailed in the comments section be

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

Lab Order: C1311058
Client: HDR, Inc.
Project: Aluminum Louvre

DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Date	Analysis Date
C1311058-001A	175-W-IA	11/18/2013		1ug/m3 w/ 0.25ug/M3 CT-TCE-VC			11/27/2013
				1ug/m3 w/ 0.25ug/M3 CT-TCE-VC			11/27/2013
C1311058-002A	175-W-SS			1ug/M3 by Method TO15			11/27/2013
				1ug/M3 by Method TO15			11/27/2013
C1311058-003A	OA-11-2013		Air	1ug/m3 w/ 0.25ug/M3 CT-TCE-VC			11/27/2013
				1ug/m3 w/ 0.25ug/M3 CT-TCE-VC			11/27/2013
C1311058-004A	303- E-IA			1ug/m3 w/ 0.25ug/M3 CT-TCE-VC			11/27/2013
				1ug/m3 w/ 0.25ug/M3 CT-TCE-VC			11/27/2013
				1ug/m3 w/ 0.25ug/M3 CT-TCE-VC			11/27/2013
C1311058-005A	303-E-SS		Air	1ug/M3 by Method TO15			11/28/2013
				1ug/M3 by Method TO15			11/28/2013
				1ug/M3 by Method TO15			11/27/2013
C1311058-006A	303-E-SSD			1ug/M3 by Method TO15			11/27/2013
				1ug/M3 by Method TO15			11/28/2013
				1ug/M3 by Method TO15			11/28/2013
C1311058-007A	303-W-IA			1ug/m3 w/ 0.25ug/M3 CT-TCE-VC			11/27/2013
				1ug/m3 w/ 0.25ug/M3 CT-TCE-VC			11/27/2013
C1311058-008A	303-W-SS			1ug/M3 by Method TO15			12/2/2013
				1ug/M3 by Method TO15			11/27/2013
				1ug/M3 by Method TO15			11/28/2013

Centek Laboratories, LLC

CENTEK LABORATORIES, LLC
Air Quality Testing...It's a Gas
143 Midler Park Drive * Syracuse, NY 13206
TEL: 315-431-9730 * FAX: 315-431-9731

CANISTER ORDER

4006

17-Dec-13

SHIPPED TO:

Company: HDR, Inc.
Contact: Barbara Firebaugh
Address: Corporate Woods
16 Corporate Woods Blvd
Suite 204
Albany, NY 12211
Phone: 518.937.9502
Quote ID: 0
Project:

Submitted By:
MadeBy: rjp

Ship Date: 11/13/2013
VIA: FedEx
Due Date: 11/15/2013

MC1400CC	1.4L Mini-Can	1ug/M3 by Method TO15	1
MC1000CC	1L Mini-Can	1ug/M3 by Method TO15	9

Can / Reg ID	Description
190	1L Mini-Can - 1145 VI
171	1L Mini-Can - 1142 VI
366	1L Mini-Can - 1315 VI
390	Time-Set Reg - 764 VI
373	Time-Set Reg - 747 VI
384	Time-Set Reg - 758 VI
436	Time-Set Reg - 815 VI
438	Time-Set Reg - 817 VI
455	Time-Set Reg - 834 VI
133	1L Mini-Can - 1082 VI
94	1L Mini-Can - 1086 VI
1186	1L Mini-Can - 1235 VI
552	1L Mini-Can - 120 VI
433	Time-Set Reg - 812 VI
398	Time-Set Reg - 777 VI
411	1L Mini-Can - 1334 IAQ
370	1L Mini-Can - 1319 VI
217	1.4L Mini-Can - 1123 VI
441	Time-Set Reg - 820 VI

Comments: 8 1L @ 20hr + 1 dupe + + 1 1.4L @ 20r 20' tubing + clay (3 subslab) SHIP TO:
HDRWAC 111113A-D, 101613 E-F
c/o: Barbara Firebaugh
404 Airport Executive Park
Nanuet, NY 10954-5288

1 of 1

GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

ANALYTICAL RESULTS

Centek Laboratories, LLC

Date: *11-Dec-13*

CLIENT:	HDR Engineering	**Client Sample ID:**	175-W-IA
Lab Order:	C1311058	**Tag Number:**	366,438
Project:	Aluminum Louvre	**Collection Date:**	11/18/2013
Lab ID:	C1311058-001A	**Matrix:**	

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS		FLD				Analyst:
Lab Vacuum In	-8			"Hg		11/20/2013
Lab Vacuum Out	-30			"Hg		11/20/2013
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		TO-15				Analyst: RJP
1,1,1-Trichloroethane	17	1.5		ppbV	10	11/27/2013 7:35:00 PM
1,1,2,2-Tetrachloroethane	< 0.15	0.15		ppbV	1	11/27/2013 12:53:00 AM
1,1,2-Trichloroethane	< 0.15	0.15		ppbV	1	11/27/2013 12:53:00 AM
1,1-Dichloroethane	0.14	0.15	J	ppbV	1	11/27/2013 12:53:00 AM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	11/27/2013 12:53:00 AM
1,2,4-Trichlorobenzene	< 0.15	0.15		ppbV	1	11/27/2013 12:53:00 AM
1,2,4-Trimethylbenzene	0.26	0.15		ppbV	1	11/27/2013 12:53:00 AM
1,2-Dibromoethane	< 0.15	0.15		ppbV	1	11/27/2013 12:53:00 AM
1,2-Dichlorobenzene	< 0.15	0.15		ppbV	1	11/27/2013 12:53:00 AM
1,2-Dichloroethane	< 0.15	0.15		ppbV	1	11/27/2013 12:53:00 AM
1,2-Dichloropropane	< 0.15	0.15		ppbV	1	11/27/2013 12:53:00 AM
1,3,5-Trimethylbenzene	< 0.15	0.15		ppbV	1	11/27/2013 12:53:00 AM
1,3-butadiene	< 0.15	0.15		ppbV	1	11/27/2013 12:53:00 AM
1,3-Dichlorobenzene	< 0.15	0.15		ppbV	1	11/27/2013 12:53:00 AM
1,4-Dichlorobenzene	< 0.15	0.15		ppbV	1	11/27/2013 12:53:00 AM
1,4-Dioxane	< 0.30	0.30		ppbV	1	11/27/2013 12:53:00 AM
2,2,4-trimethylpentane	0.13	0.15	J	ppbV	1	11/27/2013 12:53:00 AM
4-ethyltoluene	< 0.15	0.15		ppbV	1	11/27/2013 12:53:00 AM
Acetone	6.8	3.0		ppbV	10	11/27/2013 7:35:00 PM
Allyl chloride	< 0.15	0.15		ppbV	1	11/27/2013 12:53:00 AM
Benzene	0.36	0.15		ppbV	1	11/27/2013 12:53:00 AM
Benzyl chloride	< 0.15	0.15		ppbV	1	11/27/2013 12:53:00 AM
Bromodichloromethane	< 0.15	0.15		ppbV	1	11/27/2013 12:53:00 AM
Bromoform	< 0.15	0.15		ppbV	1	11/27/2013 12:53:00 AM
Bromomethane	< 0.15	0.15		ppbV	1	11/27/2013 12:53:00 AM
Carbon disulfide	0.11	0.15	J	ppbV	1	11/27/2013 12:53:00 AM
Carbon tetrachloride	0.11	0.040		ppbV	1	11/27/2013 12:53:00 AM
Chlorobenzene	< 0.15	0.15		ppbV	1	11/27/2013 12:53:00 AM
Chloroethane	< 0.15	0.15		ppbV	1	11/27/2013 12:53:00 AM
Chloroform	< 0.15	0.15		ppbV	1	11/27/2013 12:53:00 AM
Chloromethane	0.51	0.15		ppbV	1	11/27/2013 12:53:00 AM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	11/27/2013 12:53:00 AM
cis-1,3-Dichloropropene	< 0.15	0.15		ppbV	1	11/27/2013 12:53:00 AM
Cyclohexane	< 0.15	0.15		ppbV	1	11/27/2013 12:53:00 AM
Dibromochloromethane	< 0.15	0.15		ppbV	1	11/27/2013 12:53:00 AM
Ethyl acetate	< 0.25	0.25		ppbV	1	11/27/2013 12:53:00 AM

Qualifiers:

**	Reporting Limit	.	Results reported are not blank corrected
B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: *11-Dec-13*

CLIENT:	HDR Engineering	**Client Sample ID:**	175-W-IA
Lab Order:	C1311058	**Tag Number:**	366,438
Project:	Aluminum Louvre	**Collection Date:**	11/18/2013
Lab ID:	C1311058-001A	**Matrix:**	

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		**TO-15**				Analyst: **RJP**
Ethylbenzene	0.15	0.15		ppbV	1	11/27/2013 12:53:00 AM
Freon 11	0.25	0.15		ppbV	1	11/27/2013 12:53:00 AM
Freon 113	< 0.15	0.15		ppbV	1	11/27/2013 12:53:00 AM
Freon 114	< 0.15	0.15		ppbV	1	11/27/2013 12:53:00 AM
Freon 12	0.57	0.15		ppbV	1	11/27/2013 12:53:00 AM
Heptane	0.17	0.15		ppbV	1	11/27/2013 12:53:00 AM
Hexachloro-1,3-butadiene	< 0.15	0.15		ppbV	1	11/27/2013 12:53:00 AM
Hexane	0.22	0.15		ppbV	1	11/27/2013 12:53:00 AM
Isopropyl alcohol	7.1	1.5		ppbV	10	11/27/2013 7:35:00 PM
m&p-Xylene	0.39	0.30		ppbV	1	11/27/2013 12:53:00 AM
Methyl Butyl Ketone	< 0.30	0.30		ppbV	1	11/27/2013 12:53:00 AM
Methyl Ethyl Ketone	0.78	0.30		ppbV	1	11/27/2013 12:53:00 AM
Methyl Isobutyl Ketone	0.24	0.30	J	ppbV	1	11/27/2013 12:53:00 AM
Methyl tert-butyl ether	< 0.15	0.15		ppbV	1	11/27/2013 12:53:00 AM
Methylene chloride	0.84	0.15		ppbV	1	11/27/2013 12:53:00 AM
o-Xylene	0.13	0.15	J	ppbV	1	11/27/2013 12:53:00 AM
Propylene	< 0.15	0.15		ppbV	1	11/27/2013 12:53:00 AM
Styrene	< 0.15	0.15		ppbV	1	11/27/2013 12:53:00 AM
Tetrachloroethylene	< 0.15	0.15		ppbV	1	11/27/2013 12:53:00 AM
Tetrahydrofuran	< 0.15	0.15		ppbV	1	11/27/2013 12:53:00 AM
Toluene	1.2	0.15		ppbV	1	11/27/2013 12:53:00 AM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	11/27/2013 12:53:00 AM
trans-1,3-Dichloropropene	< 0.15	0.15		ppbV	1	11/27/2013 12:53:00 AM
Trichloroethene	0.20	0.040		ppbV	1	11/27/2013 12:53:00 AM
Vinyl acetate	< 0.15	0.15		ppbV	1	11/27/2013 12:53:00 AM
Vinyl Bromide	< 0.15	0.15		ppbV	1	11/27/2013 12:53:00 AM
Vinyl chloride	< 0.040	0.040		ppbV	1	11/27/2013 12:53:00 AM
Surr: Bromofluorobenzene	89.0	70-130		%REC	1	11/27/2013 12:53:00 AM

Qualifiers:

**	Reporting Limit	.	Results reported are not blank corrected
B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: *11-Dec-13*

CLIENT:	HDR Engineering	**Client Sample ID:**	175-W-IA
Lab Order:	C1311058	**Tag Number:**	366,438
Project:	Aluminum Louvre	**Collection Date:**	11/18/2013
Lab ID:	C1311058-001A	**Matrix:**	

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		**TO-15**				Analyst: **RJP**
1,1,1-Trichloroethane	96	8.3		ug/m3	10	11/27/2013 7:35:00 PM
1,1,2,2-Tetrachloroethane	< 1.0	1.0		ug/m3	1	11/27/2013 12:53:00 AM
1,1,2-Trichloroethane	< 0.83	0.83		ug/m3	1	11/27/2013 12:53:00 AM
1,1-Dichloroethane	0.58	0.62	J	ug/m3	1	11/27/2013 12:53:00 AM
1,1-Dichloroethene	< 0.60	0.60		ug/m3	1	11/27/2013 12:53:00 AM
1,2,4-Trichlorobenzene	< 1.1	1.1		ug/m3	1	11/27/2013 12:53:00 AM
1,2,4-Trimethylbenzene	1.3	0.75		ug/m3	1	11/27/2013 12:53:00 AM
1,2-Dibromoethane	< 1.2	1.2		ug/m3	1	11/27/2013 12:53:00 AM
1,2-Dichlorobenzene	< 0.92	0.92		ug/m3	1	11/27/2013 12:53:00 AM
1,2-Dichloroethane	< 0.62	0.62		ug/m3	1	11/27/2013 12:53:00 AM
1,2-Dichloropropane	< 0.70	0.70		ug/m3	1	11/27/2013 12:53:00 AM
1,3,5-Trimethylbenzene	< 0.75	0.75		ug/m3	1	11/27/2013 12:53:00 AM
1,3-butadiene	< 0.34	0.34		ug/m3	1	11/27/2013 12:53:00 AM
1,3-Dichlorobenzene	< 0.92	0.92		ug/m3	1	11/27/2013 12:53:00 AM
1,4-Dichlorobenzene	< 0.92	0.92		ug/m3	1	11/27/2013 12:53:00 AM
1,4-Dioxane	< 1.1	1.1		ug/m3	1	11/27/2013 12:53:00 AM
2,2,4-trimethylpentane	0.62	0.71	J	ug/m3	1	11/27/2013 12:53:00 AM
4-ethyltoluene	< 0.75	0.75		ug/m3	1	11/27/2013 12:53:00 AM
Acetone	16	7.2		ug/m3	10	11/27/2013 7:35:00 PM
Allyl chloride	< 0.48	0.48		ug/m3	1	11/27/2013 12:53:00 AM
Benzene	1.2	0.49		ug/m3	1	11/27/2013 12:53:00 AM
Benzyl chloride	< 0.88	0.88		ug/m3	1	11/27/2013 12:53:00 AM
Bromodichloromethane	< 1.0	1.0		ug/m3	1	11/27/2013 12:53:00 AM
Bromoform	< 1.6	1.6		ug/m3	1	11/27/2013 12:53:00 AM
Bromomethane	< 0.59	0.59		ug/m3	1	11/27/2013 12:53:00 AM
Carbon disulfide	0.35	0.47	J	ug/m3	1	11/27/2013 12:53:00 AM
Carbon tetrachloride	0.70	0.26		ug/m3	1	11/27/2013 12:53:00 AM
Chlorobenzene	< 0.70	0.70		ug/m3	1	11/27/2013 12:53:00 AM
Chloroethane	< 0.40	0.40		ug/m3	1	11/27/2013 12:53:00 AM
Chloroform	< 0.74	0.74		ug/m3	1	11/27/2013 12:53:00 AM
Chloromethane	1.1	0.31		ug/m3	1	11/27/2013 12:53:00 AM
cis-1,2-Dichloroethene	< 0.60	0.60		ug/m3	1	11/27/2013 12:53:00 AM
cis-1,3-Dichloropropene	< 0.69	0.69		ug/m3	1	11/27/2013 12:53:00 AM
Cyclohexane	< 0.52	0.52		ug/m3	1	11/27/2013 12:53:00 AM
Dibromochloromethane	< 1.3	1.3		ug/m3	1	11/27/2013 12:53:00 AM
Ethyl acetate	< 0.92	0.92		ug/m3	1	11/27/2013 12:53:00 AM
Ethylbenzene	0.66	0.66		ug/m3	1	11/27/2013 12:53:00 AM
Freon 11	1.4	0.86		ug/m3	1	11/27/2013 12:53:00 AM
Freon 113	< 1.2	1.2		ug/m3	1	11/27/2013 12:53:00 AM
Freon 114	< 1.1	1.1		ug/m3	1	11/27/2013 12:53:00 AM

Qualifiers:

**	Reporting Limit	.	Results reported are not blank corrected
B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: *11-Dec-13*

CLIENT:	HDR Engineering	**Client Sample ID:**	175-W-IA
Lab Order:	C1311058	**Tag Number:**	366,438
Project:	Aluminum Louvre	**Collection Date:**	11/18/2013
Lab ID:	C1311058-001A	**Matrix:**	

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		**TO-15**				Analyst: RJP
Freon 12	2.9	0.75		ug/m3	1	11/27/2013 12:53:00 AM
Heptane	0.71	0.62		ug/m3	1	11/27/2013 12:53:00 AM
Hexachloro-1,3-butadiene	< 1.6	1.6		ug/m3	1	11/27/2013 12:53:00 AM
Hexane	0.79	0.54		ug/m3	1	11/27/2013 12:53:00 AM
Isopropyl alcohol	18	3.7		ug/m3	10	11/27/2013 7:35:00 PM
m&p-Xylene	1.7	1.3		ug/m3	1	11/27/2013 12:53:00 AM
Methyl Butyl Ketone	< 1.2	1.2		ug/m3	1	11/27/2013 12:53:00 AM
Methyl Ethyl Ketone	2.3	0.90		ug/m3	1	11/27/2013 12:53:00 AM
Methyl Isobutyl Ketone	1.0	1.2	J	ug/m3	1	11/27/2013 12:53:00 AM
Methyl tert-butyl ether	< 0.55	0.55		ug/m3	1	11/27/2013 12:53:00 AM
Methylene chloride	3.0	0.53		ug/m3	1	11/27/2013 12:53:00 AM
o-Xylene	0.57	0.66	J	ug/m3	1	11/27/2013 12:53:00 AM
Propylene	< 0.26	0.26		ug/m3	1	11/27/2013 12:53:00 AM
Styrene	< 0.65	0.65		ug/m3	1	11/27/2013 12:53:00 AM
Tetrachloroethylene	< 1.0	1.0		ug/m3	1	11/27/2013 12:53:00 AM
Tetrahydrofuran	< 0.45	0.45		ug/m3	1	11/27/2013 12:53:00 AM
Toluene	4.5	0.57		ug/m3	1	11/27/2013 12:53:00 AM
trans-1,2-Dichloroethene	< 0.60	0.60		ug/m3	1	11/27/2013 12:53:00 AM
trans-1,3-Dichloropropene	< 0.69	0.69		ug/m3	1	11/27/2013 12:53:00 AM
Trichloroethene	1.1	0.22		ug/m3	1	11/27/2013 12:53:00 AM
Vinyl acetate	< 0.54	0.54		ug/m3	1	11/27/2013 12:53:00 AM
Vinyl Bromide	< 0.67	0.67		ug/m3	1	11/27/2013 12:53:00 AM
Vinyl chloride	< 0.10	0.10		ug/m3	1	11/27/2013 12:53:00 AM

Qualifiers:

**	Reporting Limit	.	Results reported are not blank corrected
B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: *11-Dec-13*

CLIENT:	HDR Engineering	**Client Sample ID:**	175-W-SS
Lab Order:	C1311058	**Tag Number:**	217,308
Project:	Aluminum Louvre	**Collection Date:**	11/18/2013
Lab ID:	C1311058-002A	**Matrix:**	

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS		FLD				Analyst:
Lab Vacuum In	-7			"Hg		11/20/2013
Lab Vacuum Out	-30			"Hg		11/20/2013
1UG/M3 BY METHOD TO15		TO-15				Analyst: RJP
1,1,1-Trichloroethane	1.4	0.15		ppbV	1	11/27/2013 11:06:00 PM
1,1,2,2-Tetrachloroethane	< 0.15	0.15		ppbV	1	11/27/2013 11:06:00 PM
1,1,2-Trichloroethane	< 0.15	0.15		ppbV	1	11/27/2013 11:06:00 PM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	11/27/2013 11:06:00 PM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	11/27/2013 11:06:00 PM
1,2,4-Trichlorobenzene	< 0.15	0.15		ppbV	1	11/27/2013 11:06:00 PM
1,2,4-Trimethylbenzene	0.54	0.15		ppbV	1	11/27/2013 11:06:00 PM
1,2-Dibromoethane	< 0.15	0.15		ppbV	1	11/27/2013 11:06:00 PM
1,2-Dichlorobenzene	< 0.15	0.15		ppbV	1	11/27/2013 11:06:00 PM
1,2-Dichloroethane	< 0.15	0.15		ppbV	1	11/27/2013 11:06:00 PM
1,2-Dichloropropane	< 0.15	0.15		ppbV	1	11/27/2013 11:06:00 PM
1,3,5-Trimethylbenzene	0.22	0.15		ppbV	1	11/27/2013 11:06:00 PM
1,3-butadiene	< 0.15	0.15		ppbV	1	11/27/2013 11:06:00 PM
1,3-Dichlorobenzene	< 0.15	0.15		ppbV	1	11/27/2013 11:06:00 PM
1,4-Dichlorobenzene	0.11	0.15	J	ppbV	1	11/27/2013 11:06:00 PM
1,4-Dioxane	< 0.30	0.30		ppbV	1	11/27/2013 11:06:00 PM
2,2,4-trimethylpentane	0.77	0.15		ppbV	1	11/27/2013 11:06:00 PM
4-ethyltoluene	0.14	0.15	J	ppbV	1	11/27/2013 11:06:00 PM
Acetone	6.7	3.0		ppbV	10	11/27/2013 11:40:00 PM
Allyl chloride	< 0.15	0.15		ppbV	1	11/27/2013 11:06:00 PM
Benzene	0.51	0.15		ppbV	1	11/27/2013 11:06:00 PM
Benzyl chloride	< 0.15	0.15		ppbV	1	11/27/2013 11:06:00 PM
Bromodichloromethane	< 0.15	0.15		ppbV	1	11/27/2013 11:06:00 PM
Bromoform	< 0.15	0.15		ppbV	1	11/27/2013 11:06:00 PM
Bromomethane	< 0.15	0.15		ppbV	1	11/27/2013 11:06:00 PM
Carbon disulfide	0.16	0.15		ppbV	1	11/27/2013 11:06:00 PM
Carbon tetrachloride	< 0.15	0.15		ppbV	1	11/27/2013 11:06:00 PM
Chlorobenzene	< 0.15	0.15		ppbV	1	11/27/2013 11:06:00 PM
Chloroethane	< 0.15	0.15		ppbV	1	11/27/2013 11:06:00 PM
Chloroform	< 0.15	0.15		ppbV	1	11/27/2013 11:06:00 PM
Chloromethane	< 0.15	0.15		ppbV	1	11/27/2013 11:06:00 PM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	11/27/2013 11:06:00 PM
cis-1,3-Dichloropropene	< 0.15	0.15		ppbV	1	11/27/2013 11:06:00 PM
Cyclohexane	< 0.15	0.15		ppbV	1	11/27/2013 11:06:00 PM
Dibromochloromethane	< 0.15	0.15		ppbV	1	11/27/2013 11:06:00 PM
Ethyl acetate	< 0.25	0.25		ppbV	1	11/27/2013 11:06:00 PM

Qualifiers:

- ** Reporting Limit
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- JN Non-routine analyte. Quantitation estimated.
- S Spike Recovery outside accepted recovery limits
- . Results reported are not blank corrected
- E Value above quantitation range
- J Analyte detected at or below quantitation limits
- ND Not Detected at the Reporting Limit

Centek Laboratories, LLC

Date: *11-Dec-13*

CLIENT:	HDR Engineering	**Client Sample ID:**	175-W-SS
Lab Order:	C1311058	**Tag Number:**	217,308
Project:	Aluminum Louvre	**Collection Date:**	11/18/2013
Lab ID:	C1311058-002A	**Matrix:**	

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15		**TO-15**				Analyst: **RJP**
Ethylbenzene	0.24	0.15		ppbV	1	11/27/2013 11:06:00 PM
Freon 11	0.96	0.15		ppbV	1	11/27/2013 11:06:00 PM
Freon 113	< 0.15	0.15		ppbV	1	11/27/2013 11:06:00 PM
Freon 114	< 0.15	0.15		ppbV	1	11/27/2013 11:06:00 PM
Freon 12	< 0.15	0.15		ppbV	1	11/27/2013 11:06:00 PM
Heptane	< 0.15	0.15		ppbV	1	11/27/2013 11:06:00 PM
Hexachloro-1,3-butadiene	< 0.15	0.15		ppbV	1	11/27/2013 11:06:00 PM
Hexane	0.31	0.15		ppbV	1	11/27/2013 11:06:00 PM
Isopropyl alcohol	0.44	0.15		ppbV	1	11/27/2013 11:06:00 PM
m&p-Xylene	0.82	0.30		ppbV	1	11/27/2013 11:06:00 PM
Methyl Butyl Ketone	< 0.30	0.30		ppbV	1	11/27/2013 11:06:00 PM
Methyl Ethyl Ketone	0.74	0.30		ppbV	1	11/27/2013 11:06:00 PM
Methyl Isobutyl Ketone	< 0.30	0.30		ppbV	1	11/27/2013 11:06:00 PM
Methyl tert-butyl ether	< 0.15	0.15		ppbV	1	11/27/2013 11:06:00 PM
Methylene chloride	0.75	0.15		ppbV	1	11/27/2013 11:06:00 PM
o-Xylene	0.22	0.15		ppbV	1	11/27/2013 11:06:00 PM
Propylene	< 0.15	0.15		ppbV	1	11/27/2013 11:06:00 PM
Styrene	< 0.15	0.15		ppbV	1	11/27/2013 11:06:00 PM
Tetrachloroethylene	3.3	1.5		ppbV	10	11/27/2013 11:40:00 PM
Tetrahydrofuran	< 0.15	0.15		ppbV	1	11/27/2013 11:06:00 PM
Toluene	2.3	1.5		ppbV	10	11/27/2013 11:40:00 PM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	11/27/2013 11:06:00 PM
trans-1,3-Dichloropropene	< 0.15	0.15		ppbV	1	11/27/2013 11:06:00 PM
Trichloroethene	0.12	0.15	J	ppbV	1	11/27/2013 11:06:00 PM
Vinyl acetate	< 0.15	0.15		ppbV	1	11/27/2013 11:06:00 PM
Vinyl Bromide	< 0.15	0.15		ppbV	1	11/27/2013 11:06:00 PM
Vinyl chloride	< 0.15	0.15		ppbV	1	11/27/2013 11:06:00 PM
Surr: Bromofluorobenzene	93.0	70-130		%REC	1	11/27/2013 11:06:00 PM

Qualifiers:

**	Reporting Limit	.	Results reported are not blank corrected
B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: *11-Dec-13*

CLIENT:	HDR Engineering	**Client Sample ID:**	175-W-SS
Lab Order:	C1311058	**Tag Number:**	217,308
Project:	Aluminum Louvre	**Collection Date:**	11/18/2013
Lab ID:	C1311058-002A	**Matrix:**	

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15		**TO-15**				Analyst: **RJP**
1,1,1-Trichloroethane	7.9	0.83		ug/m3	1	11/27/2013 11:06:00 PM
1,1,2,2-Tetrachloroethane	< 1.0	1.0		ug/m3	1	11/27/2013 11:06:00 PM
1,1,2-Trichloroethane	< 0.83	0.83		ug/m3	1	11/27/2013 11:06:00 PM
1,1-Dichloroethane	< 0.62	0.62		ug/m3	1	11/27/2013 11:06:00 PM
1,1-Dichloroethene	< 0.60	0.60		ug/m3	1	11/27/2013 11:06:00 PM
1,2,4-Trichlorobenzene	< 1.1	1.1		ug/m3	1	11/27/2013 11:06:00 PM
1,2,4-Trimethylbenzene	2.7	0.75		ug/m3	1	11/27/2013 11:06:00 PM
1,2-Dibromoethane	< 1.2	1.2		ug/m3	1	11/27/2013 11:06:00 PM
1,2-Dichlorobenzene	< 0.92	0.92		ug/m3	1	11/27/2013 11:06:00 PM
1,2-Dichloroethane	< 0.62	0.62		ug/m3	1	11/27/2013 11:06:00 PM
1,2-Dichloropropane	< 0.70	0.70		ug/m3	1	11/27/2013 11:06:00 PM
1,3,5-Trimethylbenzene	1.1	0.75		ug/m3	1	11/27/2013 11:06:00 PM
1,3-butadiene	< 0.34	0.34		ug/m3	1	11/27/2013 11:06:00 PM
1,3-Dichlorobenzene	< 0.92	0.92		ug/m3	1	11/27/2013 11:06:00 PM
1,4-Dichlorobenzene	0.67	0.92	J	ug/m3	1	11/27/2013 11:06:00 PM
1,4-Dioxane	< 1.1	1.1		ug/m3	1	11/27/2013 11:06:00 PM
2,2,4-trimethylpentane	3.7	0.71		ug/m3	1	11/27/2013 11:06:00 PM
4-ethyltoluene	0.70	0.75	J	ug/m3	1	11/27/2013 11:06:00 PM
Acetone	16	7.2		ug/m3	10	11/27/2013 11:40:00 PM
Allyl chloride	< 0.48	0.48		ug/m3	1	11/27/2013 11:06:00 PM
Benzene	1.7	0.49		ug/m3	1	11/27/2013 11:06:00 PM
Benzyl chloride	< 0.88	0.88		ug/m3	1	11/27/2013 11:06:00 PM
Bromodichloromethane	< 1.0	1.0		ug/m3	1	11/27/2013 11:06:00 PM
Bromoform	< 1.6	1.6		ug/m3	1	11/27/2013 11:06:00 PM
Bromomethane	< 0.59	0.59		ug/m3	1	11/27/2013 11:06:00 PM
Carbon disulfide	0.51	0.47		ug/m3	1	11/27/2013 11:06:00 PM
Carbon tetrachloride	< 0.96	0.96		ug/m3	1	11/27/2013 11:06:00 PM
Chlorobenzene	< 0.70	0.70		ug/m3	1	11/27/2013 11:06:00 PM
Chloroethane	< 0.40	0.40		ug/m3	1	11/27/2013 11:06:00 PM
Chloroform	< 0.74	0.74		ug/m3	1	11/27/2013 11:06:00 PM
Chloromethane	< 0.31	0.31		ug/m3	1	11/27/2013 11:06:00 PM
cis-1,2-Dichloroethene	< 0.60	0.60		ug/m3	1	11/27/2013 11:06:00 PM
cis-1,3-Dichloropropene	< 0.69	0.69		ug/m3	1	11/27/2013 11:06:00 PM
Cyclohexane	< 0.52	0.52		ug/m3	1	11/27/2013 11:06:00 PM
Dibromochloromethane	< 1.3	1.3		ug/m3	1	11/27/2013 11:06:00 PM
Ethyl acetate	< 0.92	0.92		ug/m3	1	11/27/2013 11:06:00 PM
Ethylbenzene	1.1	0.66		ug/m3	1	11/27/2013 11:06:00 PM
Freon 11	5.5	0.86		ug/m3	1	11/27/2013 11:06:00 PM
Freon 113	< 1.2	1.2		ug/m3	1	11/27/2013 11:06:00 PM
Freon 114	< 1.1	1.1		ug/m3	1	11/27/2013 11:06:00 PM

Qualifiers:

**	Reporting Limit	.	Results reported are not blank corrected
B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: *11-Dec-13*

CLIENT:	HDR Engineering	**Client Sample ID:**	175-W-SS
Lab Order:	C1311058	**Tag Number:**	217,308
Project:	Aluminum Louvre	**Collection Date:**	11/18/2013
Lab ID:	C1311058-002A	**Matrix:**	

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15		**TO-15**				Analyst: RJP
Freon 12	< 0.75	0.75		ug/m3	1	11/27/2013 11:06:00 PM
Heptane	< 0.62	0.62		ug/m3	1	11/27/2013 11:06:00 PM
Hexachloro-1,3-butadiene	< 1.6	1.6		ug/m3	1	11/27/2013 11:06:00 PM
Hexane	1.1	0.54		ug/m3	1	11/27/2013 11:06:00 PM
Isopropyl alcohol	1.1	0.37		ug/m3	1	11/27/2013 11:06:00 PM
m&p-Xylene	3.6	1.3		ug/m3	1	11/27/2013 11:06:00 PM
Methyl Butyl Ketone	< 1.2	1.2		ug/m3	1	11/27/2013 11:06:00 PM
Methyl Ethyl Ketone	2.2	0.90		ug/m3	1	11/27/2013 11:06:00 PM
Methyl Isobutyl Ketone	< 1.2	1.2		ug/m3	1	11/27/2013 11:06:00 PM
Methyl tert-butyl ether	< 0.55	0.55		ug/m3	1	11/27/2013 11:06:00 PM
Methylene chloride	2.6	0.53		ug/m3	1	11/27/2013 11:06:00 PM
o-Xylene	0.97	0.66		ug/m3	1	11/27/2013 11:06:00 PM
Propylene	< 0.26	0.26		ug/m3	1	11/27/2013 11:06:00 PM
Styrene	< 0.65	0.65		ug/m3	1	11/27/2013 11:06:00 PM
Tetrachloroethylene	23	10		ug/m3	10	11/27/2013 11:40:00 PM
Tetrahydrofuran	< 0.45	0.45		ug/m3	1	11/27/2013 11:06:00 PM
Toluene	8.8	5.7		ug/m3	10	11/27/2013 11:40:00 PM
trans-1,2-Dichloroethene	< 0.60	0.60		ug/m3	1	11/27/2013 11:06:00 PM
trans-1,3-Dichloropropene	< 0.69	0.69		ug/m3	1	11/27/2013 11:06:00 PM
Trichloroethene	0.66	0.82	J	ug/m3	1	11/27/2013 11:06:00 PM
Vinyl acetate	< 0.54	0.54		ug/m3	1	11/27/2013 11:06:00 PM
Vinyl Bromide	< 0.67	0.67		ug/m3	1	11/27/2013 11:06:00 PM
Vinyl chloride	< 0.39	0.39		ug/m3	1	11/27/2013 11:06:00 PM

Qualifiers:

**	Reporting Limit	.	Results reported are not blank corrected
B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: *11-Dec-13*

CLIENT: HDR Engineering
Lab Order: C1311058
Project: Aluminum Louvre
Lab ID: C1311058-003A

Client Sample ID: OA-11-2013
Tag Number: 190,373
Collection Date: 11/18/2013
Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS		FLD				Analyst:
Lab Vacuum In	-6			"Hg		11/20/2013
Lab Vacuum Out	-30			"Hg		11/20/2013
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		TO-15				Analyst: RJP
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	11/27/2013 1:30:00 AM
1,1,2,2-Tetrachloroethane	< 0.15	0.15		ppbV	1	11/27/2013 1:30:00 AM
1,1,2-Trichloroethane	< 0.15	0.15		ppbV	1	11/27/2013 1:30:00 AM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	11/27/2013 1:30:00 AM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	11/27/2013 1:30:00 AM
1,2,4-Trichlorobenzene	< 0.15	0.15		ppbV	1	11/27/2013 1:30:00 AM
1,2,4-Trimethylbenzene	< 0.15	0.15		ppbV	1	11/27/2013 1:30:00 AM
1,2-Dibromoethane	< 0.15	0.15		ppbV	1	11/27/2013 1:30:00 AM
1,2-Dichlorobenzene	< 0.15	0.15		ppbV	1	11/27/2013 1:30:00 AM
1,2-Dichloroethane	< 0.15	0.15		ppbV	1	11/27/2013 1:30:00 AM
1,2-Dichloropropane	< 0.15	0.15		ppbV	1	11/27/2013 1:30:00 AM
1,3,5-Trimethylbenzene	< 0.15	0.15		ppbV	1	11/27/2013 1:30:00 AM
1,3-butadiene	< 0.15	0.15		ppbV	1	11/27/2013 1:30:00 AM
1,3-Dichlorobenzene	< 0.15	0.15		ppbV	1	11/27/2013 1:30:00 AM
1,4-Dichlorobenzene	< 0.15	0.15		ppbV	1	11/27/2013 1:30:00 AM
1,4-Dioxane	< 0.30	0.30		ppbV	1	11/27/2013 1:30:00 AM
2,2,4-trimethylpentane	0.94	0.15		ppbV	1	11/27/2013 1:30:00 AM
4-ethyltoluene	< 0.15	0.15		ppbV	1	11/27/2013 1:30:00 AM
Acetone	3.9	3.0		ppbV	10	11/27/2013 8:09:00 PM
Allyl chloride	< 0.15	0.15		ppbV	1	11/27/2013 1:30:00 AM
Benzene	0.18	0.15		ppbV	1	11/27/2013 1:30:00 AM
Benzyl chloride	< 0.15	0.15		ppbV	1	11/27/2013 1:30:00 AM
Bromodichloromethane	< 0.15	0.15		ppbV	1	11/27/2013 1:30:00 AM
Bromoform	< 0.15	0.15		ppbV	1	11/27/2013 1:30:00 AM
Bromomethane	< 0.15	0.15		ppbV	1	11/27/2013 1:30:00 AM
Carbon disulfide	< 0.15	0.15		ppbV	1	11/27/2013 1:30:00 AM
Carbon tetrachloride	0.11	0.040		ppbV	1	11/27/2013 1:30:00 AM
Chlorobenzene	< 0.15	0.15		ppbV	1	11/27/2013 1:30:00 AM
Chloroethane	< 0.15	0.15		ppbV	1	11/27/2013 1:30:00 AM
Chloroform	< 0.15	0.15		ppbV	1	11/27/2013 1:30:00 AM
Chloromethane	0.39	0.15		ppbV	1	11/27/2013 1:30:00 AM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	11/27/2013 1:30:00 AM
cis-1,3-Dichloropropene	< 0.15	0.15		ppbV	1	11/27/2013 1:30:00 AM
Cyclohexane	0.12	0.15	J	ppbV	1	11/27/2013 1:30:00 AM
Dibromochloromethane	< 0.15	0.15		ppbV	1	11/27/2013 1:30:00 AM
Ethyl acetate	< 0.25	0.25		ppbV	1	11/27/2013 1:30:00 AM

Qualifiers:

**	Reporting Limit	.	Results reported are not blank corrected
B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: *11-Dec-13*

CLIENT:	HDR Engineering	**Client Sample ID:**	OA-11-2013
Lab Order:	C1311058	**Tag Number:**	190,373
Project:	Aluminum Louvre	**Collection Date:**	11/18/2013
Lab ID:	C1311058-003A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		**TO-15**				Analyst: **RJP**
Ethylbenzene	< 0.15	0.15		ppbV	1	11/27/2013 1:30:00 AM
Freon 11	0.23	0.15		ppbV	1	11/27/2013 1:30:00 AM
Freon 113	< 0.15	0.15		ppbV	1	11/27/2013 1:30:00 AM
Freon 114	< 0.15	0.15		ppbV	1	11/27/2013 1:30:00 AM
Freon 12	0.55	0.15		ppbV	1	11/27/2013 1:30:00 AM
Heptane	< 0.15	0.15		ppbV	1	11/27/2013 1:30:00 AM
Hexachloro-1,3-butadiene	< 0.15	0.15		ppbV	1	11/27/2013 1:30:00 AM
Hexane	0.12	0.15	J	ppbV	1	11/27/2013 1:30:00 AM
Isopropyl alcohol	0.70	0.15		ppbV	1	11/27/2013 1:30:00 AM
m&p-Xylene	0.14	0.30	J	ppbV	1	11/27/2013 1:30:00 AM
Methyl Butyl Ketone	< 0.30	0.30		ppbV	1	11/27/2013 1:30:00 AM
Methyl Ethyl Ketone	0.19	0.30	J	ppbV	1	11/27/2013 1:30:00 AM
Methyl Isobutyl Ketone	< 0.30	0.30		ppbV	1	11/27/2013 1:30:00 AM
Methyl tert-butyl ether	< 0.15	0.15		ppbV	1	11/27/2013 1:30:00 AM
Methylene chloride	0.64	0.15		ppbV	1	11/27/2013 1:30:00 AM
o-Xylene	< 0.15	0.15		ppbV	1	11/27/2013 1:30:00 AM
Propylene	< 0.15	0.15		ppbV	1	11/27/2013 1:30:00 AM
Styrene	< 0.15	0.15		ppbV	1	11/27/2013 1:30:00 AM
Tetrachloroethylene	< 0.15	0.15		ppbV	1	11/27/2013 1:30:00 AM
Tetrahydrofuran	< 0.15	0.15		ppbV	1	11/27/2013 1:30:00 AM
Toluene	0.97	0.15		ppbV	1	11/27/2013 1:30:00 AM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	11/27/2013 1:30:00 AM
trans-1,3-Dichloropropene	< 0.15	0.15		ppbV	1	11/27/2013 1:30:00 AM
Trichloroethene	0.10	0.040		ppbV	1	11/27/2013 1:30:00 AM
Vinyl acetate	< 0.15	0.15		ppbV	1	11/27/2013 1:30:00 AM
Vinyl Bromide	< 0.15	0.15		ppbV	1	11/27/2013 1:30:00 AM
Vinyl chloride	< 0.040	0.040		ppbV	1	11/27/2013 1:30:00 AM
Surr: Bromofluorobenzene	84.0	70-130		%REC	1	11/27/2013 1:30:00 AM

Qualifiers:

**	Reporting Limit	.	Results reported are not blank corrected
B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: *11-Dec-13*

CLIENT:	HDR Engineering	**Client Sample ID:**	OA-11-2013
Lab Order:	C1311058	**Tag Number:**	190,373
Project:	Aluminum Louvre	**Collection Date:**	11/18/2013
Lab ID:	C1311058-003A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		**TO-15**				Analyst: **RJP**
1,1,1-Trichloroethane	< 0.83	0.83		ug/m3	1	11/27/2013 1:30:00 AM
1,1,2,2-Tetrachloroethane	< 1.0	1.0		ug/m3	1	11/27/2013 1:30:00 AM
1,1,2-Trichloroethane	< 0.83	0.83		ug/m3	1	11/27/2013 1:30:00 AM
1,1-Dichloroethane	< 0.62	0.62		ug/m3	1	11/27/2013 1:30:00 AM
1,1-Dichloroethene	< 0.60	0.60		ug/m3	1	11/27/2013 1:30:00 AM
1,2,4-Trichlorobenzene	< 1.1	1.1		ug/m3	1	11/27/2013 1:30:00 AM
1,2,4-Trimethylbenzene	< 0.75	0.75		ug/m3	1	11/27/2013 1:30:00 AM
1,2-Dibromoethane	< 1.2	1.2		ug/m3	1	11/27/2013 1:30:00 AM
1,2-Dichlorobenzene	< 0.92	0.92		ug/m3	1	11/27/2013 1:30:00 AM
1,2-Dichloroethane	< 0.62	0.62		ug/m3	1	11/27/2013 1:30:00 AM
1,2-Dichloropropane	< 0.70	0.70		ug/m3	1	11/27/2013 1:30:00 AM
1,3,5-Trimethylbenzene	< 0.75	0.75		ug/m3	1	11/27/2013 1:30:00 AM
1,3-butadiene	< 0.34	0.34		ug/m3	1	11/27/2013 1:30:00 AM
1,3-Dichlorobenzene	< 0.92	0.92		ug/m3	1	11/27/2013 1:30:00 AM
1,4-Dichlorobenzene	< 0.92	0.92		ug/m3	1	11/27/2013 1:30:00 AM
1,4-Dioxane	< 1.1	1.1		ug/m3	1	11/27/2013 1:30:00 AM
2,2,4-trimethylpentane	4.5	0.71		ug/m3	1	11/27/2013 1:30:00 AM
4-ethyltoluene	< 0.75	0.75		ug/m3	1	11/27/2013 1:30:00 AM
Acetone	9.4	7.2		ug/m3	10	11/27/2013 8:09:00 PM
Allyl chloride	< 0.48	0.48		ug/m3	1	11/27/2013 1:30:00 AM
Benzene	0.58	0.49		ug/m3	1	11/27/2013 1:30:00 AM
Benzyl chloride	< 0.88	0.88		ug/m3	1	11/27/2013 1:30:00 AM
Bromodichloromethane	< 1.0	1.0		ug/m3	1	11/27/2013 1:30:00 AM
Bromoform	< 1.6	1.6		ug/m3	1	11/27/2013 1:30:00 AM
Bromomethane	< 0.59	0.59		ug/m3	1	11/27/2013 1:30:00 AM
Carbon disulfide	< 0.47	0.47		ug/m3	1	11/27/2013 1:30:00 AM
Carbon tetrachloride	0.70	0.26		ug/m3	1	11/27/2013 1:30:00 AM
Chlorobenzene	< 0.70	0.70		ug/m3	1	11/27/2013 1:30:00 AM
Chloroethane	< 0.40	0.40		ug/m3	1	11/27/2013 1:30:00 AM
Chloroform	< 0.74	0.74		ug/m3	1	11/27/2013 1:30:00 AM
Chloromethane	0.82	0.31		ug/m3	1	11/27/2013 1:30:00 AM
cis-1,2-Dichloroethene	< 0.60	0.60		ug/m3	1	11/27/2013 1:30:00 AM
cis-1,3-Dichloropropene	< 0.69	0.69		ug/m3	1	11/27/2013 1:30:00 AM
Cyclohexane	0.42	0.52	J	ug/m3	1	11/27/2013 1:30:00 AM
Dibromochloromethane	< 1.3	1.3		ug/m3	1	11/27/2013 1:30:00 AM
Ethyl acetate	< 0.92	0.92		ug/m3	1	11/27/2013 1:30:00 AM
Ethylbenzene	< 0.66	0.66		ug/m3	1	11/27/2013 1:30:00 AM
Freon 11	1.3	0.86		ug/m3	1	11/27/2013 1:30:00 AM
Freon 113	< 1.2	1.2		ug/m3	1	11/27/2013 1:30:00 AM
Freon 114	< 1.1	1.1		ug/m3	1	11/27/2013 1:30:00 AM

Qualifiers:

**	Reporting Limit	.	Results reported are not blank corrected
B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: *11-Dec-13*

CLIENT: HDR Engineering
Lab Order: C1311058
Project: Aluminum Louvre
Lab ID: C1311058-003A

Client Sample ID: OA-11-2013
Tag Number: 190,373
Collection Date: 11/18/2013
Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		**TO-15**				Analyst: **RJP**
Freon 12	2.8	0.75		ug/m3	1	11/27/2013 1:30:00 AM
Heptane	< 0.62	0.62		ug/m3	1	11/27/2013 1:30:00 AM
Hexachloro-1,3-butadiene	< 1.6	1.6		ug/m3	1	11/27/2013 1:30:00 AM
Hexane	0.43	0.54	J	ug/m3	1	11/27/2013 1:30:00 AM
Isopropyl alcohol	1.7	0.37		ug/m3	1	11/27/2013 1:30:00 AM
m&p-Xylene	0.62	1.3	J	ug/m3	1	11/27/2013 1:30:00 AM
Methyl Butyl Ketone	< 1.2	1.2		ug/m3	1	11/27/2013 1:30:00 AM
Methyl Ethyl Ketone	0.57	0.90	J	ug/m3	1	11/27/2013 1:30:00 AM
Methyl Isobutyl Ketone	< 1.2	1.2		ug/m3	1	11/27/2013 1:30:00 AM
Methyl tert-butyl ether	< 0.55	0.55		ug/m3	1	11/27/2013 1:30:00 AM
Methylene chloride	2.3	0.53		ug/m3	1	11/27/2013 1:30:00 AM
o-Xylene	< 0.66	0.66		ug/m3	1	11/27/2013 1:30:00 AM
Propylene	< 0.26	0.26		ug/m3	1	11/27/2013 1:30:00 AM
Styrene	< 0.65	0.65		ug/m3	1	11/27/2013 1:30:00 AM
Tetrachloroethylene	< 1.0	1.0		ug/m3	1	11/27/2013 1:30:00 AM
Tetrahydrofuran	< 0.45	0.45		ug/m3	1	11/27/2013 1:30:00 AM
Toluene	3.7	0.57		ug/m3	1	11/27/2013 1:30:00 AM
trans-1,2-Dichloroethene	< 0.60	0.60		ug/m3	1	11/27/2013 1:30:00 AM
trans-1,3-Dichloropropene	< 0.69	0.69		ug/m3	1	11/27/2013 1:30:00 AM
Trichloroethene	0.55	0.22		ug/m3	1	11/27/2013 1:30:00 AM
Vinyl acetate	< 0.54	0.54		ug/m3	1	11/27/2013 1:30:00 AM
Vinyl Bromide	< 0.67	0.67		ug/m3	1	11/27/2013 1:30:00 AM
Vinyl chloride	< 0.10	0.10		ug/m3	1	11/27/2013 1:30:00 AM

Qualifiers:

**	Reporting Limit	.	Results reported are not blank corrected
B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: *11-Dec-13*

CLIENT:	HDR Engineering	**Client Sample ID:**	303- E-IA
Lab Order:	C1311058	**Tag Number:**	94,390
Project:	Aluminum Louvre	**Collection Date:**	11/18/2013
Lab ID:	C1311058-004A	**Matrix:**	

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS		FLD				Analyst:
Lab Vacuum In	-2			"Hg		11/20/2013
Lab Vacuum Out	-30			"Hg		11/20/2013
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		TO-15				Analyst: RJP
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	11/27/2013 2:07:00 AM
1,1,2,2-Tetrachloroethane	< 0.15	0.15		ppbV	1	11/27/2013 2:07:00 AM
1,1,2-Trichloroethane	< 0.15	0.15		ppbV	1	11/27/2013 2:07:00 AM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	11/27/2013 2:07:00 AM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	11/27/2013 2:07:00 AM
1,2,4-Trichlorobenzene	< 0.15	0.15		ppbV	1	11/27/2013 2:07:00 AM
1,2,4-Trimethylbenzene	7.7	1.5		ppbV	10	11/27/2013 8:44:00 PM
1,2-Dibromoethane	< 0.15	0.15		ppbV	1	11/27/2013 2:07:00 AM
1,2-Dichlorobenzene	< 0.15	0.15		ppbV	1	11/27/2013 2:07:00 AM
1,2-Dichloroethane	< 0.15	0.15		ppbV	1	11/27/2013 2:07:00 AM
1,2-Dichloropropane	< 0.15	0.15		ppbV	1	11/27/2013 2:07:00 AM
1,3,5-Trimethylbenzene	2.3	1.5		ppbV	10	11/27/2013 8:44:00 PM
1,3-butadiene	< 0.15	0.15		ppbV	1	11/27/2013 2:07:00 AM
1,3-Dichlorobenzene	< 0.15	0.15		ppbV	1	11/27/2013 2:07:00 AM
1,4-Dichlorobenzene	< 0.15	0.15		ppbV	1	11/27/2013 2:07:00 AM
1,4-Dioxane	< 0.30	0.30		ppbV	1	11/27/2013 2:07:00 AM
2,2,4-trimethylpentane	15	6.0		ppbV	40	11/27/2013 9:19:00 PM
4-ethyltoluene	2.4	1.5		ppbV	10	11/27/2013 8:44:00 PM
Acetone	49	12		ppbV	40	11/27/2013 9:19:00 PM
Allyl chloride	< 0.15	0.15		ppbV	1	11/27/2013 2:07:00 AM
Benzene	5.9	1.5		ppbV	10	11/27/2013 8:44:00 PM
Benzyl chloride	< 0.15	0.15		ppbV	1	11/27/2013 2:07:00 AM
Bromodichloromethane	< 0.15	0.15		ppbV	1	11/27/2013 2:07:00 AM
Bromoform	< 0.15	0.15		ppbV	1	11/27/2013 2:07:00 AM
Bromomethane	< 0.15	0.15		ppbV	1	11/27/2013 2:07:00 AM
Carbon disulfide	< 0.15	0.15		ppbV	1	11/27/2013 2:07:00 AM
Carbon tetrachloride	0.070	0.040		ppbV	1	11/27/2013 2:07:00 AM
Chlorobenzene	< 0.15	0.15		ppbV	1	11/27/2013 2:07:00 AM
Chloroethane	< 0.15	0.15		ppbV	1	11/27/2013 2:07:00 AM
Chloroform	< 0.15	0.15		ppbV	1	11/27/2013 2:07:00 AM
Chloromethane	0.41	0.15		ppbV	1	11/27/2013 2:07:00 AM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	11/27/2013 2:07:00 AM
cis-1,3-Dichloropropene	< 0.15	0.15		ppbV	1	11/27/2013 2:07:00 AM
Cyclohexane	13	6.0		ppbV	40	11/27/2013 9:19:00 PM
Dibromochloromethane	< 0.15	0.15		ppbV	1	11/27/2013 2:07:00 AM
Ethyl acetate	< 0.25	0.25		ppbV	1	11/27/2013 2:07:00 AM

Qualifiers:

**	Reporting Limit	.	Results reported are not blank corrected
B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: *11-Dec-13*

CLIENT:	HDR Engineering	**Client Sample ID:**	303- E-1A
Lab Order:	C1311058	**Tag Number:**	94,390
Project:	Aluminum Louvre	**Collection Date:**	11/18/2013
Lab ID:	C1311058-004A	**Matrix:**	

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		**TO-15**				Analyst: RJP
Ethylbenzene	8.2	1.5		ppbV	10	11/27/2013 8:44:00 PM
Freon 11	0.20	0.15		ppbV	1	11/27/2013 2:07:00 AM
Freon 113	< 0.15	0.15		ppbV	1	11/27/2013 2:07:00 AM
Freon 114	< 0.15	0.15		ppbV	1	11/27/2013 2:07:00 AM
Freon 12	0.46	0.15		ppbV	1	11/27/2013 2:07:00 AM
Heptane	14	1.5		ppbV	10	11/27/2013 8:44:00 PM
Hexachloro-1,3-butadiene	< 0.15	0.15		ppbV	1	11/27/2013 2:07:00 AM
Hexane	20	1.5		ppbV	10	11/27/2013 8:44:00 PM
Isopropyl alcohol	< 0.15	0.15		ppbV	1	11/27/2013 2:07:00 AM
m&p-Xylene	34	3.0		ppbV	10	11/27/2013 8:44:00 PM
Methyl Butyl Ketone	< 0.30	0.30		ppbV	1	11/27/2013 2:07:00 AM
Methyl Ethyl Ketone	2.3	0.30		ppbV	1	11/27/2013 2:07:00 AM
Methyl Isobutyl Ketone	< 0.30	0.30		ppbV	1	11/27/2013 2:07:00 AM
Methyl tert-butyl ether	< 0.15	0.15		ppbV	1	11/27/2013 2:07:00 AM
Methylene chloride	0.32	0.15		ppbV	1	11/27/2013 2:07:00 AM
o-Xylene	8.8	1.5		ppbV	10	11/27/2013 8:44:00 PM
Propylene	< 0.15	0.15		ppbV	1	11/27/2013 2:07:00 AM
Styrene	3.6	1.5		ppbV	10	11/27/2013 8:44:00 PM
Tetrachloroethylene	0.41	0.15		ppbV	1	11/27/2013 2:07:00 AM
Tetrahydrofuran	< 0.15	0.15		ppbV	1	11/27/2013 2:07:00 AM
Toluene	35	6.0		ppbV	40	11/27/2013 9:19:00 PM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	11/27/2013 2:07:00 AM
trans-1,3-Dichloropropene	< 0.15	0.15		ppbV	1	11/27/2013 2:07:00 AM
Trichloroethene	< 0.040	0.040		ppbV	1	11/27/2013 2:07:00 AM
Vinyl acetate	< 0.15	0.15		ppbV	1	11/27/2013 2:07:00 AM
Vinyl Bromide	< 0.15	0.15		ppbV	1	11/27/2013 2:07:00 AM
Vinyl chloride	< 0.040	0.040		ppbV	1	11/27/2013 2:07:00 AM
Surr: Bromofluorobenzene	106	70-130		%REC	1	11/27/2013 2:07:00 AM

Qualifiers:

**	Reporting Limit	.	Results reported are not blank corrected
B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: *11-Dec-13*

CLIENT:	HDR Engineering	**Client Sample ID:**	303- E-IA
Lab Order:	C1311058	**Tag Number:**	94,390
Project:	Aluminum Louvre	**Collection Date:**	11/18/2013
Lab ID:	C1311058-004A	**Matrix:**	

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		TO-15				Analyst: RJP
1,1,1-Trichloroethane	< 0.83	0.83		ug/m3	1	11/27/2013 2:07:00 AM
1,1,2,2-Tetrachloroethane	< 1.0	1.0		ug/m3	1	11/27/2013 2:07:00 AM
1,1,2-Trichloroethane	< 0.83	0.83		ug/m3	1	11/27/2013 2:07:00 AM
1,1-Dichloroethane	< 0.62	0.62		ug/m3	1	11/27/2013 2:07:00 AM
1,1-Dichloroethene	< 0.60	0.60		ug/m3	1	11/27/2013 2:07:00 AM
1,2,4-Trichlorobenzene	< 1.1	1.1		ug/m3	1	11/27/2013 2:07:00 AM
1,2,4-Trimethylbenzene	38	7.5		ug/m3	10	11/27/2013 8:44:00 PM
1,2-Dibromoethane	< 1.2	1.2		ug/m3	1	11/27/2013 2:07:00 AM
1,2-Dichlorobenzene	< 0.92	0.92		ug/m3	1	11/27/2013 2:07:00 AM
1,2-Dichloroethane	< 0.62	0.62		ug/m3	1	11/27/2013 2:07:00 AM
1,2-Dichloropropane	< 0.70	0.70		ug/m3	1	11/27/2013 2:07:00 AM
1,3,5-Trimethylbenzene	11	7.5		ug/m3	10	11/27/2013 8:44:00 PM
1,3-butadiene	< 0.34	0.34		ug/m3	1	11/27/2013 2:07:00 AM
1,3-Dichlorobenzene	< 0.92	0.92		ug/m3	1	11/27/2013 2:07:00 AM
1,4-Dichlorobenzene	< 0.92	0.92		ug/m3	1	11/27/2013 2:07:00 AM
1,4-Dioxane	< 1.1	1.1		ug/m3	1	11/27/2013 2:07:00 AM
2,2,4-trimethylpentane	72	28		ug/m3	40	11/27/2013 9:19:00 PM
4-ethyltoluene	12	7.5		ug/m3	10	11/27/2013 8:44:00 PM
Acetone	120	29		ug/m3	40	11/27/2013 9:19:00 PM
Allyl chloride	< 0.48	0.48		ug/m3	1	11/27/2013 2:07:00 AM
Benzene	19	4.9		ug/m3	10	11/27/2013 8:44:00 PM
Benzyl chloride	< 0.88	0.88		ug/m3	1	11/27/2013 2:07:00 AM
Bromodichloromethane	< 1.0	1.0		ug/m3	1	11/27/2013 2:07:00 AM
Bromoform	< 1.6	1.6		ug/m3	1	11/27/2013 2:07:00 AM
Bromomethane	< 0.59	0.59		ug/m3	1	11/27/2013 2:07:00 AM
Carbon disulfide	< 0.47	0.47		ug/m3	1	11/27/2013 2:07:00 AM
Carbon tetrachloride	0.45	0.26		ug/m3	1	11/27/2013 2:07:00 AM
Chlorobenzene	< 0.70	0.70		ug/m3	1	11/27/2013 2:07:00 AM
Chloroethane	< 0.40	0.40		ug/m3	1	11/27/2013 2:07:00 AM
Chloroform	< 0.74	0.74		ug/m3	1	11/27/2013 2:07:00 AM
Chloromethane	0.86	0.31		ug/m3	1	11/27/2013 2:07:00 AM
cis-1,2-Dichloroethene	< 0.60	0.60		ug/m3	1	11/27/2013 2:07:00 AM
cis-1,3-Dichloropropene	< 0.69	0.69		ug/m3	1	11/27/2013 2:07:00 AM
Cyclohexane	45	21		ug/m3	40	11/27/2013 9:19:00 PM
Dibromochloromethane	< 1.3	1.3		ug/m3	1	11/27/2013 2:07:00 AM
Ethyl acetate	< 0.92	0.92		ug/m3	1	11/27/2013 2:07:00 AM
Ethylbenzene	36	6.6		ug/m3	10	11/27/2013 8:44:00 PM
Freon 11	1.1	0.86		ug/m3	1	11/27/2013 2:07:00 AM
Freon 113	< 1.2	1.2		ug/m3	1	11/27/2013 2:07:00 AM
Freon 114	< 1.1	1.1		ug/m3	1	11/27/2013 2:07:00 AM

Qualifiers:

**	Reporting Limit	.	Results reported are not blank corrected
B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: *11-Dec-13*

CLIENT:	HDR Engineering	**Client Sample ID:**	303- E-IA
Lab Order:	C1311058	**Tag Number:**	94,390
Project:	Aluminum Louvre	**Collection Date:**	11/18/2013
Lab ID:	C1311058-004A	**Matrix:**	

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		**TO-15**				Analyst: **RJP**
Freon 12	2.3	0.75		ug/m3	1	11/27/2013 2:07:00 AM
Heptane	60	6.2		ug/m3	10	11/27/2013 8:44:00 PM
Hexachloro-1,3-butadiene	< 1.6	1.6		ug/m3	1	11/27/2013 2:07:00 AM
Hexane	71	5.4		ug/m3	10	11/27/2013 8:44:00 PM
Isopropyl alcohol	< 0.37	0.37		ug/m3	1	11/27/2013 2:07:00 AM
m&p-Xylene	150	13		ug/m3	10	11/27/2013 8:44:00 PM
Methyl Butyl Ketone	< 1.2	1.2		ug/m3	1	11/27/2013 2:07:00 AM
Methyl Ethyl Ketone	6.9	0.90		ug/m3	1	11/27/2013 2:07:00 AM
Methyl Isobutyl Ketone	< 1.2	1.2		ug/m3	1	11/27/2013 2:07:00 AM
Methyl tert-butyl ether	< 0.55	0.55		ug/m3	1	11/27/2013 2:07:00 AM
Methylene chloride	1.1	0.53		ug/m3	1	11/27/2013 2:07:00 AM
o-Xylene	39	6.6		ug/m3	10	11/27/2013 8:44:00 PM
Propylene	< 0.26	0.26		ug/m3	1	11/27/2013 2:07:00 AM
Styrene	16	6.5		ug/m3	10	11/27/2013 8:44:00 PM
Tetrachloroethylene	2.8	1.0		ug/m3	1	11/27/2013 2:07:00 AM
Tetrahydrofuran	< 0.45	0.45		ug/m3	1	11/27/2013 2:07:00 AM
Toluene	130	23		ug/m3	40	11/27/2013 9:19:00 PM
trans-1,2-Dichloroethene	< 0.60	0.60		ug/m3	1	11/27/2013 2:07:00 AM
trans-1,3-Dichloropropene	< 0.69	0.69		ug/m3	1	11/27/2013 2:07:00 AM
Trichloroethene	< 0.22	0.22		ug/m3	1	11/27/2013 2:07:00 AM
Vinyl acetate	< 0.54	0.54		ug/m3	1	11/27/2013 2:07:00 AM
Vinyl Bromide	< 0.67	0.67		ug/m3	1	11/27/2013 2:07:00 AM
Vinyl chloride	< 0.10	0.10		ug/m3	1	11/27/2013 2:07:00 AM

Qualifiers:

**	Reporting Limit	.	Results reported are not blank corrected
B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: *11-Dec-13*

CLIENT:	HDR Engineering	**Client Sample ID:**	303-E-SS
Lab Order:	C1311058	**Tag Number:**	365,436
Project:	Aluminum Louvre	**Collection Date:**	11/18/2013
Lab ID:	C1311058-005A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS		FLD				Analyst:
Lab Vacuum In	-1			"Hg		11/20/2013
Lab Vacuum Out	-30			"Hg		11/20/2013
1UG/M3 BY METHOD TO15		TO-15				Analyst: RJP
1,1,1-Trichloroethane	0.25	0.15		ppbV	1	11/27/2013 5:24:00 AM
1,1,2,2-Tetrachloroethane	< 0.15	0.15		ppbV	1	11/27/2013 5:24:00 AM
1,1,2-Trichloroethane	< 0.15	0.15		ppbV	1	11/27/2013 5:24:00 AM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	11/27/2013 5:24:00 AM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	11/27/2013 5:24:00 AM
1,2,4-Trichlorobenzene	< 0.15	0.15		ppbV	1	11/27/2013 5:24:00 AM
1,2,4-Trimethylbenzene	1.7	1.5		ppbV	10	11/28/2013 1:35:00 AM
1,2-Dibromoethane	< 0.15	0.15		ppbV	1	11/27/2013 5:24:00 AM
1,2-Dichlorobenzene	< 0.15	0.15		ppbV	1	11/27/2013 5:24:00 AM
1,2-Dichloroethane	< 0.15	0.15		ppbV	1	11/27/2013 5:24:00 AM
1,2-Dichloropropane	< 0.15	0.15		ppbV	1	11/27/2013 5:24:00 AM
1,3,5-Trimethylbenzene	0.57	0.15		ppbV	1	11/27/2013 5:24:00 AM
1,3-butadiene	< 0.15	0.15		ppbV	1	11/27/2013 5:24:00 AM
1,3-Dichlorobenzene	< 0.15	0.15		ppbV	1	11/27/2013 5:24:00 AM
1,4-Dichlorobenzene	< 0.15	0.15		ppbV	1	11/27/2013 5:24:00 AM
1,4-Dioxane	< 0.30	0.30		ppbV	1	11/27/2013 5:24:00 AM
2,2,4-trimethylpentane	3.0	1.5		ppbV	10	11/28/2013 1:35:00 AM
4-ethyltoluene	0.74	0.15		ppbV	1	11/27/2013 5:24:00 AM
Acetone	80	12		ppbV	40	11/28/2013 2:09:00 AM
Allyl chloride	< 0.15	0.15		ppbV	1	11/27/2013 5:24:00 AM
Benzene	1.4	0.15		ppbV	1	11/27/2013 5:24:00 AM
Benzyl chloride	< 0.15	0.15		ppbV	1	11/27/2013 5:24:00 AM
Bromodichloromethane	< 0.15	0.15		ppbV	1	11/27/2013 5:24:00 AM
Bromoform	< 0.15	0.15		ppbV	1	11/27/2013 5:24:00 AM
Bromomethane	< 0.15	0.15		ppbV	1	11/27/2013 5:24:00 AM
Carbon disulfide	< 0.15	0.15		ppbV	1	11/27/2013 5:24:00 AM
Carbon tetrachloride	< 0.15	0.15		ppbV	1	11/27/2013 5:24:00 AM
Chlorobenzene	< 0.15	0.15		ppbV	1	11/27/2013 5:24:00 AM
Chloroethane	< 0.15	0.15		ppbV	1	11/27/2013 5:24:00 AM
Chloroform	< 0.15	0.15		ppbV	1	11/27/2013 5:24:00 AM
Chloromethane	0.38	0.15		ppbV	1	11/27/2013 5:24:00 AM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	11/27/2013 5:24:00 AM
cis-1,3-Dichloropropene	< 0.15	0.15		ppbV	1	11/27/2013 5:24:00 AM
Cyclohexane	2.9	1.5		ppbV	10	11/28/2013 1:35:00 AM
Dibromochloromethane	< 0.15	0.15		ppbV	1	11/27/2013 5:24:00 AM
Ethyl acetate	< 0.25	0.25		ppbV	1	11/27/2013 5:24:00 AM

Qualifiers:

**	Reporting Limit
B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
JN	Non-routine analyte. Quantitation estimated.
S	Spike Recovery outside accepted recovery limits
.	Results reported are not blank corrected
E	Value above quantitation range
J	Analyte detected at or below quantitation limits
ND	Not Detected at the Reporting Limit

Centek Laboratories, LLC

Date: *11-Dec-13*

CLIENT:	HDR Engineering	**Client Sample ID:**	303-E-SS
Lab Order:	C1311058	**Tag Number:**	365,436
Project:	Aluminum Louvre	**Collection Date:**	11/18/2013
Lab ID:	C1311058-005A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15		**TO-15**				Analyst: RJP
Ethylbenzene	3.5	1.5		ppbV	10	11/28/2013 1:35:00 AM
Freon 11	0.28	0.15		ppbV	1	11/27/2013 5:24:00 AM
Freon 113	< 0.15	0.15		ppbV	1	11/27/2013 5:24:00 AM
Freon 114	< 0.15	0.15		ppbV	1	11/27/2013 5:24:00 AM
Freon 12	0.53	0.15		ppbV	1	11/27/2013 5:24:00 AM
Heptane	2.3	1.5		ppbV	10	11/28/2013 1:35:00 AM
Hexachloro-1,3-butadiene	< 0.15	0.15		ppbV	1	11/27/2013 5:24:00 AM
Hexane	2.8	1.5		ppbV	10	11/28/2013 1:35:00 AM
Isopropyl alcohol	< 0.15	0.15		ppbV	1	11/27/2013 5:24:00 AM
m&p-Xylene	13	3.0		ppbV	10	11/28/2013 1:35:00 AM
Methyl Butyl Ketone	< 0.30	0.30		ppbV	1	11/27/2013 5:24:00 AM
Methyl Ethyl Ketone	0.83	0.30		ppbV	1	11/27/2013 5:24:00 AM
Methyl Isobutyl Ketone	< 0.30	0.30		ppbV	1	11/27/2013 5:24:00 AM
Methyl tert-butyl ether	< 0.15	0.15		ppbV	1	11/27/2013 5:24:00 AM
Methylene chloride	0.25	0.15		ppbV	1	11/27/2013 5:24:00 AM
o-Xylene	2.9	1.5		ppbV	10	11/28/2013 1:35:00 AM
Propylene	< 0.15	0.15		ppbV	1	11/27/2013 5:24:00 AM
Styrene	< 0.15	0.15		ppbV	1	11/27/2013 5:24:00 AM
Tetrachloroethylene	1.9	0.15		ppbV	1	11/27/2013 5:24:00 AM
Tetrahydrofuran	< 0.15	0.15		ppbV	1	11/27/2013 5:24:00 AM
Toluene	28	6.0		ppbV	40	11/28/2013 2:09:00 AM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	11/27/2013 5:24:00 AM
trans-1,3-Dichloropropene	< 0.15	0.15		ppbV	1	11/27/2013 5:24:00 AM
Trichloroethene	3.9	1.5		ppbV	10	11/28/2013 1:35:00 AM
Vinyl acetate	< 0.15	0.15		ppbV	1	11/27/2013 5:24:00 AM
Vinyl Bromide	< 0.15	0.15		ppbV	1	11/27/2013 5:24:00 AM
Vinyl chloride	< 0.15	0.15		ppbV	1	11/27/2013 5:24:00 AM
Surr: Bromofluorobenzene	106	70-130		%REC	1	11/27/2013 5:24:00 AM

Qualifiers:

**	Reporting Limit	.	Results reported are not blank corrected
B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: *11-Dec-13*

CLIENT:	HDR Engineering	**Client Sample ID:**	303-E-SS
Lab Order:	C1311058	**Tag Number:**	365,436
Project:	Aluminum Louvre	**Collection Date:**	11/18/2013
Lab ID:	C1311058-005A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15		TO-15				Analyst: RJP
1,1,1-Trichloroethane	1.4	0.83		ug/m3	1	11/27/2013 5:24:00 AM
1,1,2,2-Tetrachloroethane	< 1.0	1.0		ug/m3	1	11/27/2013 5:24:00 AM
1,1,2-Trichloroethane	< 0.83	0.83		ug/m3	1	11/27/2013 5:24:00 AM
1,1-Dichloroethane	< 0.62	0.62		ug/m3	1	11/27/2013 5:24:00 AM
1,1-Dichloroethene	< 0.60	0.60		ug/m3	1	11/27/2013 5:24:00 AM
1,2,4-Trichlorobenzene	< 1.1	1.1		ug/m3	1	11/27/2013 5:24:00 AM
1,2,4-Trimethylbenzene	8.5	7.5		ug/m3	10	11/28/2013 1:35:00 AM
1,2-Dibromoethane	< 1.2	1.2		ug/m3	1	11/27/2013 5:24:00 AM
1,2-Dichlorobenzene	< 0.92	0.92		ug/m3	1	11/27/2013 5:24:00 AM
1,2-Dichloroethane	< 0.62	0.62		ug/m3	1	11/27/2013 5:24:00 AM
1,2-Dichloropropane	< 0.70	0.70		ug/m3	1	11/27/2013 5:24:00 AM
1,3,5-Trimethylbenzene	2.8	0.75		ug/m3	1	11/27/2013 5:24:00 AM
1,3-butadiene	< 0.34	0.34		ug/m3	1	11/27/2013 5:24:00 AM
1,3-Dichlorobenzene	< 0.92	0.92		ug/m3	1	11/27/2013 5:24:00 AM
1,4-Dichlorobenzene	< 0.92	0.92		ug/m3	1	11/27/2013 5:24:00 AM
1,4-Dioxane	< 1.1	1.1		ug/m3	1	11/27/2013 5:24:00 AM
2,2,4-trimethylpentane	14	7.1		ug/m3	10	11/28/2013 1:35:00 AM
4-ethyltoluene	3.7	0.75		ug/m3	1	11/27/2013 5:24:00 AM
Acetone	190	29		ug/m3	40	11/28/2013 2:09:00 AM
Allyl chloride	< 0.48	0.48		ug/m3	1	11/27/2013 5:24:00 AM
Benzene	4.7	0.49		ug/m3	1	11/27/2013 5:24:00 AM
Benzyl chloride	< 0.88	0.88		ug/m3	1	11/27/2013 5:24:00 AM
Bromodichloromethane	< 1.0	1.0		ug/m3	1	11/27/2013 5:24:00 AM
Bromoform	< 1.6	1.6		ug/m3	1	11/27/2013 5:24:00 AM
Bromomethane	< 0.59	0.59		ug/m3	1	11/27/2013 5:24:00 AM
Carbon disulfide	< 0.47	0.47		ug/m3	1	11/27/2013 5:24:00 AM
Carbon tetrachloride	< 0.96	0.96		ug/m3	1	11/27/2013 5:24:00 AM
Chlorobenzene	< 0.70	0.70		ug/m3	1	11/27/2013 5:24:00 AM
Chloroethane	< 0.40	0.40		ug/m3	1	11/27/2013 5:24:00 AM
Chloroform	< 0.74	0.74		ug/m3	1	11/27/2013 5:24:00 AM
Chloromethane	0.80	0.31		ug/m3	1	11/27/2013 5:24:00 AM
cis-1,2-Dichloroethene	< 0.60	0.60		ug/m3	1	11/27/2013 5:24:00 AM
cis-1,3-Dichloropropene	< 0.69	0.69		ug/m3	1	11/27/2013 5:24:00 AM
Cyclohexane	10	5.2		ug/m3	10	11/28/2013 1:35:00 AM
Dibromochloromethane	< 1.3	1.3		ug/m3	1	11/27/2013 5:24:00 AM
Ethyl acetate	< 0.92	0.92		ug/m3	1	11/27/2013 5:24:00 AM
Ethylbenzene	15	6.6		ug/m3	10	11/28/2013 1:35:00 AM
Freon 11	1.6	0.86		ug/m3	1	11/27/2013 5:24:00 AM
Freon 113	< 1.2	1.2		ug/m3	1	11/27/2013 5:24:00 AM
Freon 114	< 1.1	1.1		ug/m3	1	11/27/2013 5:24:00 AM

Qualifiers:

**	Reporting Limit	.	Results reported are not blank corrected
B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: *11-Dec-13*

CLIENT:	HDR Engineering	**Client Sample ID:**	303-E-SS
Lab Order:	C1311058	**Tag Number:**	365,436
Project:	Aluminum Louvre	**Collection Date:**	11/18/2013
Lab ID:	C1311058-005A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15		**TO-15**				Analyst: RJP
Freon 12	2.7	0.75		ug/m3	1	11/27/2013 5:24:00 AM
Heptane	9.6	6.2		ug/m3	10	11/28/2013 1:35:00 AM
Hexachloro-1,3-butadiene	< 1.6	1.6		ug/m3	1	11/27/2013 5:24:00 AM
Hexane	10	5.4		ug/m3	10	11/28/2013 1:35:00 AM
Isopropyl alcohol	< 0.37	0.37		ug/m3	1	11/27/2013 5:24:00 AM
m&p-Xylene	58	13		ug/m3	10	11/28/2013 1:35:00 AM
Methyl Butyl Ketone	< 1.2	1.2		ug/m3	1	11/27/2013 5:24:00 AM
Methyl Ethyl Ketone	2.5	0.90		ug/m3	1	11/27/2013 5:24:00 AM
Methyl Isobutyl Ketone	< 1.2	1.2		ug/m3	1	11/27/2013 5:24:00 AM
Methyl tert-butyl ether	< 0.55	0.55		ug/m3	1	11/27/2013 5:24:00 AM
Methylene chloride	0.88	0.53		ug/m3	1	11/27/2013 5:24:00 AM
o-Xylene	13	6.6		ug/m3	10	11/28/2013 1:35:00 AM
Propylene	< 0.26	0.26		ug/m3	1	11/27/2013 5:24:00 AM
Styrene	< 0.65	0.65		ug/m3	1	11/27/2013 5:24:00 AM
Tetrachloroethylene	13	1.0		ug/m3	1	11/27/2013 5:24:00 AM
Tetrahydrofuran	< 0.45	0.45		ug/m3	1	11/27/2013 5:24:00 AM
Toluene	110	23		ug/m3	40	11/28/2013 2:09:00 AM
trans-1,2-Dichloroethene	< 0.60	0.60		ug/m3	1	11/27/2013 5:24:00 AM
trans-1,3-Dichloropropene	< 0.69	0.69		ug/m3	1	11/27/2013 5:24:00 AM
Trichloroethene	21	8.2		ug/m3	10	11/28/2013 1:35:00 AM
Vinyl acetate	< 0.54	0.54		ug/m3	1	11/27/2013 5:24:00 AM
Vinyl Bromide	< 0.67	0.67		ug/m3	1	11/27/2013 5:24:00 AM
Vinyl chloride	< 0.39	0.39		ug/m3	1	11/27/2013 5:24:00 AM

Qualifiers:

**	Reporting Limit	.	Results reported are not blank corrected
B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: *11-Dec-13*

CLIENT:	HDR Engineering	**Client Sample ID:**	303-E-SSD
Lab Order:	C1311058	**Tag Number:**	406,436
Project:	Aluminum Louvre	**Collection Date:**	11/18/2013
Lab ID:	C1311058-006A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS		FLD				Analyst:
Lab Vacuum In	-1			"Hg		11/20/2013
Lab Vacuum Out	-30			"Hg		11/20/2013
1UG/M3 BY METHOD TO15		TO-15				Analyst: **RJP**
1,1,1-Trichloroethane	0.23	0.15		ppbV	1	11/27/2013 6:01:00 AM
1,1,2,2-Tetrachloroethane	< 0.15	0.15		ppbV	1	11/27/2013 6:01:00 AM
1,1,2-Trichloroethane	< 0.15	0.15		ppbV	1	11/27/2013 6:01:00 AM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	11/27/2013 6:01:00 AM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	11/27/2013 6:01:00 AM
1,2,4-Trichlorobenzene	< 0.15	0.15		ppbV	1	11/27/2013 6:01:00 AM
1,2,4-Trimethylbenzene	2.9	0.15		ppbV	1	11/27/2013 6:01:00 AM
1,2-Dibromoethane	< 0.15	0.15		ppbV	1	11/27/2013 6:01:00 AM
1,2-Dichlorobenzene	< 0.15	0.15		ppbV	1	11/27/2013 6:01:00 AM
1,2-Dichloroethane	< 0.15	0.15		ppbV	1	11/27/2013 6:01:00 AM
1,2-Dichloropropane	< 0.15	0.15		ppbV	1	11/27/2013 6:01:00 AM
1,3,5-Trimethylbenzene	0.50	0.15		ppbV	1	11/27/2013 6:01:00 AM
1,3-butadiene	< 0.15	0.15		ppbV	1	11/27/2013 6:01:00 AM
1,3-Dichlorobenzene	< 0.15	0.15		ppbV	1	11/27/2013 6:01:00 AM
1,4-Dichlorobenzene	< 0.15	0.15		ppbV	1	11/27/2013 6:01:00 AM
1,4-Dioxane	< 0.30	0.30		ppbV	1	11/27/2013 6:01:00 AM
2,2,4-trimethylpentane	2.6	1.5		ppbV	10	11/28/2013 2:44:00 AM
4-ethyltoluene	0.64	0.15		ppbV	1	11/27/2013 6:01:00 AM
Acetone	52	12		ppbV	40	11/28/2013 3:18:00 AM
Allyl chloride	< 0.15	0.15		ppbV	1	11/27/2013 6:01:00 AM
Benzene	1.4	0.15		ppbV	1	11/27/2013 6:01:00 AM
Benzyl chloride	< 0.15	0.15		ppbV	1	11/27/2013 6:01:00 AM
Bromodichloromethane	< 0.15	0.15		ppbV	1	11/27/2013 6:01:00 AM
Bromoform	< 0.15	0.15		ppbV	1	11/27/2013 6:01:00 AM
Bromomethane	< 0.15	0.15		ppbV	1	11/27/2013 6:01:00 AM
Carbon disulfide	< 0.15	0.15		ppbV	1	11/27/2013 6:01:00 AM
Carbon tetrachloride	< 0.15	0.15		ppbV	1	11/27/2013 6:01:00 AM
Chlorobenzene	< 0.15	0.15		ppbV	1	11/27/2013 6:01:00 AM
Chloroethane	< 0.15	0.15		ppbV	1	11/27/2013 6:01:00 AM
Chloroform	< 0.15	0.15		ppbV	1	11/27/2013 6:01:00 AM
Chloromethane	0.38	0.15		ppbV	1	11/27/2013 6:01:00 AM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	11/27/2013 6:01:00 AM
cis-1,3-Dichloropropene	< 0.15	0.15		ppbV	1	11/27/2013 6:01:00 AM
Cyclohexane	2.6	1.5		ppbV	10	11/28/2013 2:44:00 AM
Dibromochloromethane	< 0.15	0.15		ppbV	1	11/27/2013 6:01:00 AM
Ethyl acetate	< 0.25	0.25		ppbV	1	11/27/2013 6:01:00 AM

Qualifiers:

**	Reporting Limit	.	Results reported are not blank corrected
B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: *11-Dec-13*

CLIENT:	HDR Engineering	**Client Sample ID:**	303-E-SSD
Lab Order:	C1311058	**Tag Number:**	406,436
Project:	Aluminum Louvre	**Collection Date:**	11/18/2013
Lab ID:	C1311058-006A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15		TO-15				Analyst: RJP
Ethylbenzene	2.8	1.5		ppbV	10	11/28/2013 2:44:00 AM
Freon 11	0.27	0.15		ppbV	1	11/27/2013 6:01:00 AM
Freon 113	< 0.15	0.15		ppbV	1	11/27/2013 6:01:00 AM
Freon 114	< 0.15	0.15		ppbV	1	11/27/2013 6:01:00 AM
Freon 12	0.52	0.15		ppbV	1	11/27/2013 6:01:00 AM
Heptane	1.9	1.5		ppbV	10	11/28/2013 2:44:00 AM
Hexachloro-1,3-butadiene	< 0.15	0.15		ppbV	1	11/27/2013 6:01:00 AM
Hexane	2.5	1.5		ppbV	10	11/28/2013 2:44:00 AM
Isopropyl alcohol	< 0.15	0.15		ppbV	1	11/27/2013 6:01:00 AM
m&p-Xylene	9.4	3.0		ppbV	10	11/28/2013 2:44:00 AM
Methyl Butyl Ketone	< 0.30	0.30		ppbV	1	11/27/2013 6:01:00 AM
Methyl Ethyl Ketone	1.1	0.30		ppbV	1	11/27/2013 6:01:00 AM
Methyl Isobutyl Ketone	< 0.30	0.30		ppbV	1	11/27/2013 6:01:00 AM
Methyl tert-butyl ether	< 0.15	0.15		ppbV	1	11/27/2013 6:01:00 AM
Methylene chloride	0.31	0.15		ppbV	1	11/27/2013 6:01:00 AM
o-Xylene	2.3	1.5		ppbV	10	11/28/2013 2:44:00 AM
Propylene	< 0.15	0.15		ppbV	1	11/27/2013 6:01:00 AM
Styrene	< 0.15	0.15		ppbV	1	11/27/2013 6:01:00 AM
Tetrachloroethylene	8.4	1.5		ppbV	10	11/28/2013 2:44:00 AM
Tetrahydrofuran	< 0.15	0.15		ppbV	1	11/27/2013 6:01:00 AM
Toluene	14	6.0		ppbV	40	11/28/2013 3:18:00 AM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	11/27/2013 6:01:00 AM
trans-1,3-Dichloropropene	< 0.15	0.15		ppbV	1	11/27/2013 6:01:00 AM
Trichloroethene	3.4	1.5		ppbV	10	11/28/2013 2:44:00 AM
Vinyl acetate	< 0.15	0.15		ppbV	1	11/27/2013 6:01:00 AM
Vinyl Bromide	< 0.15	0.15		ppbV	1	11/27/2013 6:01:00 AM
Vinyl chloride	< 0.15	0.15		ppbV	1	11/27/2013 6:01:00 AM
Surr: Bromofluorobenzene	109	70-130		%REC	1	11/27/2013 6:01:00 AM

Qualifiers:

**	Reporting Limit	.	Results reported are not blank corrected
B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: *11-Dec-13*

CLIENT:	HDR Engineering	**Client Sample ID:**	303-E-SSD
Lab Order:	C1311058	**Tag Number:**	406,436
Project:	Aluminum Louvre	**Collection Date:**	11/18/2013
Lab ID:	C1311058-006A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15		TO-15				Analyst: RJP
1,1,1-Trichloroethane	1.3	0.83		ug/m3	1	11/27/2013 6:01:00 AM
1,1,2,2-Tetrachloroethane	< 1.0	1.0		ug/m3	1	11/27/2013 6:01:00 AM
1,1,2-Trichloroethane	< 0.83	0.83		ug/m3	1	11/27/2013 6:01:00 AM
1,1-Dichloroethane	< 0.62	0.62		ug/m3	1	11/27/2013 6:01:00 AM
1,1-Dichloroethene	< 0.60	0.60		ug/m3	1	11/27/2013 6:01:00 AM
1,2,4-Trichlorobenzene	< 1.1	1.1		ug/m3	1	11/27/2013 6:01:00 AM
1,2,4-Trimethylbenzene	15	0.75		ug/m3	1	11/27/2013 6:01:00 AM
1,2-Dibromoethane	< 1.2	1.2		ug/m3	1	11/27/2013 6:01:00 AM
1,2-Dichlorobenzene	< 0.92	0.92		ug/m3	1	11/27/2013 6:01:00 AM
1,2-Dichloroethane	< 0.62	0.62		ug/m3	1	11/27/2013 6:01:00 AM
1,2-Dichloropropane	< 0.70	0.70		ug/m3	1	11/27/2013 6:01:00 AM
1,3,5-Trimethylbenzene	2.5	0.75		ug/m3	1	11/27/2013 6:01:00 AM
1,3-butadiene	< 0.34	0.34		ug/m3	1	11/27/2013 6:01:00 AM
1,3-Dichlorobenzene	< 0.92	0.92		ug/m3	1	11/27/2013 6:01:00 AM
1,4-Dichlorobenzene	< 0.92	0.92		ug/m3	1	11/27/2013 6:01:00 AM
1,4-Dioxane	< 1.1	1.1		ug/m3	1	11/27/2013 6:01:00 AM
2,2,4-trimethylpentane	12	7.1		ug/m3	10	11/28/2013 2:44:00 AM
4-ethyltoluene	3.2	0.75		ug/m3	1	11/27/2013 6:01:00 AM
Acetone	130	29		ug/m3	40	11/28/2013 3:18:00 AM
Allyl chloride	< 0.48	0.48		ug/m3	1	11/27/2013 6:01:00 AM
Benzene	4.4	0.49		ug/m3	1	11/27/2013 6:01:00 AM
Benzyl chloride	< 0.88	0.88		ug/m3	1	11/27/2013 6:01:00 AM
Bromodichloromethane	< 1.0	1.0		ug/m3	1	11/27/2013 6:01:00 AM
Bromoform	< 1.6	1.6		ug/m3	1	11/27/2013 6:01:00 AM
Bromomethane	< 0.59	0.59		ug/m3	1	11/27/2013 6:01:00 AM
Carbon disulfide	< 0.47	0.47		ug/m3	1	11/27/2013 6:01:00 AM
Carbon tetrachloride	< 0.96	0.96		ug/m3	1	11/27/2013 6:01:00 AM
Chlorobenzene	< 0.70	0.70		ug/m3	1	11/27/2013 6:01:00 AM
Chloroethane	< 0.40	0.40		ug/m3	1	11/27/2013 6:01:00 AM
Chloroform	< 0.74	0.74		ug/m3	1	11/27/2013 6:01:00 AM
Chloromethane	0.80	0.31		ug/m3	1	11/27/2013 6:01:00 AM
cis-1,2-Dichloroethene	< 0.60	0.60		ug/m3	1	11/27/2013 6:01:00 AM
cis-1,3-Dichloropropene	< 0.69	0.69		ug/m3	1	11/27/2013 6:01:00 AM
Cyclohexane	9.1	5.2		ug/m3	10	11/28/2013 2:44:00 AM
Dibromochloromethane	< 1.3	1.3		ug/m3	1	11/27/2013 6:01:00 AM
Ethyl acetate	< 0.92	0.92		ug/m3	1	11/27/2013 6:01:00 AM
Ethylbenzene	12	6.6		ug/m3	10	11/28/2013 2:44:00 AM
Freon 11	1.5	0.86		ug/m3	1	11/27/2013 6:01:00 AM
Freon 113	< 1.2	1.2		ug/m3	1	11/27/2013 6:01:00 AM
Freon 114	< 1.1	1.1		ug/m3	1	11/27/2013 6:01:00 AM

Qualifiers:

**	Reporting Limit	.	Results reported are not blank corrected
B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: *11-Dec-13*

CLIENT:	HDR Engineering	**Client Sample ID:**	303-E-SSD
Lab Order:	C1311058	**Tag Number:**	406,436
Project:	Aluminum Louvre	**Collection Date:**	11/18/2013
Lab ID:	C1311058-006A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15		**TO-15**				Analyst: **RJP**
Freon 12	2.6	0.75		ug/m3	1	11/27/2013 6:01:00 AM
Heptane	7.9	6.2		ug/m3	10	11/28/2013 2:44:00 AM
Hexachloro-1,3-butadiene	< 1.6	1.6		ug/m3	1	11/27/2013 6:01:00 AM
Hexane	9.0	5.4		ug/m3	10	11/28/2013 2:44:00 AM
Isopropyl alcohol	< 0.37	0.37		ug/m3	1	11/27/2013 6:01:00 AM
m&p-Xylene	41	13		ug/m3	10	11/28/2013 2:44:00 AM
Methyl Butyl Ketone	< 1.2	1.2		ug/m3	1	11/27/2013 6:01:00 AM
Methyl Ethyl Ketone	3.2	0.90		ug/m3	1	11/27/2013 6:01:00 AM
Methyl Isobutyl Ketone	< 1.2	1.2		ug/m3	1	11/27/2013 6:01:00 AM
Methyl tert-butyl ether	< 0.55	0.55		ug/m3	1	11/27/2013 6:01:00 AM
Methylene chloride	1.1	0.53		ug/m3	1	11/27/2013 6:01:00 AM
o-Xylene	10	6.6		ug/m3	10	11/28/2013 2:44:00 AM
Propylene	< 0.26	0.26		ug/m3	1	11/27/2013 6:01:00 AM
Styrene	< 0.65	0.65		ug/m3	1	11/27/2013 6:01:00 AM
Tetrachloroethylene	58	10		ug/m3	10	11/28/2013 2:44:00 AM
Tetrahydrofuran	< 0.45	0.45		ug/m3	1	11/27/2013 6:01:00 AM
Toluene	54	23		ug/m3	40	11/28/2013 3:18:00 AM
trans-1,2-Dichloroethene	< 0.60	0.60		ug/m3	1	11/27/2013 6:01:00 AM
trans-1,3-Dichloropropene	< 0.69	0.69		ug/m3	1	11/27/2013 6:01:00 AM
Trichloroethene	19	8.2		ug/m3	10	11/28/2013 2:44:00 AM
Vinyl acetate	< 0.54	0.54		ug/m3	1	11/27/2013 6:01:00 AM
Vinyl Bromide	< 0.67	0.67		ug/m3	1	11/27/2013 6:01:00 AM
Vinyl chloride	< 0.39	0.39		ug/m3	1	11/27/2013 6:01:00 AM

Qualifiers:

**	Reporting Limit	.	Results reported are not blank corrected
B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: *11-Dec-13*

CLIENT:	HDR Engineering	**Client Sample ID:**	303-W-IA
Lab Order:	C1311058	**Tag Number:**	171,455
Project:	Aluminum Louvre	**Collection Date:**	11/18/2013
Lab ID:	C1311058-007A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS		FLD				Analyst:
Lab Vacuum In	-1			"Hg		11/20/2013
Lab Vacuum Out	-30			"Hg		11/20/2013
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		TO-15				Analyst: RJP
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	11/27/2013 2:43:00 AM
1,1,2,2-Tetrachloroethane	< 0.15	0.15		ppbV	1	11/27/2013 2:43:00 AM
1,1,2-Trichloroethane	< 0.15	0.15		ppbV	1	11/27/2013 2:43:00 AM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	11/27/2013 2:43:00 AM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	11/27/2013 2:43:00 AM
1,2,4-Trichlorobenzene	< 0.15	0.15		ppbV	1	11/27/2013 2:43:00 AM
1,2,4-Trimethylbenzene	0.15	0.15		ppbV	1	11/27/2013 2:43:00 AM
1,2-Dibromoethane	< 0.15	0.15		ppbV	1	11/27/2013 2:43:00 AM
1,2-Dichlorobenzene	< 0.15	0.15		ppbV	1	11/27/2013 2:43:00 AM
1,2-Dichloroethane	< 0.15	0.15		ppbV	1	11/27/2013 2:43:00 AM
1,2-Dichloropropane	< 0.15	0.15		ppbV	1	11/27/2013 2:43:00 AM
1,3,5-Trimethylbenzene	< 0.15	0.15		ppbV	1	11/27/2013 2:43:00 AM
1,3-butadiene	< 0.15	0.15		ppbV	1	11/27/2013 2:43:00 AM
1,3-Dichlorobenzene	< 0.15	0.15		ppbV	1	11/27/2013 2:43:00 AM
1,4-Dichlorobenzene	< 0.15	0.15		ppbV	1	11/27/2013 2:43:00 AM
1,4-Dioxane	< 0.30	0.30		ppbV	1	11/27/2013 2:43:00 AM
2,2,4-trimethylpentane	0.29	0.15		ppbV	1	11/27/2013 2:43:00 AM
4-ethyltoluene	< 0.15	0.15		ppbV	1	11/27/2013 2:43:00 AM
Acetone	6.0	3.0		ppbV	10	11/27/2013 9:53:00 PM
Allyl chloride	< 0.15	0.15		ppbV	1	11/27/2013 2:43:00 AM
Benzene	0.30	0.15		ppbV	1	11/27/2013 2:43:00 AM
Benzyl chloride	< 0.15	0.15		ppbV	1	11/27/2013 2:43:00 AM
Bromodichloromethane	< 0.15	0.15		ppbV	1	11/27/2013 2:43:00 AM
Bromoform	< 0.15	0.15		ppbV	1	11/27/2013 2:43:00 AM
Bromomethane	< 0.15	0.15		ppbV	1	11/27/2013 2:43:00 AM
Carbon disulfide	< 0.15	0.15		ppbV	1	11/27/2013 2:43:00 AM
Carbon tetrachloride	0.10	0.040		ppbV	1	11/27/2013 2:43:00 AM
Chlorobenzene	< 0.15	0.15		ppbV	1	11/27/2013 2:43:00 AM
Chloroethane	< 0.15	0.15		ppbV	1	11/27/2013 2:43:00 AM
Chloroform	< 0.15	0.15		ppbV	1	11/27/2013 2:43:00 AM
Chloromethane	0.42	0.15		ppbV	1	11/27/2013 2:43:00 AM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	11/27/2013 2:43:00 AM
cis-1,3-Dichloropropene	< 0.15	0.15		ppbV	1	11/27/2013 2:43:00 AM
Cyclohexane	< 0.15	0.15		ppbV	1	11/27/2013 2:43:00 AM
Dibromochloromethane	< 0.15	0.15		ppbV	1	11/27/2013 2:43:00 AM
Ethyl acetate	0.12	0.25	J	ppbV	1	11/27/2013 2:43:00 AM

Qualifiers:

**	Reporting Limit	.	Results reported are not blank corrected
B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: *11-Dec-13*

CLIENT:	HDR Engineering	**Client Sample ID:**	303-W-IA
Lab Order:	C1311058	**Tag Number:**	171,455
Project:	Aluminum Louvre	**Collection Date:**	11/18/2013
Lab ID:	C1311058-007A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		**TO-15**				Analyst: RJP
Ethylbenzene	0.21	0.15		ppbV	1	11/27/2013 2:43:00 AM
Freon 11	0.21	0.15		ppbV	1	11/27/2013 2:43:00 AM
Freon 113	< 0.15	0.15		ppbV	1	11/27/2013 2:43:00 AM
Freon 114	< 0.15	0.15		ppbV	1	11/27/2013 2:43:00 AM
Freon 12	0.53	0.15		ppbV	1	11/27/2013 2:43:00 AM
Heptane	0.64	0.15		ppbV	1	11/27/2013 2:43:00 AM
Hexachloro-1,3-butadiene	< 0.15	0.15		ppbV	1	11/27/2013 2:43:00 AM
Hexane	0.73	0.15		ppbV	1	11/27/2013 2:43:00 AM
Isopropyl alcohol	< 0.15	0.15		ppbV	1	11/27/2013 2:43:00 AM
m&p-Xylene	0.49	0.30		ppbV	1	11/27/2013 2:43:00 AM
Methyl Butyl Ketone	< 0.30	0.30		ppbV	1	11/27/2013 2:43:00 AM
Methyl Ethyl Ketone	0.54	0.30		ppbV	1	11/27/2013 2:43:00 AM
Methyl Isobutyl Ketone	< 0.30	0.30		ppbV	1	11/27/2013 2:43:00 AM
Methyl tert-butyl ether	< 0.15	0.15		ppbV	1	11/27/2013 2:43:00 AM
Methylene chloride	0.25	0.15		ppbV	1	11/27/2013 2:43:00 AM
o-Xylene	0.14	0.15	J	ppbV	1	11/27/2013 2:43:00 AM
Propylene	< 0.15	0.15		ppbV	1	11/27/2013 2:43:00 AM
Styrene	0.13	0.15	J	ppbV	1	11/27/2013 2:43:00 AM
Tetrachloroethylene	0.10	0.15	J	ppbV	1	11/27/2013 2:43:00 AM
Tetrahydrofuran	< 0.15	0.15		ppbV	1	11/27/2013 2:43:00 AM
Toluene	1.6	0.15		ppbV	1	11/27/2013 2:43:00 AM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	11/27/2013 2:43:00 AM
trans-1,3-Dichloropropene	< 0.15	0.15		ppbV	1	11/27/2013 2:43:00 AM
Trichloroethene	0.14	0.040		ppbV	1	11/27/2013 2:43:00 AM
Vinyl acetate	< 0.15	0.15		ppbV	1	11/27/2013 2:43:00 AM
Vinyl Bromide	< 0.15	0.15		ppbV	1	11/27/2013 2:43:00 AM
Vinyl chloride	< 0.040	0.040		ppbV	1	11/27/2013 2:43:00 AM
Surr: Bromofluorobenzene	83.0	70-130		%REC	1	11/27/2013 2:43:00 AM

Qualifiers:

**	Reporting Limit	.	Results reported are not blank corrected
B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: *11-Dec-13*

CLIENT:	HDR Engineering	**Client Sample ID:**	303-W-IA
Lab Order:	C1311058	**Tag Number:**	171,455
Project:	Aluminum Louvre	**Collection Date:**	11/18/2013
Lab ID:	C1311058-007A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		**TO-15**				Analyst: **RJP**
1,1,1-Trichloroethane	< 0.83	0.83		ug/m3	1	11/27/2013 2:43:00 AM
1,1,2,2-Tetrachloroethane	< 1.0	1.0		ug/m3	1	11/27/2013 2:43:00 AM
1,1,2-Trichloroethane	< 0.83	0.83		ug/m3	1	11/27/2013 2:43:00 AM
1,1-Dichloroethane	< 0.62	0.62		ug/m3	1	11/27/2013 2:43:00 AM
1,1-Dichloroethene	< 0.60	0.60		ug/m3	1	11/27/2013 2:43:00 AM
1,2,4-Trichlorobenzene	< 1.1	1.1		ug/m3	1	11/27/2013 2:43:00 AM
1,2,4-Trimethylbenzene	0.75	0.75		ug/m3	1	11/27/2013 2:43:00 AM
1,2-Dibromoethane	< 1.2	1.2		ug/m3	1	11/27/2013 2:43:00 AM
1,2-Dichlorobenzene	< 0.92	0.92		ug/m3	1	11/27/2013 2:43:00 AM
1,2-Dichloroethane	< 0.62	0.62		ug/m3	1	11/27/2013 2:43:00 AM
1,2-Dichloropropane	< 0.70	0.70		ug/m3	1	11/27/2013 2:43:00 AM
1,3,5-Trimethylbenzene	< 0.75	0.75		ug/m3	1	11/27/2013 2:43:00 AM
1,3-butadiene	< 0.34	0.34		ug/m3	1	11/27/2013 2:43:00 AM
1,3-Dichlorobenzene	< 0.92	0.92		ug/m3	1	11/27/2013 2:43:00 AM
1,4-Dichlorobenzene	< 0.92	0.92		ug/m3	1	11/27/2013 2:43:00 AM
1,4-Dioxane	< 1.1	1.1		ug/m3	1	11/27/2013 2:43:00 AM
2,2,4-trimethylpentane	1.4	0.71		ug/m3	1	11/27/2013 2:43:00 AM
4-ethyltoluene	< 0.75	0.75		ug/m3	1	11/27/2013 2:43:00 AM
Acetone	14	7.2		ug/m3	10	11/27/2013 9:53:00 PM
Allyl chloride	< 0.48	0.48		ug/m3	1	11/27/2013 2:43:00 AM
Benzene	0.97	0.49		ug/m3	1	11/27/2013 2:43:00 AM
Benzyl chloride	< 0.88	0.88		ug/m3	1	11/27/2013 2:43:00 AM
Bromodichloromethane	< 1.0	1.0		ug/m3	1	11/27/2013 2:43:00 AM
Bromoform	< 1.6	1.6		ug/m3	1	11/27/2013 2:43:00 AM
Bromomethane	< 0.59	0.59		ug/m3	1	11/27/2013 2:43:00 AM
Carbon disulfide	< 0.47	0.47		ug/m3	1	11/27/2013 2:43:00 AM
Carbon tetrachloride	0.64	0.26		ug/m3	1	11/27/2013 2:43:00 AM
Chlorobenzene	< 0.70	0.70		ug/m3	1	11/27/2013 2:43:00 AM
Chloroethane	< 0.40	0.40		ug/m3	1	11/27/2013 2:43:00 AM
Chloroform	< 0.74	0.74		ug/m3	1	11/27/2013 2:43:00 AM
Chloromethane	0.88	0.31		ug/m3	1	11/27/2013 2:43:00 AM
cis-1,2-Dichloroethene	< 0.60	0.60		ug/m3	1	11/27/2013 2:43:00 AM
cis-1,3-Dichloropropene	< 0.69	0.69		ug/m3	1	11/27/2013 2:43:00 AM
Cyclohexane	< 0.52	0.52		ug/m3	1	11/27/2013 2:43:00 AM
Dibromochloromethane	< 1.3	1.3		ug/m3	1	11/27/2013 2:43:00 AM
Ethyl acetate	0.44	0.92	J	ug/m3	1	11/27/2013 2:43:00 AM
Ethylbenzene	0.93	0.66		ug/m3	1	11/27/2013 2:43:00 AM
Freon 11	1.2	0.86		ug/m3	1	11/27/2013 2:43:00 AM
Freon 113	< 1.2	1.2		ug/m3	1	11/27/2013 2:43:00 AM
Freon 114	< 1.1	1.1		ug/m3	1	11/27/2013 2:43:00 AM

Qualifiers:

**	Reporting Limit	.	Results reported are not blank corrected
B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: *11-Dec-13*

CLIENT:	HDR Engineering	**Client Sample ID:**	303-W-IA
Lab Order:	C1311058	**Tag Number:**	171,455
Project:	Aluminum Louvre	**Collection Date:**	11/18/2013
Lab ID:	C1311058-007A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		**TO-15**				Analyst: **RJP**
Freon 12	2.7	0.75		ug/m3	1	11/27/2013 2:43:00 AM
Heptane	2.7	0.62		ug/m3	1	11/27/2013 2:43:00 AM
Hexachloro-1,3-butadiene	< 1.6	1.6		ug/m3	1	11/27/2013 2:43:00 AM
Hexane	2.6	0.54		ug/m3	1	11/27/2013 2:43:00 AM
Isopropyl alcohol	< 0.37	0.37		ug/m3	1	11/27/2013 2:43:00 AM
m&p-Xylene	2.2	1.3		ug/m3	1	11/27/2013 2:43:00 AM
Methyl Butyl Ketone	< 1.2	1.2		ug/m3	1	11/27/2013 2:43:00 AM
Methyl Ethyl Ketone	1.6	0.90		ug/m3	1	11/27/2013 2:43:00 AM
Methyl Isobutyl Ketone	< 1.2	1.2		ug/m3	1	11/27/2013 2:43:00 AM
Methyl tert-butyl ether	< 0.55	0.55		ug/m3	1	11/27/2013 2:43:00 AM
Methylene chloride	0.88	0.53		ug/m3	1	11/27/2013 2:43:00 AM
o-Xylene	0.62	0.66	J	ug/m3	1	11/27/2013 2:43:00 AM
Propylene	< 0.26	0.26		ug/m3	1	11/27/2013 2:43:00 AM
Styrene	0.56	0.65	J	ug/m3	1	11/27/2013 2:43:00 AM
Tetrachloroethylene	0.69	1.0	J	ug/m3	1	11/27/2013 2:43:00 AM
Tetrahydrofuran	< 0.45	0.45		ug/m3	1	11/27/2013 2:43:00 AM
Toluene	6.1	0.57		ug/m3	1	11/27/2013 2:43:00 AM
trans-1,2-Dichloroethene	< 0.60	0.60		ug/m3	1	11/27/2013 2:43:00 AM
trans-1,3-Dichloropropene	< 0.69	0.69		ug/m3	1	11/27/2013 2:43:00 AM
Trichloroethene	0.76	0.22		ug/m3	1	11/27/2013 2:43:00 AM
Vinyl acetate	< 0.54	0.54		ug/m3	1	11/27/2013 2:43:00 AM
Vinyl Bromide	< 0.67	0.67		ug/m3	1	11/27/2013 2:43:00 AM
Vinyl chloride	< 0.10	0.10		ug/m3	1	11/27/2013 2:43:00 AM

Qualifiers:

**	Reporting Limit	.	Results reported are not blank corrected
B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: *11-Dec-13*

CLIENT:	HDR Engineering	**Client Sample ID:**	303-W-SS
Lab Order:	C1311058	**Tag Number:**	133,384
Project:	Aluminum Louvre	**Collection Date:**	11/18/2013
Lab ID:	C1311058-008A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS		FLD				Analyst:
Lab Vacuum In	-7			"Hg		11/20/2013
Lab Vacuum Out	-30			"Hg		11/20/2013
1UG/M3 BY METHOD TO15		TO-15				Analyst: RJP
1,1,1-Trichloroethane	21	1.5		ppbV	10	11/28/2013 3:53:00 AM
1,1,2,2-Tetrachloroethane	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
1,1,2-Trichloroethane	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
1,1-Dichloroethane	0.69	0.15		ppbV	1	11/27/2013 6:38:00 AM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
1,2,4-Trichlorobenzene	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
1,2,4-Trimethylbenzene	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
1,2-Dibromoethane	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
1,2-Dichlorobenzene	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
1,2-Dichloroethane	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
1,2-Dichloropropane	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
1,3,5-Trimethylbenzene	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
1,3-butadiene	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
1,3-Dichlorobenzene	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
1,4-Dichlorobenzene	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
1,4-Dioxane	< 0.30	0.30		ppbV	1	11/27/2013 6:38:00 AM
2,2,4-trimethylpentane	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
4-ethyltoluene	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
Acetone	8.5	3.0		ppbV	10	11/28/2013 3:53:00 AM
Allyl chloride	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
Benzene	0.26	0.15		ppbV	1	11/27/2013 6:38:00 AM
Benzyl chloride	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
Bromodichloromethane	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
Bromoform	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
Bromomethane	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
Carbon disulfide	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
Carbon tetrachloride	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
Chlorobenzene	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
Chloroethane	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
Chloroform	0.43	0.15		ppbV	1	11/27/2013 6:38:00 AM
Chloromethane	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
cis-1,2-Dichloroethene	0.51	0.15		ppbV	1	11/27/2013 6:38:00 AM
cis-1,3-Dichloropropene	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
Cyclohexane	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
Dibromochloromethane	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
Ethyl acetate	< 0.25	0.25		ppbV	1	11/27/2013 6:38:00 AM

Qualifiers:

**	Reporting Limit	.	Results reported are not blank corrected
B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: *11-Dec-13*

CLIENT:	HDR Engineering	**Client Sample ID:**	303-W-SS
Lab Order:	C1311058	**Tag Number:**	133,384
Project:	Aluminum Louvre	**Collection Date:**	11/18/2013
Lab ID:	C1311058-008A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15		TO-15				Analyst: RJP
Ethylbenzene	0.11	0.15	J	ppbV	1	11/27/2013 6:38:00 AM
Freon 11	0.32	0.15		ppbV	1	11/27/2013 6:38:00 AM
Freon 113	0.12	0.15	J	ppbV	1	11/27/2013 6:38:00 AM
Freon 114	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
Freon 12	0.57	0.15		ppbV	1	11/27/2013 6:38:00 AM
Heptane	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
Hexachloro-1,3-butadiene	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
Hexane	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
Isopropyl alcohol	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
m&p-Xylene	0.30	0.30		ppbV	1	11/27/2013 6:38:00 AM
Methyl Butyl Ketone	< 0.30	0.30		ppbV	1	11/27/2013 6:38:00 AM
Methyl Ethyl Ketone	0.85	0.30		ppbV	1	11/27/2013 6:38:00 AM
Methyl Isobutyl Ketone	< 0.30	0.30		ppbV	1	11/27/2013 6:38:00 AM
Methyl tert-butyl ether	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
Methylene chloride	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
o-Xylene	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
Propylene	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
Styrene	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
Tetrachloroethylene	70	40		ppbV	270	12/2/2013 2:44:00 PM
Tetrahydrofuran	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
Toluene	0.65	0.15		ppbV	1	11/27/2013 6:38:00 AM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
trans-1,3-Dichloropropene	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
Trichloroethene	200	40		ppbV	270	12/2/2013 2:44:00 PM
Vinyl acetate	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
Vinyl Bromide	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
Vinyl chloride	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
Surr: Bromofluorobenzene	94.0	70-130		%REC	1	11/27/2013 6:38:00 AM

Qualifiers:

**	Reporting Limit	.	Results reported are not blank corrected
B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: *11-Dec-13*

CLIENT:	HDR Engineering	**Client Sample ID:**	303-W-SS
Lab Order:	C1311058	**Tag Number:**	133,384
Project:	Aluminum Louvre	**Collection Date:**	11/18/2013
Lab ID:	C1311058-008A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15		**TO-15**				Analyst: **RJP**
1,1,1-Trichloroethane	120	8.3		ug/m3	10	11/28/2013 3:53:00 AM
1,1,2,2-Tetrachloroethane	< 1.0	1.0		ug/m3	1	11/27/2013 6:38:00 AM
1,1,2-Trichloroethane	< 0.83	0.83		ug/m3	1	11/27/2013 6:38:00 AM
1,1-Dichloroethane	2.8	0.62		ug/m3	1	11/27/2013 6:38:00 AM
1,1-Dichloroethene	< 0.60	0.60		ug/m3	1	11/27/2013 6:38:00 AM
1,2,4-Trichlorobenzene	< 1.1	1.1		ug/m3	1	11/27/2013 6:38:00 AM
1,2,4-Trimethylbenzene	< 0.75	0.75		ug/m3	1	11/27/2013 6:38:00 AM
1,2-Dibromoethane	< 1.2	1.2		ug/m3	1	11/27/2013 6:38:00 AM
1,2-Dichlorobenzene	< 0.92	0.92		ug/m3	1	11/27/2013 6:38:00 AM
1,2-Dichloroethane	< 0.62	0.62		ug/m3	1	11/27/2013 6:38:00 AM
1,2-Dichloropropane	< 0.70	0.70		ug/m3	1	11/27/2013 6:38:00 AM
1,3,5-Trimethylbenzene	< 0.75	0.75		ug/m3	1	11/27/2013 6:38:00 AM
1,3-butadiene	< 0.34	0.34		ug/m3	1	11/27/2013 6:38:00 AM
1,3-Dichlorobenzene	< 0.92	0.92		ug/m3	1	11/27/2013 6:38:00 AM
1,4-Dichlorobenzene	< 0.92	0.92		ug/m3	1	11/27/2013 6:38:00 AM
1,4-Dioxane	< 1.1	1.1		ug/m3	1	11/27/2013 6:38:00 AM
2,2,4-trimethylpentane	< 0.71	0.71		ug/m3	1	11/27/2013 6:38:00 AM
4-ethyltoluene	< 0.75	0.75		ug/m3	1	11/27/2013 6:38:00 AM
Acetone	21	7.2		ug/m3	10	11/28/2013 3:53:00 AM
Allyl chloride	< 0.48	0.48		ug/m3	1	11/27/2013 6:38:00 AM
Benzene	0.84	0.49		ug/m3	1	11/27/2013 6:38:00 AM
Benzyl chloride	< 0.88	0.88		ug/m3	1	11/27/2013 6:38:00 AM
Bromodichloromethane	< 1.0	1.0		ug/m3	1	11/27/2013 6:38:00 AM
Bromoform	< 1.6	1.6		ug/m3	1	11/27/2013 6:38:00 AM
Bromomethane	< 0.59	0.59		ug/m3	1	11/27/2013 6:38:00 AM
Carbon disulfide	< 0.47	0.47		ug/m3	1	11/27/2013 6:38:00 AM
Carbon tetrachloride	< 0.96	0.96		ug/m3	1	11/27/2013 6:38:00 AM
Chlorobenzene	< 0.70	0.70		ug/m3	1	11/27/2013 6:38:00 AM
Chloroethane	< 0.40	0.40		ug/m3	1	11/27/2013 6:38:00 AM
Chloroform	2.1	0.74		ug/m3	1	11/27/2013 6:38:00 AM
Chloromethane	< 0.31	0.31		ug/m3	1	11/27/2013 6:38:00 AM
cis-1,2-Dichloroethene	2.1	0.60		ug/m3	1	11/27/2013 6:38:00 AM
cis-1,3-Dichloropropene	< 0.69	0.69		ug/m3	1	11/27/2013 6:38:00 AM
Cyclohexane	< 0.52	0.52		ug/m3	1	11/27/2013 6:38:00 AM
Dibromochloromethane	< 1.3	1.3		ug/m3	1	11/27/2013 6:38:00 AM
Ethyl acetate	< 0.92	0.92		ug/m3	1	11/27/2013 6:38:00 AM
Ethylbenzene	0.49	0.66	J	ug/m3	1	11/27/2013 6:38:00 AM
Freon 11	1.8	0.86		ug/m3	1	11/27/2013 6:38:00 AM
Freon 113	0.93	1.2	J	ug/m3	1	11/27/2013 6:38:00 AM
Freon 114	< 1.1	1.1		ug/m3	1	11/27/2013 6:38:00 AM

Qualifiers:

**	Reporting Limit	.	Results reported are not blank corrected
B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: *11-Dec-13*

CLIENT:	HDR Engineering	**Client Sample ID:**	303-W-SS
Lab Order:	C1311058	**Tag Number:**	133,384
Project:	Aluminum Louvre	**Collection Date:**	11/18/2013
Lab ID:	C1311058-008A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15		**TO-15**				Analyst: RJP
Freon 12	2.9	0.75		ug/m3	1	11/27/2013 6:38:00 AM
Heptane	< 0.62	0.62		ug/m3	1	11/27/2013 6:38:00 AM
Hexachloro-1,3-butadiene	< 1.6	1.6		ug/m3	1	11/27/2013 6:38:00 AM
Hexane	< 0.54	0.54		ug/m3	1	11/27/2013 6:38:00 AM
Isopropyl alcohol	< 0.37	0.37		ug/m3	1	11/27/2013 6:38:00 AM
m&p-Xylene	1.3	1.3		ug/m3	1	11/27/2013 6:38:00 AM
Methyl Butyl Ketone	< 1.2	1.2		ug/m3	1	11/27/2013 6:38:00 AM
Methyl Ethyl Ketone	2.5	0.90		ug/m3	1	11/27/2013 6:38:00 AM
Methyl Isobutyl Ketone	< 1.2	1.2		ug/m3	1	11/27/2013 6:38:00 AM
Methyl tert-butyl ether	< 0.55	0.55		ug/m3	1	11/27/2013 6:38:00 AM
Methylene chloride	< 0.53	0.53		ug/m3	1	11/27/2013 6:38:00 AM
o-Xylene	< 0.66	0.66		ug/m3	1	11/27/2013 6:38:00 AM
Propylene	< 0.26	0.26		ug/m3	1	11/27/2013 6:38:00 AM
Styrene	< 0.65	0.65		ug/m3	1	11/27/2013 6:38:00 AM
Tetrachloroethylene	480	280		ug/m3	270	12/2/2013 2:44:00 PM
Tetrahydrofuran	< 0.45	0.45		ug/m3	1	11/27/2013 6:38:00 AM
Toluene	2.5	0.57		ug/m3	1	11/27/2013 6:38:00 AM
trans-1,2-Dichloroethene	< 0.60	0.60		ug/m3	1	11/27/2013 6:38:00 AM
trans-1,3-Dichloropropene	< 0.69	0.69		ug/m3	1	11/27/2013 6:38:00 AM
Trichloroethene	1100	220		ug/m3	270	12/2/2013 2:44:00 PM
Vinyl acetate	< 0.54	0.54		ug/m3	1	11/27/2013 6:38:00 AM
Vinyl Bromide	< 0.67	0.67		ug/m3	1	11/27/2013 6:38:00 AM
Vinyl chloride	< 0.39	0.39		ug/m3	1	11/27/2013 6:38:00 AM

Qualifiers:

**	Reporting Limit	.	Results reported are not blank corrected
B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

QUALITY CONTROL SUMMARY

Date: 11-Dec-13

CENTEK LABORATORIES, LLC

QC SUMMARY REPORT
SURROGATE RECOVERIES

CLIENT: HDR Engineering
Work Order: C1311058
Project: Aluminum Louvre
Test No: TO-15 **Matrix:** A

Sample ID	BR4FBZ							
ALCS1UG-112613	109							
ALCS1UG-112713	106							
ALCS1UG-120213	107							
ALCS1UGD-112613	105							
AMB1UG-112613	78.0							
AMB1UG-112713	76.0							
AMB1UG-120213	73.0							
C1311058-001A	89.0							
C1311058-002A	93.0							
C1311058-002A MS	114							
C1311058-002A MSD	113							
C1311058-003A	84.0							
C1311058-004A	106							
C1311058-005A	106							
C1311058-006A	109							
C1311058-007A	83.0							
C1311058-008A	94.0							

Acronym		Surrogate	QC Limits
BR4FBZ	=	Bromofluorobenzene	70-130

*** Surrogate recovery outside acceptance limits**

1

GC/MS QA-QC Check Report

Tune File : C:\HPCHEM\1\DATA\AK112602.D
Tune Time : 26 Nov 2013 10:09 am

Daily Calibration File : C:\HPCHEM\1\DATA\AK112602.D

			(BFB)	(IS1)	(IS2)	(IS3)
				22561	54518	62684
File	Sample	DL	Surrogate Recovery %	Internal Standard Responses		
AK112603.D	ALCS1UG-112613		109	22419	55637	62116
AK112604.D	AMB1UG-112613		78	20232	46294	45340
AK112624.D	ALCS1UGD-112613		105	23080	54158	61881
AK112625.D	C1311058-001A		89	20445	48700	54290
AK112626.D	C1311058-003A		84	21607	52036	53752
AK112627.D	C1311058-004A		106	25493	81331*	110679*
AK112628.D	C1311058-007A		83	23471	63182	71713
AK112632.D	C1311058-005A		106	23487	64932	82979
AK112633.D	C1311058-006A		109	24749	69683	89821*
AK112634.D	C1311058-008A		94	19561	43996	58276

t - fails 24hr time check * - fails criteria

Created: Wed Dec 11 13:38:32 2013 MSD #1/

GC/MS QA-QC Check Report

Tune File : C:\HPCHEM\1\DATA\AK112702.D
Tune Time : 27 Nov 2013 9:44 am

Daily Calibration File : C:\HPCHEM\1\DATA\AK112702.D

			(BFB)	(IS1)	(IS2)	(IS3)
				22078	54236	61088
File	Sample	DL	Surrogate Recovery %	Internal Standard Responses		
AK112703.D	ALCS1UG-112713		106	21068	49960	58705
AK112704.D	AMB1UG-112713		76	20094	47144	44468
AK112717.D	C1311058-001A	10X	73	18988	43002	44007
AK112718.D	C1311058-003A	10X	73	18936	42920	42890
AK112719.D	C1311058-004A	10X	91	19792	52528	60994
AK112720.D	C1311058-004A	40X	75	18626	44937	45092
AK112721.D	C1311058-007A	10X	76	18867	43088	44211
AK112722.D	ALCS1UGD-112713		105	19590	46844	53270
AK112723.D	C1311058-002A		93	21214	47554	54146
AK112724.D	C1311058-002A	10X	84	18798	40385	37954
AK112725.D	C1311058-002A MS		114	20617	50873	59720
AK112726.D	C1311058-002A MSD		113	20559	51113	59975
AK112727.D	C1311058-005A	10X	78	19573	47462	50677
AK112728.D	C1311058-005A	40X	80	18227	42644	41566
AK112729.D	C1311058-006A	10X	75	18834	45262	47902
AK112730.D	C1311058-006A	40X	77	18077	42960	41605
AK112731.D	C1311058-008A	10X	77	18936	45390	43721
AK112732.D	C1311058-008A	40X	78	18564	42730	39597

t - fails 24hr time check * - fails criteria

Created: Wed Dec 11 13:40:26 2013 MSD #1/

GC/MS QA-QC Check Report

Tune File : C:\HPCHEM\1\DATA\AK120203.D
Tune Time : 2 Dec 2013 9:21 am

Daily Calibration File : C:\HPCHEM\1\DATA\AK120203.D

			(BFB)	(IS1)	(IS2)	(IS3)
				19337	49520	52759
File	Sample	DL	Surrogate Recovery %	Internal Standard Responses		
AK120204.D	AMB1UG-120213		73	18031	40525	40133
AK120205.D	ALCS1UG-120213		107	19451	45486	52371
AK120206.D	C1311058-008A 270X		80	19418	44919	44298
AK120222.D	ALCS1UGD-120213		104	19002	47768	52813

t - fails 24hr time check * - fails criteria

Created: Wed Dec 11 13:42:08 2013 MSD #1/

Date: *11-Dec-13*

CENTEK LABORATORIES, LLC

ANALYTICAL QC SUMMARY REPORT

CLIENT: HDR Engineering
Work Order: C1311058
Project: Aluminum Louvre

TestCode: 0.25CT-TCE-VC

Sample ID ALCS1UG-112613	SampType: LCS	TestCode: 0.25CT-TCE-	Units: ppbV	Prep Date:	RunNo: 7723
Client ID: ZZZZZ	Batch ID: R7723	TestNo: TO-15		Analysis Date: 11/26/2013	SeqNo: 91603

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	1.260	0.15	1	0	126	70	130				
1,1,2,2-Tetrachloroethane	1.180	0.15	1	0	118	70	130				
1,1,2-Trichloroethane	1.290	0.15	1	0	129	70	130				
1,1-Dichloroethane	0.9900	0.15	1	0	99.0	70	130				
1,1-Dichloroethene	0.8000	0.15	1	0	80.0	70	130				
1,2,4-Trichlorobenzene	0.8800	0.15	1	0	88.0	70	130				
1,2,4-Trimethylbenzene	0.8500	0.15	1	0	85.0	70	130				
1,2-Dibromoethane	1.110	0.15	1	0	111	70	130				
1,2-Dichlorobenzene	0.9300	0.15	1	0	93.0	70	130				
1,2-Dichloroethane	0.9800	0.15	1	0	98.0	70	130				
1,2-Dichloropropane	1.230	0.15	1	0	123	70	130				
1,3,5-Trimethylbenzene	1.010	0.15	1	0	101	70	130				
1,3-butadiene	0.8500	0.15	1	0	85.0	70	130				
1,3-Dichlorobenzene	1.080	0.15	1	0	108	70	130				
1,4-Dichlorobenzene	1.010	0.15	1	0	101	70	130				
1,4-Dioxane	1.160	0.30	1	0	116	70	130				
2,2,4-trimethylpentane	1.060	0.15	1	0	106	70	130				
4-ethyltoluene	1.030	0.15	1	0	103	70	130				
Acetone	0.9700	0.30	1	0	97.0	70	130				
Allyl chloride	0.8200	0.15	1	0	82.0	70	130				
Benzene	1.150	0.15	1	0	115	70	130				
Benzyl chloride	1.080	0.15	1	0	108	70	130				
Bromodichloromethane	1.200	0.15	1	0	120	70	130				
Bromoform	1.130	0.15	1	0	113	70	130				
Bromomethane	0.8800	0.15	1	0	88.0	70	130				

Qualifiers:

.	Results reported are not blank corrected	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected at or below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike Recovery outside accepted recovery limits				

CLIENT: HDR Engineering
Work Order: C1311058
Project: Aluminum Louvre

TestCode: 0.25CT-TCE-VC

Sample ID ALCS1UG-112613	SampType: LCS	TestCode: 0.25CT-TCE-	Units: ppbV	Prep Date:	RunNo: 7723
Client ID: ZZZZZ	Batch ID: R7723	TestNo: TO-15		Analysis Date: 11/26/2013	SeqNo: 91603

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Carbon disulfide	0.7700	0.15	1	0	77.0	70	130				
Carbon tetrachloride	1.240	0.040	1	0	124	70	130				
Chlorobenzene	1.060	0.15	1	0	106	70	130				
Chloroethane	0.8300	0.15	1	0	83.0	70	130				
Chloroform	1.050	0.15	1	0	105	70	130				
Chloromethane	0.9500	0.15	1	0	95.0	70	130				
cis-1,2-Dichloroethene	0.8500	0.15	1	0	85.0	70	130				
cis-1,3-Dichloropropene	1.090	0.15	1	0	109	70	130				
Cyclohexane	1.030	0.15	1	0	103	70	130				
Dibromochloromethane	1.150	0.15	1	0	115	70	130				
Ethyl acetate	0.9100	0.25	1	0	91.0	70	130				
Ethylbenzene	0.9500	0.15	1	0	95.0	70	130				
Freon 11	1.010	0.15	1	0	101	70	130				
Freon 113	0.8900	0.15	1	0	89.0	70	130				
Freon 114	1.050	0.15	1	0	105	70	130				
Freon 12	1.140	0.15	1	0	114	70	130				
Heptane	1.020	0.15	1	0	102	70	130				
Hexachloro-1,3-butadiene	1.200	0.15	1	0	120	70	130				
Hexane	0.7500	0.15	1	0	75.0	70	130				
Isopropyl alcohol	0.8300	0.15	1	0	83.0	70	130				
m&p-Xylene	2.030	0.30	2	0	102	70	130				
Methyl Butyl Ketone	0.9000	0.30	1	0	90.0	70	130				
Methyl Ethyl Ketone	0.8800	0.30	1	0	88.0	70	130				
Methyl Isobutyl Ketone	0.9500	0.30	1	0	95.0	70	130				
Methyl tert-butyl ether	0.8000	0.15	1	0	80.0	70	130				
Methylene chloride	0.8300	0.15	1	0	83.0	70	130				
o-Xylene	1.160	0.15	1	0	116	70	130				
Propylene	1.000	0.15	1	0	100	70	130				
Styrene	1.130	0.15	1	0	113	70	130				
Tetrachloroethylene	1.110	0.15	1	0	111	70	130				
Tetrahydrofuran	0.8400	0.15	1	0	84.0	70	130				

Qualifiers:
. Results reported are not blank corrected
J Analyte detected at or below quantitation limits
S Spike Recovery outside accepted recovery limits
E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits

CLIENT: HDR Engineering
Work Order: C1311058
Project: Aluminum Louvre

TestCode: 0.25CT-TCE-VC

Sample ID ALCS1UG-112613	SampType: LCS	TestCode: 0.25CT-TCE-	Units: ppbV	Prep Date:	RunNo: 7723
Client ID: ZZZZZ	Batch ID: R7723	TestNo: TO-15		Analysis Date: 11/26/2013	SeqNo: 91603

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Toluene	1.000	0.15	1	0	100	70	130				
trans-1,2-Dichloroethene	1.110	0.15	1	0	111	70	130				
trans-1,3-Dichloropropene	1.030	0.15	1	0	103	70	130				
Trichloroethene	1.210	0.040	1	0	121	70	130				
Vinyl acetate	0.8100	0.15	1	0	81.0	70	130				
Vinyl Bromide	0.8200	0.15	1	0	82.0	70	130				
Vinyl chloride	0.8900	0.040	1	0	89.0	70	130				

Sample ID ALCS1UG-112713	SampType: LCS	TestCode: 0.25CT-TCE-	Units: ppbV	Prep Date:	RunNo: 7724
Client ID: ZZZZZ	Batch ID: R7724	TestNo: TO-15		Analysis Date: 11/27/2013	SeqNo: 91613

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	1.330	0.15	1	0	133	70	130				S
1,1,2,2-Tetrachloroethane	1.150	0.15	1	0	115	70	130				
1,1,2-Trichloroethane	1.370	0.15	1	0	137	70	130				S
1,1-Dichloroethane	1.020	0.15	1	0	102	70	130				
1,1-Dichloroethene	0.8000	0.15	1	0	80.0	70	130				
1,2,4-Trichlorobenzene	0.8400	0.15	1	0	84.0	70	130				
1,2,4-Trimethylbenzene	0.8100	0.15	1	0	81.0	70	130				
1,2-Dibromoethane	1.140	0.15	1	0	114	70	130				
1,2-Dichlorobenzene	0.9400	0.15	1	0	94.0	70	130				
1,2-Dichloroethane	0.9900	0.15	1	0	99.0	70	130				
1,2-Dichloropropane	1.220	0.15	1	0	122	70	130				
1,3,5-Trimethylbenzene	0.9400	0.15	1	0	94.0	70	130				
1,3-butadiene	0.9200	0.15	1	0	92.0	70	130				
1,3-Dichlorobenzene	1.030	0.15	1	0	103	70	130				
1,4-Dichlorobenzene	0.9400	0.15	1	0	94.0	70	130				
1,4-Dioxane	1.140	0.30	1	0	114	70	130				
2,2,4-trimethylpentane	1.110	0.15	1	0	111	70	130				
4-ethyltoluene	0.9000	0.15	1	0	90.0	70	130				

Qualifiers:

.	Results reported are not blank corrected	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected at or below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike Recovery outside accepted recovery limits				

CLIENT: HDR Engineering
Work Order: C1311058
Project: Aluminum Louvre

TestCode: 0.25CT-TCE-VC

Sample ID ALCS1UG-112713	SampType: LCS	TestCode: 0.25CT-TCE-	Units: ppbV	Prep Date:	RunNo: 7724
Client ID: ZZZZZ	Batch ID: R7724	TestNo: TO-15		Analysis Date: 11/27/2013	SeqNo: 91613

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acetone	0.9400	0.30	1	0	94.0	70	130				
Allyl chloride	1.150	0.15	1	0	115	70	130				
Benzene	1.210	0.15	1	0	121	70	130				
Benzyl chloride	0.9800	0.15	1	0	98.0	70	130				
Bromodichloromethane	1.300	0.15	1	0	130	70	130				
Bromoform	1.080	0.15	1	0	108	70	130				
Bromomethane	0.8900	0.15	1	0	89.0	70	130				
Carbon disulfide	1.640	0.15	1	0	164	70	130				S
Carbon tetrachloride	1.470	0.040	1	0	147	70	130				S
Chlorobenzene	1.060	0.15	1	0	106	70	130				
Chloroethane	0.8100	0.15	1	0	81.0	70	130				
Chloroform	1.080	0.15	1	0	108	70	130				
Chloromethane	0.9200	0.15	1	0	92.0	70	130				
cis-1,2-Dichloroethene	0.8800	0.15	1	0	88.0	70	130				
cis-1,3-Dichloropropene	1.120	0.15	1	0	112	70	130				
Cyclohexane	1.050	0.15	1	0	105	70	130				
Dibromochloromethane	1.210	0.15	1	0	121	70	130				
Ethyl acetate	0.8300	0.25	1	0	83.0	70	130				
Ethylbenzene	0.9100	0.15	1	0	91.0	70	130				
Freon 11	1.040	0.15	1	0	104	70	130				
Freon 113	0.9300	0.15	1	0	93.0	70	130				
Freon 114	1.010	0.15	1	0	101	70	130				
Freon 12	1.160	0.15	1	0	116	70	130				
Heptane	1.090	0.15	1	0	109	70	130				
Hexachloro-1,3-butadiene	1.180	0.15	1	0	118	70	130				
Hexane	0.7400	0.15	1	0	74.0	70	130				
Isopropyl alcohol	0.7700	0.15	1	0	77.0	70	130				
m&p-Xylene	1.920	0.30	2	0	96.0	70	130				
Methyl Butyl Ketone	1.120	0.30	1	0	112	70	130				
Methyl Ethyl Ketone	0.8300	0.30	1	0	83.0	70	130				
Methyl Isobutyl Ketone	0.9700	0.30	1	0	97.0	70	130				

Qualifiers:

- . Results reported are not blank corrected
- J Analyte detected at or below quantitation limits
- S Spike Recovery outside accepted recovery limits
- E Value above quantitation range
- ND Not Detected at the Reporting Limit
- H Holding times for preparation or analysis exceeded
- R RPD outside accepted recovery limits

CLIENT: HDR Engineering
Work Order: C1311058
Project: Aluminum Louvre

TestCode: 0.25CT-TCE-VC

Sample ID ALCS1UG-112713	SampType: LCS	TestCode: 0.25CT-TCE-	Units: ppbV	Prep Date:	RunNo: 7724
Client ID: ZZZZZ	Batch ID: R7724	TestNo: TO-15		Analysis Date: 11/27/2013	SeqNo: 91613

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether	0.7500	0.15	1	0	75.0	70	130				
Methylene chloride	1.870	0.15	1	0	187	70	130				S
o-Xylene	1.140	0.15	1	0	114	70	130				
Propylene	0.9800	0.15	1	0	98.0	70	130				
Styrene	1.070	0.15	1	0	107	70	130				
Tetrachloroethylene	1.140	0.15	1	0	114	70	130				
Tetrahydrofuran	0.8300	0.15	1	0	83.0	70	130				
Toluene	0.9800	0.15	1	0	98.0	70	130				
trans-1,2-Dichloroethene	1.070	0.15	1	0	107	70	130				
trans-1,3-Dichloropropene	1.040	0.15	1	0	104	70	130				
Trichloroethene	1.230	0.040	1	0	123	70	130				
Vinyl acetate	0.7800	0.15	1	0	78.0	70	130				
Vinyl Bromide	0.8600	0.15	1	0	86.0	70	130				
Vinyl chloride	0.8400	0.040	1	0	84.0	70	130				

Qualifiers:

.	Results reported are not blank corrected	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected at or below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike Recovery outside accepted recovery limits				

CLIENT: HDR Engineering
Work Order: C1311058
Project: Aluminum Louvre

TestCode: 1ugM3_TO15

Sample ID ALCS1UG-120213	SampType: LCS	TestCode: 1ugM3_TO15	Units: ppbV	Prep Date:	RunNo: 7725
Client ID: ZZZZZ	Batch ID: R7725	TestNo: TO-15		Analysis Date: 12/2/2013	SeqNo: 91630

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	1.450	0.15	1	0	145	70	130				S
1,1,2,2-Tetrachloroethane	1.250	0.15	1	0	125	70	130				
1,1,2-Trichloroethane	1.280	0.15	1	0	128	70	130				
1,1-Dichloroethane	1.080	0.15	1	0	108	70	130				
1,1-Dichloroethene	0.8700	0.15	1	0	87.0	70	130				
1,2,4-Trichlorobenzene	0.7600	0.15	1	0	76.0	70	130				
1,2,4-Trimethylbenzene	0.9600	0.15	1	0	96.0	70	130				
1,2-Dibromoethane	1.180	0.15	1	0	118	70	130				
1,2-Dichlorobenzene	1.020	0.15	1	0	102	70	130				
1,2-Dichloroethane	1.060	0.15	1	0	106	70	130				
1,2-Dichloropropane	1.270	0.15	1	0	127	70	130				
1,3,5-Trimethylbenzene	1.260	0.15	1	0	126	70	130				
1,3-butadiene	0.9000	0.15	1	0	90.0	70	130				
1,3-Dichlorobenzene	1.150	0.15	1	0	115	70	130				
1,4-Dichlorobenzene	1.050	0.15	1	0	105	70	130				
1,4-Dioxane	1.230	0.30	1	0	123	70	130				
2,2,4-trimethylpentane	1.190	0.15	1	0	119	70	130				
4-ethyltoluene	1.090	0.15	1	0	109	70	130				
Acetone	1.010	0.30	1	0	101	70	130				
Allyl chloride	0.8200	0.15	1	0	82.0	70	130				
Benzene	1.290	0.15	1	0	129	70	130				
Benzyl chloride	1.230	0.15	1	0	123	70	130				
Bromodichloromethane	1.290	0.15	1	0	129	70	130				
Bromoform	1.050	0.15	1	0	105	70	130				
Bromomethane	0.9300	0.15	1	0	93.0	70	130				
Carbon disulfide	0.8600	0.15	1	0	86.0	70	130				
Carbon tetrachloride	1.560	0.15	1	0	156	70	130				S
Chlorobenzene	1.110	0.15	1	0	111	70	130				
Chloroethane	0.8400	0.15	1	0	84.0	70	130				
Chloroform	1.120	0.15	1	0	112	70	130				
Chloromethane	1.100	0.15	1	0	110	70	130				

Qualifiers:
. Results reported are not blank corrected
J Analyte detected at or below quantitation limits
S Spike Recovery outside accepted recovery limits
E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits

CLIENT: HDR Engineering
Work Order: C1311058
Project: Aluminum Louvre

TestCode: 1ugM3_TO15

Sample ID ALCS1UG-120213	SampType: LCS	TestCode: 1ugM3_TO15	Units: ppbV	Prep Date:	RunNo: 7725
Client ID: ZZZZZ	Batch ID: R7725	TestNo: TO-15		Analysis Date: 12/2/2013	SeqNo: 91630

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
cis-1,2-Dichloroethene	0.9400	0.15	1	0	94.0	70	130				
cis-1,3-Dichloropropene	1.250	0.15	1	0	125	70	130				
Cyclohexane	1.160	0.15	1	0	116	70	130				
Dibromochloromethane	1.250	0.15	1	0	125	70	130				
Ethyl acetate	1.010	0.25	1	0	101	70	130				
Ethylbenzene	1.010	0.15	1	0	101	70	130				
Freon 11	1.110	0.15	1	0	111	70	130				
Freon 113	0.9700	0.15	1	0	97.0	70	130				
Freon 114	1.150	0.15	1	0	115	70	130				
Freon 12	1.200	0.15	1	0	120	70	130				
Heptane	1.210	0.15	1	0	121	70	130				
Hexachloro-1,3-butadiene	1.200	0.15	1	0	120	70	130				
Hexane	0.7900	0.15	1	0	79.0	70	130				
Isopropyl alcohol	0.8900	0.15	1	0	89.0	70	130				
m&p-Xylene	2.110	0.30	2	0	106	70	130				
Methyl Butyl Ketone	0.9700	0.30	1	0	97.0	70	130				
Methyl Ethyl Ketone	0.9600	0.30	1	0	96.0	70	130				
Methyl Isobutyl Ketone	1.270	0.30	1	0	127	70	130				
Methyl tert-butyl ether	0.8800	0.15	1	0	88.0	70	130				
Methylene chloride	0.8700	0.15	1	0	87.0	70	130				
o-Xylene	1.220	0.15	1	0	122	70	130				
Propylene	1.070	0.15	1	0	107	70	130				
Styrene	1.160	0.15	1	0	116	70	130				
Tetrachloroethylene	1.170	0.15	1	0	117	70	130				
Tetrahydrofuran	0.7400	0.15	1	0	74.0	70	130				
Toluene	1.060	0.15	1	0	106	70	130				
trans-1,2-Dichloroethene	1.150	0.15	1	0	115	70	130				
trans-1,3-Dichloropropene	1.150	0.15	1	0	115	70	130				
Trichloroethene	1.180	0.15	1	0	118	70	130				
Vinyl acetate	0.7300	0.15	1	0	73.0	70	130				
Vinyl Bromide	0.8700	0.15	1	0	87.0	70	130				

Qualifiers:

.	Results reported are not blank corrected	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected at or below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike Recovery outside accepted recovery limits				

CLIENT: HDR Engineering
Work Order: C1311058
Project: Aluminum Louvre

TestCode: 1ugM3_TO15

Sample ID ALCS1UG-120213	SampType: LCS	TestCode: 1ugM3_TO15	Units: ppbV	Prep Date:	RunNo: 7725
Client ID: ZZZZZ	Batch ID: R7725	TestNo: TO-15		Analysis Date: 12/2/2013	SeqNo: 91630

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	0.9900	0.15	1	0	99.0	70	130				

Qualifiers:

.	Results reported are not blank corrected	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected at or below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike Recovery outside accepted recovery limits				

CENTEK LABORATORIES, LLC

Date: *11-Dec-13*

ANALYTICAL QC SUMMARY REPORT

CLIENT: HDR Engineering
Work Order: C1311058
Project: Aluminum Louvre

TestCode: 0.25CT-TCE-VC

Sample ID ALCS1UGD-112613	SampType: LCSD	TestCode: 0.25CT-TCE-	Units: ppbV	Prep Date:	RunNo: 7723
Client ID: ZZZZZ	Batch ID: R7723	TestNo: TO-15		Analysis Date: 11/27/2013	SeqNo: 91604

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	1.260	0.15	1	0	126	70	130	1.26	0	30	
1,1,2,2-Tetrachloroethane	1.130	0.15	1	0	113	70	130	1.18	4.33	30	
1,1,2-Trichloroethane	1.200	0.15	1	0	120	70	130	1.29	7.23	30	
1,1-Dichloroethane	0.9500	0.15	1	0	95.0	70	130	0.99	4.12	30	
1,1-Dichloroethene	0.7600	0.15	1	0	76.0	70	130	0.8	5.13	30	
1,2,4-Trichlorobenzene	0.7500	0.15	1	0	75.0	70	130	0.88	16.0	30	
1,2,4-Trimethylbenzene	0.8000	0.15	1	0	80.0	70	130	0.85	6.06	30	
1,2-Dibromoethane	1.100	0.15	1	0	110	70	130	1.11	0.905	30	
1,2-Dichlorobenzene	0.8800	0.15	1	0	88.0	70	130	0.93	5.52	30	
1,2-Dichloroethane	0.9400	0.15	1	0	94.0	70	130	0.98	4.17	30	
1,2-Dichloropropane	1.250	0.15	1	0	125	70	130	1.23	1.61	30	
1,3,5-Trimethylbenzene	1.130	0.15	1	0	113	70	130	1.01	11.2	30	
1,3-butadiene	0.8500	0.15	1	0	85.0	70	130	0.85	0	30	
1,3-Dichlorobenzene	1.030	0.15	1	0	103	70	130	1.08	4.74	30	
1,4-Dichlorobenzene	0.9100	0.15	1	0	91.0	70	130	1.01	10.4	30	
1,4-Dioxane	0.7400	0.30	1	0	74.0	70	130	1.16	44.2	30	R
2,2,4-trimethylpentane	1.050	0.15	1	0	105	70	130	1.06	0.948	30	
4-ethyltoluene	0.9300	0.15	1	0	93.0	70	130	1.03	10.2	30	
Acetone	0.8400	0.30	1	0	84.0	70	130	0.97	14.4	30	
Allyl chloride	0.7200	0.15	1	0	72.0	70	130	0.82	13.0	30	
Benzene	1.190	0.15	1	0	119	70	130	1.15	3.42	30	
Benzyl chloride	0.9400	0.15	1	0	94.0	70	130	1.08	13.9	30	
Bromodichloromethane	1.220	0.15	1	0	122	70	130	1.2	1.65	30	
Bromoform	1.090	0.15	1	0	109	70	130	1.13	3.60	30	
Bromomethane	0.8400	0.15	1	0	84.0	70	130	0.88	4.65	30	

Qualifiers:
. Results reported are not blank corrected
J Analyte detected at or below quantitation limits
S Spike Recovery outside accepted recovery limits
E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits

CLIENT: HDR Engineering
Work Order: C1311058
Project: Aluminum Louvre

TestCode: 0.25CT-TCE-VC

Sample ID ALCS1UGD-112613	SampType: LCSD	TestCode: 0.25CT-TCE-	Units: ppbV	Prep Date:	RunNo: 7723
Client ID: ZZZZZ	Batch ID: R7723	TestNo: TO-15		Analysis Date: 11/27/2013	SeqNo: 91604

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Carbon disulfide	1.490	0.15	1	0	149	70	130	0.77	63.7	30	SR
Carbon tetrachloride	1.340	0.040	1	0	134	70	130	1.24	7.75	30	S
Chlorobenzene	1.030	0.15	1	0	103	70	130	1.06	2.87	30	
Chloroethane	0.7200	0.15	1	0	72.0	70	130	0.83	14.2	30	
Chloroform	1.000	0.15	1	0	100	70	130	1.05	4.88	30	
Chloromethane	0.8500	0.15	1	0	85.0	70	130	0.95	11.1	30	
cis-1,2-Dichloroethene	0.8100	0.15	1	0	81.0	70	130	0.85	4.82	30	
cis-1,3-Dichloropropene	1.020	0.15	1	0	102	70	130	1.09	6.64	30	
Cyclohexane	1.010	0.15	1	0	101	70	130	1.03	1.96	30	
Dibromochloromethane	1.180	0.15	1	0	118	70	130	1.15	2.58	30	
Ethyl acetate	0.8100	0.25	1	0	81.0	70	130	0.91	11.6	30	
Ethylbenzene	0.9200	0.15	1	0	92.0	70	130	0.95	3.21	30	
Freon 11	0.9600	0.15	1	0	96.0	70	130	1.01	5.08	30	
Freon 113	0.8600	0.15	1	0	86.0	70	130	0.89	3.43	30	
Freon 114	0.9800	0.15	1	0	98.0	70	130	1.05	6.90	30	
Freon 12	1.090	0.15	1	0	109	70	130	1.14	4.48	30	
Heptane	0.9800	0.15	1	0	98.0	70	130	1.02	4.00	30	
Hexachloro-1,3-butadiene	1.110	0.15	1	0	111	70	130	1.2	7.79	30	
Hexane	0.7500	0.15	1	0	75.0	70	130	0.75	0	30	
Isopropyl alcohol	0.7700	0.15	1	0	77.0	70	130	0.83	7.50	30	
m&p-Xylene	1.940	0.30	2	0	97.0	70	130	2.03	4.53	30	
Methyl Butyl Ketone	0.7800	0.30	1	0	78.0	70	130	0.9	14.3	30	
Methyl Ethyl Ketone	0.7500	0.30	1	0	75.0	70	130	0.88	16.0	30	
Methyl Isobutyl Ketone	0.8300	0.30	1	0	83.0	70	130	0.95	13.5	30	
Methyl tert-butyl ether	0.7200	0.15	1	0	72.0	70	130	0.8	10.5	30	
Methylene chloride	0.8400	0.15	1	0	84.0	70	130	0.83	1.20	30	
o-Xylene	1.130	0.15	1	0	113	70	130	1.16	2.62	30	
Propylene	0.9000	0.15	1	0	90.0	70	130	1	10.5	30	
Styrene	1.030	0.15	1	0	103	70	130	1.13	9.26	30	
Tetrachloroethylene	1.140	0.15	1	0	114	70	130	1.11	2.67	30	
Tetrahydrofuran	0.7300	0.15	1	0	73.0	70	130	0.84	14.0	30	

Qualifiers:
. Results reported are not blank corrected
J Analyte detected at or below quantitation limits
S Spike Recovery outside accepted recovery limits
E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits

CLIENT: HDR Engineering
Work Order: C1311058
Project: Aluminum Louvre

TestCode: 0.25CT-TCE-VC

Sample ID ALCS1UGD-112613	SampType: LCSD	TestCode: 0.25CT-TCE-	Units: ppbV	Prep Date:	RunNo: 7723
Client ID: ZZZZZ	Batch ID: R7723	TestNo: TO-15		Analysis Date: 11/27/2013	SeqNo: 91604

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Toluene	0.9600	0.15	1	0	96.0	70	130	1	4.08	30	
trans-1,2-Dichloroethene	1.010	0.15	1	0	101	70	130	1.11	9.43	30	
trans-1,3-Dichloropropene	1.000	0.15	1	0	100	70	130	1.03	2.96	30	
Trichloroethene	1.260	0.040	1	0	126	70	130	1.21	4.05	30	
Vinyl acetate	0.7400	0.15	1	0	74.0	70	130	0.81	9.03	30	
Vinyl Bromide	0.7600	0.15	1	0	76.0	70	130	0.82	7.59	30	
Vinyl chloride	0.8100	0.040	1	0	81.0	70	130	0.89	9.41	30	

Qualifiers:

.	Results reported are not blank corrected	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected at or below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike Recovery outside accepted recovery limits				

CENTEK LABORATORIES, LLC

Date: *11-Dec-13*

ANALYTICAL QC SUMMARY REPORT

CLIENT: HDR Engineering
Work Order: C1311058
Project: Aluminum Louvre

TestCode: 0.25CT-TCE-VC

Sample ID	AMB1UG-112613	SampType:	MBLK	TestCode:	0.25CT-TCE-	Units:	ppbV	Prep Date:		RunNo:	7723
Client ID:	ZZZZZ	Batch ID:	R7723	TestNo:	TO-15			Analysis Date:	11/26/2013	SeqNo:	91602

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	< 0.15	0.15									
1,1,2,2-Tetrachloroethane	< 0.15	0.15									
1,1,2-Trichloroethane	< 0.15	0.15									
1,1-Dichloroethane	< 0.15	0.15									
1,1-Dichloroethene	< 0.15	0.15									
1,2,4-Trichlorobenzene	< 0.15	0.15									
1,2,4-Trimethylbenzene	< 0.15	0.15									
1,2-Dibromoethane	< 0.15	0.15									
1,2-Dichlorobenzene	< 0.15	0.15									
1,2-Dichloroethane	< 0.15	0.15									
1,2-Dichloropropane	< 0.15	0.15									
1,3,5-Trimethylbenzene	< 0.15	0.15									
1,3-butadiene	< 0.15	0.15									
1,3-Dichlorobenzene	< 0.15	0.15									
1,4-Dichlorobenzene	< 0.15	0.15									
1,4-Dioxane	< 0.30	0.30									
2,2,4-trimethylpentane	< 0.15	0.15									
4-ethyltoluene	< 0.15	0.15									
Acetone	< 0.30	0.30									
Allyl chloride	< 0.15	0.15									
Benzene	< 0.15	0.15									
Benzyl chloride	< 0.15	0.15									
Bromodichloromethane	< 0.15	0.15									
Bromoform	< 0.15	0.15									
Bromomethane	< 0.15	0.15									

Qualifiers:

.	Results reported are not blank corrected	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected at or below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike Recovery outside accepted recovery limits				

CLIENT: HDR Engineering
Work Order: C1311058
Project: Aluminum Louvre

TestCode: 0.25CT-TCE-VC

Sample ID	AMB1UG-112613	SampType:	MBLK	TestCode:	0.25CT-TCE-	Units:	ppbV	Prep Date:		RunNo:	7723
Client ID:	ZZZZZ	Batch ID:	R7723	TestNo:	TO-15			Analysis Date:	11/26/2013	SeqNo:	91602

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Carbon disulfide	< 0.15	0.15									
Carbon tetrachloride	< 0.040	0.040									
Chlorobenzene	< 0.15	0.15									
Chloroethane	< 0.15	0.15									
Chloroform	< 0.15	0.15									
Chloromethane	< 0.15	0.15									
cis-1,2-Dichloroethene	< 0.15	0.15									
cis-1,3-Dichloropropene	< 0.15	0.15									
Cyclohexane	< 0.15	0.15									
Dibromochloromethane	< 0.15	0.15									
Ethyl acetate	< 0.25	0.25									
Ethylbenzene	< 0.15	0.15									
Freon 11	< 0.15	0.15									
Freon 113	< 0.15	0.15									
Freon 114	< 0.15	0.15									
Freon 12	< 0.15	0.15									
Heptane	< 0.15	0.15									
Hexachloro-1,3-butadiene	< 0.15	0.15									
Hexane	< 0.15	0.15									
Isopropyl alcohol	< 0.15	0.15									
m&p-Xylene	< 0.30	0.30									
Methyl Butyl Ketone	< 0.30	0.30									
Methyl Ethyl Ketone	< 0.30	0.30									
Methyl Isobutyl Ketone	< 0.30	0.30									
Methyl tert-butyl ether	< 0.15	0.15									
Methylene chloride	< 0.15	0.15									
o-Xylene	< 0.15	0.15									
Propylene	< 0.15	0.15									
Styrene	< 0.15	0.15									
Tetrachloroethylene	< 0.15	0.15									
Tetrahydrofuran	< 0.15	0.15									

Qualifiers:

.	Results reported are not blank corrected	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected at or below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike Recovery outside accepted recovery limits				

CLIENT: HDR Engineering
Work Order: C1311058
Project: Aluminum Louvre

TestCode: 0.25CT-TCE-VC

Sample ID AMB1UG-112613	SampType: MBLK	TestCode: 0.25CT-TCE-	Units: ppbV	Prep Date:	RunNo: 7723
Client ID: ZZZZZ	Batch ID: R7723	TestNo: TO-15		Analysis Date: 11/26/2013	SeqNo: 91602

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Toluene	< 0.15	0.15									
trans-1,2-Dichloroethene	< 0.15	0.15									
trans-1,3-Dichloropropene	< 0.15	0.15									
Trichloroethene	< 0.040	0.040									
Vinyl acetate	< 0.15	0.15									
Vinyl Bromide	< 0.15	0.15									
Vinyl chloride	< 0.040	0.040									

Sample ID AMB1UG-112713	SampType: MBLK	TestCode: 0.25CT-TCE-	Units: ppbV	Prep Date:	RunNo: 7724
Client ID: ZZZZZ	Batch ID: R7724	TestNo: TO-15		Analysis Date: 11/27/2013	SeqNo: 91612

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	< 0.15	0.15									
1,1,2,2-Tetrachloroethane	< 0.15	0.15									
1,1,2-Trichloroethane	< 0.15	0.15									
1,1-Dichloroethane	< 0.15	0.15									
1,1-Dichloroethene	< 0.15	0.15									
1,2,4-Trichlorobenzene	< 0.15	0.15									
1,2,4-Trimethylbenzene	< 0.15	0.15									
1,2-Dibromoethane	< 0.15	0.15									
1,2-Dichlorobenzene	< 0.15	0.15									
1,2-Dichloroethane	< 0.15	0.15									
1,2-Dichloropropane	< 0.15	0.15									
1,3,5-Trimethylbenzene	< 0.15	0.15									
1,3-butadiene	< 0.15	0.15									
1,3-Dichlorobenzene	< 0.15	0.15									
1,4-Dichlorobenzene	< 0.15	0.15									
1,4-Dioxane	< 0.30	0.30									
2,2,4-trimethylpentane	< 0.15	0.15									
4-ethyltoluene	< 0.15	0.15									

Qualifiers:

.	Results reported are not blank corrected	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected at or below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike Recovery outside accepted recovery limits				

CLIENT: HDR Engineering
Work Order: C1311058
Project: Aluminum Louvre

TestCode: 0.25CT-TCE-VC

Sample ID	AMB1UG-112713	SampType:	MBLK	TestCode:	0.25CT-TCE-	Units:	ppbV	Prep Date:		RunNo:	7724
Client ID:	ZZZZZ	Batch ID:	R7724	TestNo:	TO-15			Analysis Date:	11/27/2013	SeqNo:	91612

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acetone	< 0.30	0.30									
Allyl chloride	< 0.15	0.15									
Benzene	< 0.15	0.15									
Benzyl chloride	< 0.15	0.15									
Bromodichloromethane	< 0.15	0.15									
Bromoform	< 0.15	0.15									
Bromomethane	< 0.15	0.15									
Carbon disulfide	< 0.15	0.15									
Carbon tetrachloride	< 0.040	0.040									
Chlorobenzene	< 0.15	0.15									
Chloroethane	< 0.15	0.15									
Chloroform	< 0.15	0.15									
Chloromethane	< 0.15	0.15									
cis-1,2-Dichloroethene	< 0.15	0.15									
cis-1,3-Dichloropropene	< 0.15	0.15									
Cyclohexane	< 0.15	0.15									
Dibromochloromethane	< 0.15	0.15									
Ethyl acetate	< 0.25	0.25									
Ethylbenzene	< 0.15	0.15									
Freon 11	< 0.15	0.15									
Freon 113	< 0.15	0.15									
Freon 114	< 0.15	0.15									
Freon 12	< 0.15	0.15									
Heptane	< 0.15	0.15									
Hexachloro-1,3-butadiene	< 0.15	0.15									
Hexane	< 0.15	0.15									
Isopropyl alcohol	< 0.15	0.15									
m&p-Xylene	< 0.30	0.30									
Methyl Butyl Ketone	< 0.30	0.30									
Methyl Ethyl Ketone	< 0.30	0.30									
Methyl Isobutyl Ketone	< 0.30	0.30									

Qualifiers:

.	Results reported are not blank corrected	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected at or below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike Recovery outside accepted recovery limits				

CLIENT: HDR Engineering
Work Order: C1311058
Project: Aluminum Louvre

TestCode: 0.25CT-TCE-VC

Sample ID AMB1UG-112713	SampType: MBLK	TestCode: 0.25CT-TCE-	Units: ppbV	Prep Date:	RunNo: 7724
Client ID: ZZZZZ	Batch ID: R7724	TestNo: TO-15		Analysis Date: 11/27/2013	SeqNo: 91612

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether	< 0.15	0.15									
Methylene chloride	< 0.15	0.15									
o-Xylene	< 0.15	0.15									
Propylene	< 0.15	0.15									
Styrene	< 0.15	0.15									
Tetrachloroethylene	< 0.15	0.15									
Tetrahydrofuran	< 0.15	0.15									
Toluene	< 0.15	0.15									
trans-1,2-Dichloroethene	< 0.15	0.15									
trans-1,3-Dichloropropene	< 0.15	0.15									
Trichloroethene	< 0.040	0.040									
Vinyl acetate	< 0.15	0.15									
Vinyl Bromide	< 0.15	0.15									
Vinyl chloride	< 0.040	0.040									

Qualifiers:

.	Results reported are not blank corrected	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected at or below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike Recovery outside accepted recovery limits				

CLIENT: HDR Engineering
Work Order: C1311058
Project: Aluminum Louvre

TestCode: 1ugM3_TO15

Sample ID **AMB1UG-120213** SampType: **MBLK** TestCode: **1ugM3_TO15** Units: **ppbV** Prep Date: RunNo: **7725**
Client ID: **ZZZZZ** Batch ID: **R7725** TestNo: **TO-15** Analysis Date: **12/2/2013** SeqNo: **91629**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	< 0.15	0.15									
1,1,2,2-Tetrachloroethane	< 0.15	0.15									
1,1,2-Trichloroethane	< 0.15	0.15									
1,1-Dichloroethane	< 0.15	0.15									
1,1-Dichloroethene	< 0.15	0.15									
1,2,4-Trichlorobenzene	< 0.15	0.15									
1,2,4-Trimethylbenzene	< 0.15	0.15									
1,2-Dibromoethane	< 0.15	0.15									
1,2-Dichlorobenzene	< 0.15	0.15									
1,2-Dichloroethane	< 0.15	0.15									
1,2-Dichloropropane	< 0.15	0.15									
1,3,5-Trimethylbenzene	< 0.15	0.15									
1,3-butadiene	< 0.15	0.15									
1,3-Dichlorobenzene	< 0.15	0.15									
1,4-Dichlorobenzene	< 0.15	0.15									
1,4-Dioxane	< 0.30	0.30									
2,2,4-trimethylpentane	< 0.15	0.15									
4-ethyltoluene	< 0.15	0.15									
Acetone	< 0.30	0.30									
Allyl chloride	< 0.15	0.15									
Benzene	< 0.15	0.15									
Benzyl chloride	< 0.15	0.15									
Bromodichloromethane	< 0.15	0.15									
Bromoform	< 0.15	0.15									
Bromomethane	< 0.15	0.15									
Carbon disulfide	< 0.15	0.15									
Carbon tetrachloride	< 0.15	0.15									
Chlorobenzene	< 0.15	0.15									
Chloroethane	< 0.15	0.15									
Chloroform	< 0.15	0.15									
Chloromethane	< 0.15	0.15									

Qualifiers:
. Results reported are not blank corrected
J Analyte detected at or below quantitation limits
S Spike Recovery outside accepted recovery limits
E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits

CLIENT: HDR Engineering
Work Order: C1311058
Project: Aluminum Louvre

TestCode: 1ugM3_TO15

Sample ID	AMB1UG-120213	SampType:	MBLK	TestCode:	1ugM3_TO15	Units:	ppbV	Prep Date:		RunNo:	7725
Client ID:	ZZZZZ	Batch ID:	R7725	TestNo:	TO-15			Analysis Date:	12/2/2013	SeqNo:	91629

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
cis-1,2-Dichloroethene	< 0.15	0.15									
cis-1,3-Dichloropropene	< 0.15	0.15									
Cyclohexane	< 0.15	0.15									
Dibromochloromethane	< 0.15	0.15									
Ethyl acetate	< 0.25	0.25									
Ethylbenzene	< 0.15	0.15									
Freon 11	< 0.15	0.15									
Freon 113	< 0.15	0.15									
Freon 114	< 0.15	0.15									
Freon 12	< 0.15	0.15									
Heptane	< 0.15	0.15									
Hexachloro-1,3-butadiene	< 0.15	0.15									
Hexane	< 0.15	0.15									
Isopropyl alcohol	< 0.15	0.15									
m&p-Xylene	< 0.30	0.30									
Methyl Butyl Ketone	< 0.30	0.30									
Methyl Ethyl Ketone	< 0.30	0.30									
Methyl Isobutyl Ketone	< 0.30	0.30									
Methyl tert-butyl ether	< 0.15	0.15									
Methylene chloride	< 0.15	0.15									
o-Xylene	< 0.15	0.15									
Propylene	< 0.15	0.15									
Styrene	< 0.15	0.15									
Tetrachloroethylene	< 0.15	0.15									
Tetrahydrofuran	< 0.15	0.15									
Toluene	< 0.15	0.15									
trans-1,2-Dichloroethene	< 0.15	0.15									
trans-1,3-Dichloropropene	< 0.15	0.15									
Trichloroethene	< 0.15	0.15									
Vinyl acetate	< 0.15	0.15									
Vinyl Bromide	< 0.15	0.15									

Qualifiers:

.	Results reported are not blank corrected	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected at or below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike Recovery outside accepted recovery limits				

CLIENT: HDR Engineering
Work Order: C1311058
Project: Aluminum Louvre

TestCode: 1ugM3_TO15

Sample ID	AMB1UG-120213	SampType:	MBLK	TestCode:	1ugM3_TO15	Units:	ppbV	Prep Date:		RunNo:	7725
Client ID:	ZZZZZ	Batch ID:	R7725	TestNo:	TO-15			Analysis Date:	12/2/2013	SeqNo:	91629

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	< 0.15	0.15									

Qualifiers:

.	Results reported are not blank corrected	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected at or below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike Recovery outside accepted recovery limits				

CENTEK LABORATORIES, LLC

Date: *11-Dec-13*

ANALYTICAL QC SUMMARY REPORT

CLIENT: HDR Engineering
Work Order: C1311058
Project: Aluminum Louvre

TestCode: 1ugM3_TO15

Sample ID **C1311058-002A MS** SampType: **MS** TestCode: **1ugM3_TO15** Units: **ppbV** Prep Date: RunNo: **7724**
Client ID: **175-W-SS** Batch ID: **R7724** TestNo: **TO-15** Analysis Date: **11/28/2013** SeqNo: **91626**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	2.470	0.15	1	1.42	105	70	130				
1,1,2,2-Tetrachloroethane	1.140	0.15	1	0	114	70	130				
1,1,2-Trichloroethane	1.280	0.15	1	0	128	70	130				
1,1-Dichloroethane	1.070	0.15	1	0	107	70	130				
1,1-Dichloroethene	0.8100	0.15	1	0	81.0	70	130				
1,2,4-Trichlorobenzene	1.250	0.15	1	0	125	70	130				
1,2,4-Trimethylbenzene	2.460	0.15	1	0.54	192	70	130				S
1,2-Dibromoethane	1.140	0.15	1	0	114	70	130				
1,2-Dichlorobenzene	1.390	0.15	1	0	139	70	130				S
1,2-Dichloroethane	0.9800	0.15	1	0	98.0	70	130				
1,2-Dichloropropane	1.220	0.15	1	0	122	70	130				
1,3,5-Trimethylbenzene	1.510	0.15	1	0.22	129	70	130				
1,3-butadiene	0.9200	0.15	1	0	92.0	70	130				
1,3-Dichlorobenzene	1.410	0.15	1	0	141	70	130				S
1,4-Dichlorobenzene	1.370	0.15	1	0.11	126	70	130				
1,4-Dioxane	0.9200	0.30	1	0	92.0	70	130				
2,2,4-trimethylpentane	2.250	0.15	1	0.77	148	70	130				S
4-ethyltoluene	1.760	0.15	1	0.14	162	70	130				S
Acetone	6.970	0.30	1	6.18	79.0	70	130				
Allyl chloride	0.9400	0.15	1	0	94.0	70	130				
Benzene	1.780	0.15	1	0.51	127	70	130				
Benzyl chloride	1.420	0.15	1	0	142	70	130				S
Bromodichloromethane	1.270	0.15	1	0	127	70	130				
Bromoform	0.9700	0.15	1	0	97.0	70	130				
Bromomethane	0.9300	0.15	1	0	93.0	70	130				

Qualifiers:

.	Results reported are not blank corrected	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected at or below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike Recovery outside accepted recovery limits				

CLIENT: HDR Engineering
Work Order: C1311058
Project: Aluminum Louvre

TestCode: 1ugM3_TO15

Sample ID C1311058-002A MS	SampType: MS	TestCode: 1ugM3_TO15	Units: ppbV	Prep Date:	RunNo: 7724
Client ID: 175-W-SS	Batch ID: R7724	TestNo: TO-15		Analysis Date: 11/28/2013	SeqNo: 91626

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Carbon disulfide	0.9600	0.15	1	0.16	80.0	70	130				
Carbon tetrachloride	1.390	0.15	1	0	139	70	130				S
Chlorobenzene	1.020	0.15	1	0	102	70	130				
Chloroethane	0.8300	0.15	1	0	83.0	70	130				
Chloroform	1.110	0.15	1	0	111	70	130				
Chloromethane	0.9200	0.15	1	0	92.0	70	130				
cis-1,2-Dichloroethene	0.9800	0.15	1	0	98.0	70	130				
cis-1,3-Dichloropropene	1.240	0.15	1	0	124	70	130				
Cyclohexane	1.430	0.15	1	0	143	70	130				S
Dibromochloromethane	1.120	0.15	1	0	112	70	130				
Ethyl acetate	1.010	0.25	1	0	101	70	130				
Ethylbenzene	1.330	0.15	1	0.24	109	70	130				
Freon 11	1.980	0.15	1	0.96	102	70	130				
Freon 113	0.9900	0.15	1	0	99.0	70	130				
Freon 114	0.8200	0.15	1	0	82.0	70	130				
Freon 12	0.5200	0.15	1	0	52.0	70	130				S
Heptane	1.350	0.15	1	0	135	70	130				S
Hexachloro-1,3-butadiene	1.320	0.15	1	0	132	70	130				S
Hexane	1.560	0.15	1	0.31	125	70	130				
Isopropyl alcohol	1.210	0.15	1	0.44	77.0	70	130				
m&p-Xylene	3.670	0.30	2	0.82	143	70	130				S
Methyl Butyl Ketone	0.8900	0.30	1	0	89.0	70	130				
Methyl Ethyl Ketone	1.820	0.30	1	0.74	108	70	130				
Methyl Isobutyl Ketone	1.040	0.30	1	0	104	70	130				
Methyl tert-butyl ether	0.9600	0.15	1	0	96.0	70	130				
Methylene chloride	1.840	0.15	1	0.75	109	70	130				
o-Xylene	1.550	0.15	1	0.22	133	70	130				S
Propylene	2.780	0.15	1	0	278	70	130				S
Styrene	1.180	0.15	1	0	118	70	130				
Tetrachloroethylene	4.470	0.15	1	3.87	60.0	70	130				S
Tetrahydrofuran	0.8500	0.15	1	0	85.0	70	130				

Qualifiers:

.	Results reported are not blank corrected	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected at or below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike Recovery outside accepted recovery limits				

CLIENT: HDR Engineering
Work Order: C1311058
Project: Aluminum Louvre

TestCode: 1ugM3_TO15

Sample ID C1311058-002A MS	SampType: MS	TestCode: 1ugM3_TO15	Units: ppbV	Prep Date:	RunNo: 7724
Client ID: 175-W-SS	Batch ID: R7724	TestNo: TO-15		Analysis Date: 11/28/2013	SeqNo: 91626

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Toluene	5.000	0.15	1	2.84	216	70	130				S
trans-1,2-Dichloroethene	1.280	0.15	1	0	128	70	130				
trans-1,3-Dichloropropene	0.9200	0.15	1	0	92.0	70	130				
Trichloroethene	1.400	0.15	1	0.12	128	70	130				
Vinyl acetate	0.7700	0.15	1	0	77.0	70	130				
Vinyl Bromide	0.8600	0.15	1	0	86.0	70	130				
Vinyl chloride	0.7900	0.15	1	0	79.0	70	130				

Sample ID C1311058-002A MS	SampType: MSD	TestCode: 1ugM3_TO15	Units: ppbV	Prep Date:	RunNo: 7724
Client ID: 175-W-SS	Batch ID: R7724	TestNo: TO-15		Analysis Date: 11/28/2013	SeqNo: 91627

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	2.360	0.15	1	1.42	94.0	70	130	2.47	4.55	30	
1,1,2,2-Tetrachloroethane	1.110	0.15	1	0	111	70	130	1.14	2.67	30	
1,1,2-Trichloroethane	1.200	0.15	1	0	120	70	130	1.28	6.45	30	
1,1-Dichloroethane	1.090	0.15	1	0	109	70	130	1.07	1.85	30	
1,1-Dichloroethene	0.8800	0.15	1	0	88.0	70	130	0.81	8.28	30	
1,2,4-Trichlorobenzene	1.390	0.15	1	0	139	70	130	1.25	10.6	30	S
1,2,4-Trimethylbenzene	2.430	0.15	1	0.54	189	70	130	2.46	1.23	30	S
1,2-Dibromoethane	1.120	0.15	1	0	112	70	130	1.14	1.77	30	
1,2-Dichlorobenzene	1.360	0.15	1	0	136	70	130	1.39	2.18	30	S
1,2-Dichloroethane	0.9900	0.15	1	0	99.0	70	130	0.98	1.02	30	
1,2-Dichloropropane	1.240	0.15	1	0	124	70	130	1.22	1.63	30	
1,3,5-Trimethylbenzene	1.450	0.15	1	0.22	123	70	130	1.51	4.05	30	
1,3-butadiene	1.260	0.15	1	0	126	70	130	0.92	31.2	30	R
1,3-Dichlorobenzene	1.440	0.15	1	0	144	70	130	1.41	2.11	30	S
1,4-Dichlorobenzene	1.400	0.15	1	0.11	129	70	130	1.37	2.17	30	
1,4-Dioxane	0.7400	0.30	1	0	74.0	70	130	0.92	21.7	30	
2,2,4-trimethylpentane	2.430	0.15	1	0.77	166	70	130	2.25	7.69	30	S
4-ethyltoluene	1.630	0.15	1	0.14	149	70	130	1.76	7.67	30	S

Qualifiers:

- . Results reported are not blank corrected
- J Analyte detected at or below quantitation limits
- S Spike Recovery outside accepted recovery limits
- E Value above quantitation range
- ND Not Detected at the Reporting Limit
- H Holding times for preparation or analysis exceeded
- R RPD outside accepted recovery limits

CLIENT: HDR Engineering
Work Order: C1311058
Project: Aluminum Louvre

TestCode: 1ugM3_TO15

Sample ID C1311058-002A MS	SampType: MSD	TestCode: 1ugM3_TO15	Units: ppbV	Prep Date:	RunNo: 7724
Client ID: 175-W-SS	Batch ID: R7724	TestNo: TO-15		Analysis Date: 11/28/2013	SeqNo: 91627

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acetone	7.700	0.30	1	6.18	152	70	130	6.97	9.95	30	S
Allyl chloride	0.9600	0.15	1	0	96.0	70	130	0.94	2.11	30	
Benzene	1.840	0.15	1	0.51	133	70	130	1.78	3.31	30	S
Benzyl chloride	1.720	0.15	1	0	172	70	130	1.42	19.1	30	S
Bromodichloromethane	1.250	0.15	1	0	125	70	130	1.27	1.59	30	
Bromoform	0.9300	0.15	1	0	93.0	70	130	0.97	4.21	30	
Bromomethane	0.9500	0.15	1	0	95.0	70	130	0.93	2.13	30	
Carbon disulfide	0.9800	0.15	1	0.16	82.0	70	130	0.96	2.06	30	
Carbon tetrachloride	1.380	0.15	1	0	138	70	130	1.39	0.722	30	S
Chlorobenzene	1.030	0.15	1	0	103	70	130	1.02	0.976	30	
Chloroethane	0.8800	0.15	1	0	88.0	70	130	0.83	5.85	30	
Chloroform	1.100	0.15	1	0	110	70	130	1.11	0.905	30	
Chloromethane	1.190	0.15	1	0	119	70	130	0.92	25.6	30	
cis-1,2-Dichloroethene	1.010	0.15	1	0	101	70	130	0.98	3.02	30	
cis-1,3-Dichloropropene	1.240	0.15	1	0	124	70	130	1.24	0	30	
Cyclohexane	1.510	0.15	1	0	151	70	130	1.43	5.44	30	S
Dibromochloromethane	1.100	0.15	1	0	110	70	130	1.12	1.80	30	
Ethyl acetate	1.070	0.25	1	0	107	70	130	1.01	5.77	30	
Ethylbenzene	1.380	0.15	1	0.24	114	70	130	1.33	3.69	30	
Freon 11	2.010	0.15	1	0.96	105	70	130	1.98	1.50	30	
Freon 113	1.020	0.15	1	0	102	70	130	0.99	2.99	30	
Freon 114	0.9900	0.15	1	0	99.0	70	130	0.82	18.8	30	
Freon 12	0.6200	0.15	1	0	62.0	70	130	0.52	17.5	30	S
Heptane	1.390	0.15	1	0	139	70	130	1.35	2.92	30	S
Hexachloro-1,3-butadiene	1.310	0.15	1	0	131	70	130	1.32	0.760	30	S
Hexane	1.690	0.15	1	0.31	138	70	130	1.56	8.00	30	S
Isopropyl alcohol	1.150	0.15	1	0.44	71.0	70	130	1.21	5.08	30	
m&p-Xylene	3.800	0.30	2	0.82	149	70	130	3.67	3.48	30	S
Methyl Butyl Ketone	1.000	0.30	1	0	100	70	130	0.89	11.6	30	
Methyl Ethyl Ketone	1.850	0.30	1	0.74	111	70	130	1.82	1.63	30	
Methyl Isobutyl Ketone	1.080	0.30	1	0	108	70	130	1.04	3.77	30	

Qualifiers:
. Results reported are not blank corrected
J Analyte detected at or below quantitation limits
S Spike Recovery outside accepted recovery limits
E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits

CLIENT: HDR Engineering
Work Order: C1311058
Project: Aluminum Louvre

TestCode: 1ugM3_TO15

Sample ID C1311058-002A MS	SampType: MSD	TestCode: 1ugM3_TO15	Units: ppbV	Prep Date:	RunNo: 7724
Client ID: 175-W-SS	Batch ID: R7724	TestNo: TO-15		Analysis Date: 11/28/2013	SeqNo: 91627

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether	0.9800	0.15	1	0	98.0	70	130	0.96	2.06	30	
Methylene chloride	2.070	0.15	1	0.75	132	70	130	1.84	11.8	30	S
o-Xylene	1.540	0.15	1	0.22	132	70	130	1.55	0.647	30	S
Propylene	4.500	0.15	1	0	450	70	130	2.78	47.3	30	SR
Styrene	1.140	0.15	1	0	114	70	130	1.18	3.45	30	
Tetrachloroethylene	4.110	0.15	1	3.87	24.0	70	130	4.47	8.39	30	S
Tetrahydrofuran	0.8700	0.15	1	0	87.0	70	130	0.85	2.33	30	
Toluene	5.340	0.15	1	2.84	250	70	130	5	6.58	30	S
trans-1,2-Dichloroethene	1.330	0.15	1	0	133	70	130	1.28	3.83	30	S
trans-1,3-Dichloropropene	1.290	0.15	1	0	129	70	130	0.92	33.5	30	R
Trichloroethene	1.340	0.15	1	0.12	122	70	130	1.4	4.38	30	
Vinyl acetate	0.7900	0.15	1	0	79.0	70	130	0.77	2.56	30	
Vinyl Bromide	0.9000	0.15	1	0	90.0	70	130	0.86	4.55	30	
Vinyl chloride	0.8800	0.15	1	0	88.0	70	130	0.79	10.8	30	

Qualifiers:

- . Results reported are not blank corrected
- J Analyte detected at or below quantitation limits
- S Spike Recovery outside accepted recovery limits
- E Value above quantitation range
- ND Not Detected at the Reporting Limit
- H Holding times for preparation or analysis exceeded
- R RPD outside accepted recovery limits

Compound	Amt	IDL #1	IDL #2	IDL #3	IDL #4	IDL #5	IDL #6	IDL #7	AVG	StdDev	%Rec	IDL
Freon 22	0.3	0.28	0.29	0.29	0.29	0.27	0.3	0.32	0.29	0.02	97.1%	0.049
Propylene	0.3	0.28	0.29	0.29	0.28	0.29	0.27	0.33	0.29	0.02	96.7%	0.060
Freon 12	0.3	0.28	0.29	0.29	0.28	0.27	0.28	0.31	0.29	0.01	95.2%	0.040
Chloromethane	0.3	0.3	0.3	0.32	0.29	0.29	0.31	0.34	0.31	0.02	102.4%	0.057
Freon 114	0.3	0.3	0.31	0.33	0.3	0.29	0.3	0.33	0.31	0.02	102.9%	0.049
Vinyl Chloride	0.3	0.29	0.29	0.33	0.3	0.27	0.27	0.33	0.30	0.02	99.0%	0.079
1,3-butadiene	0.3	0.27	0.28	0.33	0.3	0.28	0.3	0.28	0.29	0.02	97.1%	0.064
Bromomethane	0.3	0.27	0.28	0.39	0.28	0.3	0.28	0.31	0.30	0.04	100.5%	0.130
Ethanol	0.3	0.27	0.25	0.3	0.3	0.26	0.3	0.33	0.29	0.03	95.7%	0.088
Acrolein	0.3	0.26	0.32	0.3	0.33	0.31	0.3	0.33	0.31	0.02	102.4%	0.076
Chloroethane	0.3	0.3	0.3	0.35	0.27	0.27	0.31	0.33	0.30	0.03	101.4%	0.092
Vinyl Bromide	0.3	0.3	0.3	0.32	0.3	0.28	0.3	0.32	0.30	0.01	101.0%	0.043
Freon 11	0.3	0.3	0.31	0.34	0.31	0.29	0.31	0.34	0.31	0.02	104.8%	0.060
Acetone	0.3	0.29	0.28	0.33	0.32	0.25	0.3	0.31	0.30	0.03	99.0%	0.085
Isopropyl alcohol	0.3	0.3	0.32	0.31	0.28	0.32	0.28	0.32	0.30	0.02	101.4%	0.057
1,1-dichloroethene	0.3	0.31	0.31	0.31	0.33	0.29	0.3	0.34	0.31	0.02	104.3%	0.054
Freon 113	0.3	0.31	0.3	0.32	0.3	0.29	0.31	0.32	0.31	0.01	102.4%	0.035
t-Butyl alcohol	0.3	0.31	0.3	0.32	0.32	0.33	0.33	0.35	0.32	0.02	107.6%	0.050
Methylene chloride	0.3	0.3	0.31	0.33	0.3	0.29	0.31	0.31	0.31	0.01	102.4%	0.039
Allyl chloride	0.3	0.32	0.32	0.27	0.31	0.25	0.29	0.33	0.30	0.03	99.5%	0.093
Carbon disulfide	0.3	0.31	0.3	0.32	0.31	0.29	0.29	0.3	0.30	0.01	101.0%	0.035
trans-1,2-dichloroethene	0.3	0.29	0.3	0.32	0.31	0.28	0.3	0.32	0.30	0.01	101.0%	0.047
methyl tert-butyl ether	0.3	0.31	0.3	0.35	0.29	0.3	0.31	0.29	0.31	0.02	102.4%	0.065
1,1-dichloroethane	0.3	0.24	0.25	0.28	0.26	0.23	0.25	0.27	0.25	0.02	84.8%	0.054
Vinyl acetate	0.3	0.26	0.29	0.29	0.31	0.29	0.27	0.25	0.28	0.02	93.3%	0.065
Methyl Ethyl Ketone	0.3	0.26	0.29	0.3	0.27	0.28	0.29	0.28	0.28	0.01	93.8%	0.042
cis-1,2-dichloroethene	0.3	0.29	0.29	0.32	0.29	0.27	0.28	0.29	0.29	0.02	96.7%	0.048
Hexane	0.3	0.27	0.24	0.29	0.27	0.26	0.27	0.3	0.27	0.02	90.5%	0.061
Ethyl acetate	0.3	0.27	0.29	0.3	0.28	0.27	0.28	0.29	0.28	0.01	94.3%	0.035
Chloroform	0.3	0.28	0.29	0.31	0.3	0.28	0.29	0.31	0.29	0.01	98.1%	0.040
Tetrahydrofuran	0.3	0.27	0.27	0.3	0.27	0.3	0.31	0.27	0.28	0.02	94.8%	0.057
1,2-dichloroethane	0.3	0.29	0.29	0.32	0.29	0.28	0.28	0.31	0.29	0.02	98.1%	0.048
1,1,1-trichloroethane	0.3	0.31	0.31	0.33	0.3	0.28	0.31	0.32	0.31	0.02	102.9%	0.049
Cyclohexane	0.3	0.3	0.29	0.3	0.29	0.26	0.31	0.31	0.29	0.02	98.1%	0.054
Carbon tetrachloride	0.3	0.29	0.29	0.32	0.29	0.26	0.28	0.3	0.29	0.02	96.7%	0.057
Benzene	0.3	0.3	0.31	0.32	0.31	0.28	0.3	0.31	0.30	0.01	101.4%	0.040
Methyl methacrylate	0.3	0.27	0.26	0.28	0.28	0.26	0.27	0.27	0.27	0.01	90.0%	0.026
1,4-dioxane	0.3	0.29	0.31	0.32	0.3	0.31	0.3	0.3	0.30	0.01	101.4%	0.031

Compound	Amt	IDL #1	IDL #2	IDL #3	IDL #4	IDL #5	IDL #6	IDL #7	AVG	StdDev	%Rec	IDL
2,2,4-trimethylpentane	0.3	0.29	0.28	0.3	0.28	0.26	0.28	0.29	0.28	0.01	94.3%	0.039
Heptane	0.3	0.26	0.27	0.28	0.28	0.24	0.27	0.28	0.27	0.01	89.5%	0.046
Trichloroethene	0.3	0.29	0.29	0.32	0.28	0.25	0.28	0.29	0.29	0.02	95.2%	0.065
1,2-dichloropropane	0.3	0.29	0.3	0.32	0.3	0.27	0.28	0.3	0.29	0.02	98.1%	0.051
Bromodichloromethane	0.3	0.3	0.31	0.33	0.3	0.28	0.29	0.31	0.30	0.02	101.0%	0.050
cis-1,3-dichloropropene	0.3	0.28	0.29	0.3	0.27	0.25	0.27	0.27	0.28	0.02	91.9%	0.051
trans-1,3-dichloropropene	0.3	0.28	0.28	0.3	0.28	0.25	0.28	0.28	0.28	0.01	92.9%	0.046
1,1,2-trichloroethane	0.3	0.3	0.31	0.31	0.3	0.28	0.29	0.31	0.30	0.01	100.0%	0.036
Toluene	0.3	0.28	0.29	0.29	0.27	0.26	0.26	0.28	0.28	0.01	91.9%	0.040
Methyl Isobutyl Ketone	0.3	0.26	0.28	0.3	0.3	0.28	0.27	0.27	0.28	0.02	93.3%	0.048
Dibromochloromethane	0.3	0.29	0.31	0.31	0.3	0.27	0.29	0.29	0.29	0.01	98.1%	0.044
Methyl Butyl Ketone	0.3	0.27	0.29	0.31	0.29	0.31	0.29	0.27	0.29	0.02	96.7%	0.051
1,2-dibromoethane	0.3	0.29	0.29	0.32	0.3	0.27	0.29	0.29	0.29	0.01	97.6%	0.047
Tetrachloroethylene	0.3	0.3	0.3	0.33	0.29	0.27	0.3	0.3	0.30	0.02	99.5%	0.056
Chlorobenzene	0.3	0.29	0.29	0.32	0.29	0.27	0.27	0.29	0.29	0.02	96.2%	0.053
Ethylbenzene	0.3	0.26	0.26	0.28	0.25	0.24	0.25	0.27	0.26	0.01	86.2%	0.042
m&p-xylene	0.6	0.53	0.51	0.55	0.53	0.45	0.49	0.52	0.51	0.03	85.2%	0.103
Styrene	0.3	0.25	0.26	0.27	0.25	0.24	0.23	0.24	0.25	0.01	82.9%	0.042
Bromoform	0.3	0.29	0.29	0.32	0.29	0.28	0.29	0.3	0.29	0.01	98.1%	0.040
o-xylene	0.3	0.26	0.27	0.29	0.26	0.25	0.25	0.27	0.26	0.01	88.1%	0.044
1,1,2,2-tetrachloroethane	0.3	0.29	0.3	0.31	0.28	0.27	0.29	0.29	0.29	0.01	96.7%	0.041
2-Chlorotoluene	0.3	0.25	0.3	0.28	0.25	0.23	0.24	0.25	0.26	0.02	85.7%	0.076
4-ethyltoluene	0.3	0.25	0.25	0.26	0.24	0.23	0.24	0.26	0.25	0.01	82.4%	0.035
1,3,5-trimethylbenzene	0.3	0.26	0.26	0.29	0.26	0.26	0.27	0.26	0.27	0.01	88.6%	0.036
1,2,4-trimethylbenzene	0.3	0.23	0.23	0.26	0.23	0.23	0.23	0.21	0.23	0.01	77.1%	0.046
1,3-dichlorobenzene	0.3	0.25	0.25	0.3	0.25	0.23	0.25	0.25	0.25	0.02	84.8%	0.068
benzyl chloride	0.3	0.23	0.31	0.28	0.32	0.31	0.24	0.23	0.27	0.04	91.4%	0.127
1,4-dichlorobenzene	0.3	0.26	0.24	0.29	0.26	0.25	0.24	0.25	0.26	0.02	85.2%	0.054
1,2,3-trimethylbenzene	0.3	0.23	0.22	0.25	0.23	0.24	0.25	0.23	0.24	0.01	78.6%	0.036
1,2-dichlorobenzene	0.3	0.26	0.25	0.29	0.26	0.24	0.26	0.26	0.26	0.02	86.7%	0.048
1,2,4-trichlorobenzene	0.3	0.28	0.25	0.31	0.28	0.27	0.27	0.26	0.27	0.02	91.4%	0.060
Naphthalene	0.3	0.24	0.23	0.27	0.25	0.25	0.23	0.23	0.24	0.01	81.0%	0.047
Hexachloro-1,3-butadiene	0.3	0.26	0.26	0.3	0.27	0.26	0.27	0.29	0.27	0.02	91.0%	0.050

Compound	Amt	IDL #1	IDL #2	IDL #3	IDL #4	IDL #5	IDL #6	IDL #7	AVG	StdDev	%Rec	IDL
Vinyl Chloride	0.1	0.11	0.1	0.11	0.11	0.12	0.1	0.11	0.11	0.01	108.6%	0.022
Carbon tetrachloride	0.1	0.11	0.1	0.1	0.1	0.12	0.1	0.11	0.11	0.01	105.7%	0.025
Trichloroethene	0.1	0.11	0.09	0.09	0.1	0.11	0.1	0.1	0.10	0.01	100.0%	0.026
Tetrachloroethylene	0.1	0.11	0.1	0.1	0.11	0.12	0.1	0.11	0.11	0.01	107.1%	0.024

GC/MS-Whole Air Calculations

Relative Response Factor (RRF)

$$RRF = \frac{Ax * Cis}{Ais * Cx}$$

where: Ax = area of the characteristic ion for the compound being measured
Ais = area of the characteristic ion for the specific internal standard of the compound being measured
Cx = concentration of the compound being measured (ppbv)
Cis = concentration of the internal standard (ppbv)

Percent Relative Standard Deviation (%RSD)

$$\% RSD = \frac{\text{Standard deviation of RRF values} * 100}{\text{mean RRF}}$$

Percent Difference (%D)

$$\% D = \frac{(RRFc - \text{mean RRFi}) * 100}{\text{mean RRFi}}$$

where: RRFc = relative response factor from the continuing calibration
mean RRFi = mean relative response factor from the initial calibration

Sample Calculations

$$ppbv = \frac{Ax * Is * Df}{Ais * RRF}$$

where: Ax = area of the characteristic ion for the compound being measured
Ais = area of the characteristic ion for the specific internal standard of the compound being measured
Is = Concentration of the internal standard injected (ppbv)
RRF= relative response factor for the compound being measured
Df = Dilution factor

GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

SAMPLE DATA

Centek Laboratories, LLC

Date: *11-Dec-13*

CLIENT:	HDR Engineering	**Client Sample ID:**	175-W-IA
Lab Order:	C1311058	**Tag Number:**	366,438
Project:	Aluminum Louvre	**Collection Date:**	11/18/2013
Lab ID:	C1311058-001A	**Matrix:**	

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS		FLD				Analyst:
Lab Vacuum In	-8			"Hg		11/20/2013
Lab Vacuum Out	-30			"Hg		11/20/2013
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		TO-15				Analyst: **RJP**
1,1,1-Trichloroethane	17	1.5		ppbV	10	11/27/2013 7:35:00 PM
1,1,2,2-Tetrachloroethane	< 0.15	0.15		ppbV	1	11/27/2013 12:53:00 AM
1,1,2-Trichloroethane	< 0.15	0.15		ppbV	1	11/27/2013 12:53:00 AM
1,1-Dichloroethane	0.14	0.15	J	ppbV	1	11/27/2013 12:53:00 AM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	11/27/2013 12:53:00 AM
1,2,4-Trichlorobenzene	< 0.15	0.15		ppbV	1	11/27/2013 12:53:00 AM
1,2,4-Trimethylbenzene	0.26	0.15		ppbV	1	11/27/2013 12:53:00 AM
1,2-Dibromoethane	< 0.15	0.15		ppbV	1	11/27/2013 12:53:00 AM
1,2-Dichlorobenzene	< 0.15	0.15		ppbV	1	11/27/2013 12:53:00 AM
1,2-Dichloroethane	< 0.15	0.15		ppbV	1	11/27/2013 12:53:00 AM
1,2-Dichloropropane	< 0.15	0.15		ppbV	1	11/27/2013 12:53:00 AM
1,3,5-Trimethylbenzene	< 0.15	0.15		ppbV	1	11/27/2013 12:53:00 AM
1,3-butadiene	< 0.15	0.15		ppbV	1	11/27/2013 12:53:00 AM
1,3-Dichlorobenzene	< 0.15	0.15		ppbV	1	11/27/2013 12:53:00 AM
1,4-Dichlorobenzene	< 0.15	0.15		ppbV	1	11/27/2013 12:53:00 AM
1,4-Dioxane	< 0.30	0.30		ppbV	1	11/27/2013 12:53:00 AM
2,2,4-trimethylpentane	0.13	0.15	J	ppbV	1	11/27/2013 12:53:00 AM
4-ethyltoluene	< 0.15	0.15		ppbV	1	11/27/2013 12:53:00 AM
Acetone	6.8	3.0		ppbV	10	11/27/2013 7:35:00 PM
Allyl chloride	< 0.15	0.15		ppbV	1	11/27/2013 12:53:00 AM
Benzene	0.36	0.15		ppbV	1	11/27/2013 12:53:00 AM
Benzyl chloride	< 0.15	0.15		ppbV	1	11/27/2013 12:53:00 AM
Bromodichloromethane	< 0.15	0.15		ppbV	1	11/27/2013 12:53:00 AM
Bromoform	< 0.15	0.15		ppbV	1	11/27/2013 12:53:00 AM
Bromomethane	< 0.15	0.15		ppbV	1	11/27/2013 12:53:00 AM
Carbon disulfide	0.11	0.15	J	ppbV	1	11/27/2013 12:53:00 AM
Carbon tetrachloride	0.11	0.040		ppbV	1	11/27/2013 12:53:00 AM
Chlorobenzene	< 0.15	0.15		ppbV	1	11/27/2013 12:53:00 AM
Chloroethane	< 0.15	0.15		ppbV	1	11/27/2013 12:53:00 AM
Chloroform	< 0.15	0.15		ppbV	1	11/27/2013 12:53:00 AM
Chloromethane	0.51	0.15		ppbV	1	11/27/2013 12:53:00 AM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	11/27/2013 12:53:00 AM
cis-1,3-Dichloropropene	< 0.15	0.15		ppbV	1	11/27/2013 12:53:00 AM
Cyclohexane	< 0.15	0.15		ppbV	1	11/27/2013 12:53:00 AM
Dibromochloromethane	< 0.15	0.15		ppbV	1	11/27/2013 12:53:00 AM
Ethyl acetate	< 0.25	0.25		ppbV	1	11/27/2013 12:53:00 AM

Qualifiers:

**	Reporting Limit	.	Results reported are not blank corrected
B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: *11-Dec-13*

CLIENT:	HDR Engineering	**Client Sample ID:**	175-W-IA
Lab Order:	C1311058	**Tag Number:**	366,438
Project:	Aluminum Louvre	**Collection Date:**	11/18/2013
Lab ID:	C1311058-001A	**Matrix:**	

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		TO-15				Analyst: RJP
Ethylbenzene	0.15	0.15		ppbV	1	11/27/2013 12:53:00 AM
Freon 11	0.25	0.15		ppbV	1	11/27/2013 12:53:00 AM
Freon 113	< 0.15	0.15		ppbV	1	11/27/2013 12:53:00 AM
Freon 114	< 0.15	0.15		ppbV	1	11/27/2013 12:53:00 AM
Freon 12	0.57	0.15		ppbV	1	11/27/2013 12:53:00 AM
Heptane	0.17	0.15		ppbV	1	11/27/2013 12:53:00 AM
Hexachloro-1,3-butadiene	< 0.15	0.15		ppbV	1	11/27/2013 12:53:00 AM
Hexane	0.22	0.15		ppbV	1	11/27/2013 12:53:00 AM
Isopropyl alcohol	7.1	1.5		ppbV	10	11/27/2013 7:35:00 PM
m&p-Xylene	0.39	0.30		ppbV	1	11/27/2013 12:53:00 AM
Methyl Butyl Ketone	< 0.30	0.30		ppbV	1	11/27/2013 12:53:00 AM
Methyl Ethyl Ketone	0.78	0.30		ppbV	1	11/27/2013 12:53:00 AM
Methyl Isobutyl Ketone	0.24	0.30	J	ppbV	1	11/27/2013 12:53:00 AM
Methyl tert-butyl ether	< 0.15	0.15		ppbV	1	11/27/2013 12:53:00 AM
Methylene chloride	0.84	0.15		ppbV	1	11/27/2013 12:53:00 AM
o-Xylene	0.13	0.15	J	ppbV	1	11/27/2013 12:53:00 AM
Propylene	< 0.15	0.15		ppbV	1	11/27/2013 12:53:00 AM
Styrene	< 0.15	0.15		ppbV	1	11/27/2013 12:53:00 AM
Tetrachloroethylene	< 0.15	0.15		ppbV	1	11/27/2013 12:53:00 AM
Tetrahydrofuran	< 0.15	0.15		ppbV	1	11/27/2013 12:53:00 AM
Toluene	1.2	0.15		ppbV	1	11/27/2013 12:53:00 AM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	11/27/2013 12:53:00 AM
trans-1,3-Dichloropropene	< 0.15	0.15		ppbV	1	11/27/2013 12:53:00 AM
Trichloroethene	0.20	0.040		ppbV	1	11/27/2013 12:53:00 AM
Vinyl acetate	< 0.15	0.15		ppbV	1	11/27/2013 12:53:00 AM
Vinyl Bromide	< 0.15	0.15		ppbV	1	11/27/2013 12:53:00 AM
Vinyl chloride	< 0.040	0.040		ppbV	1	11/27/2013 12:53:00 AM
Surr: Bromofluorobenzene	89.0	70-130		%REC	1	11/27/2013 12:53:00 AM

Qualifiers:

**	Reporting Limit	.	Results reported are not blank corrected
B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: *11-Dec-13*

CLIENT:	HDR Engineering	**Client Sample ID:**	175-W-IA
Lab Order:	C1311058	**Tag Number:**	366,438
Project:	Aluminum Louvre	**Collection Date:**	11/18/2013
Lab ID:	C1311058-001A	**Matrix:**	

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		**TO-15**				Analyst: **RJP**
1,1,1-Trichloroethane	96	8.3		ug/m3	10	11/27/2013 7:35:00 PM
1,1,2,2-Tetrachloroethane	< 1.0	1.0		ug/m3	1	11/27/2013 12:53:00 AM
1,1,2-Trichloroethane	< 0.83	0.83		ug/m3	1	11/27/2013 12:53:00 AM
1,1-Dichloroethane	0.58	0.62	J	ug/m3	1	11/27/2013 12:53:00 AM
1,1-Dichloroethene	< 0.60	0.60		ug/m3	1	11/27/2013 12:53:00 AM
1,2,4-Trichlorobenzene	< 1.1	1.1		ug/m3	1	11/27/2013 12:53:00 AM
1,2,4-Trimethylbenzene	1.3	0.75		ug/m3	1	11/27/2013 12:53:00 AM
1,2-Dibromoethane	< 1.2	1.2		ug/m3	1	11/27/2013 12:53:00 AM
1,2-Dichlorobenzene	< 0.92	0.92		ug/m3	1	11/27/2013 12:53:00 AM
1,2-Dichloroethane	< 0.62	0.62		ug/m3	1	11/27/2013 12:53:00 AM
1,2-Dichloropropane	< 0.70	0.70		ug/m3	1	11/27/2013 12:53:00 AM
1,3,5-Trimethylbenzene	< 0.75	0.75		ug/m3	1	11/27/2013 12:53:00 AM
1,3-butadiene	< 0.34	0.34		ug/m3	1	11/27/2013 12:53:00 AM
1,3-Dichlorobenzene	< 0.92	0.92		ug/m3	1	11/27/2013 12:53:00 AM
1,4-Dichlorobenzene	< 0.92	0.92		ug/m3	1	11/27/2013 12:53:00 AM
1,4-Dioxane	< 1.1	1.1		ug/m3	1	11/27/2013 12:53:00 AM
2,2,4-trimethylpentane	0.62	0.71	J	ug/m3	1	11/27/2013 12:53:00 AM
4-ethyltoluene	< 0.75	0.75		ug/m3	1	11/27/2013 12:53:00 AM
Acetone	16	7.2		ug/m3	10	11/27/2013 7:35:00 PM
Allyl chloride	< 0.48	0.48		ug/m3	1	11/27/2013 12:53:00 AM
Benzene	1.2	0.49		ug/m3	1	11/27/2013 12:53:00 AM
Benzyl chloride	< 0.88	0.88		ug/m3	1	11/27/2013 12:53:00 AM
Bromodichloromethane	< 1.0	1.0		ug/m3	1	11/27/2013 12:53:00 AM
Bromoform	< 1.6	1.6		ug/m3	1	11/27/2013 12:53:00 AM
Bromomethane	< 0.59	0.59		ug/m3	1	11/27/2013 12:53:00 AM
Carbon disulfide	0.35	0.47	J	ug/m3	1	11/27/2013 12:53:00 AM
Carbon tetrachloride	0.70	0.26		ug/m3	1	11/27/2013 12:53:00 AM
Chlorobenzene	< 0.70	0.70		ug/m3	1	11/27/2013 12:53:00 AM
Chloroethane	< 0.40	0.40		ug/m3	1	11/27/2013 12:53:00 AM
Chloroform	< 0.74	0.74		ug/m3	1	11/27/2013 12:53:00 AM
Chloromethane	1.1	0.31		ug/m3	1	11/27/2013 12:53:00 AM
cis-1,2-Dichloroethene	< 0.60	0.60		ug/m3	1	11/27/2013 12:53:00 AM
cis-1,3-Dichloropropene	< 0.69	0.69		ug/m3	1	11/27/2013 12:53:00 AM
Cyclohexane	< 0.52	0.52		ug/m3	1	11/27/2013 12:53:00 AM
Dibromochloromethane	< 1.3	1.3		ug/m3	1	11/27/2013 12:53:00 AM
Ethyl acetate	< 0.92	0.92		ug/m3	1	11/27/2013 12:53:00 AM
Ethylbenzene	0.66	0.66		ug/m3	1	11/27/2013 12:53:00 AM
Freon 11	1.4	0.86		ug/m3	1	11/27/2013 12:53:00 AM
Freon 113	< 1.2	1.2		ug/m3	1	11/27/2013 12:53:00 AM
Freon 114	< 1.1	1.1		ug/m3	1	11/27/2013 12:53:00 AM

Qualifiers:

**	Reporting Limit	.	Results reported are not blank corrected
B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: *11-Dec-13*

CLIENT:	HDR Engineering	**Client Sample ID:**	175-W-IA
Lab Order:	C1311058	**Tag Number:**	366,438
Project:	Aluminum Louvre	**Collection Date:**	11/18/2013
Lab ID:	C1311058-001A	**Matrix:**	

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		**TO-15**				Analyst: RJP
Freon 12	2.9	0.75		ug/m3	1	11/27/2013 12:53:00 AM
Heptane	0.71	0.62		ug/m3	1	11/27/2013 12:53:00 AM
Hexachloro-1,3-butadiene	< 1.6	1.6		ug/m3	1	11/27/2013 12:53:00 AM
Hexane	0.79	0.54		ug/m3	1	11/27/2013 12:53:00 AM
Isopropyl alcohol	18	3.7		ug/m3	10	11/27/2013 7:35:00 PM
m&p-Xylene	1.7	1.3		ug/m3	1	11/27/2013 12:53:00 AM
Methyl Butyl Ketone	< 1.2	1.2		ug/m3	1	11/27/2013 12:53:00 AM
Methyl Ethyl Ketone	2.3	0.90		ug/m3	1	11/27/2013 12:53:00 AM
Methyl Isobutyl Ketone	1.0	1.2	J	ug/m3	1	11/27/2013 12:53:00 AM
Methyl tert-butyl ether	< 0.55	0.55		ug/m3	1	11/27/2013 12:53:00 AM
Methylene chloride	3.0	0.53		ug/m3	1	11/27/2013 12:53:00 AM
o-Xylene	0.57	0.66	J	ug/m3	1	11/27/2013 12:53:00 AM
Propylene	< 0.26	0.26		ug/m3	1	11/27/2013 12:53:00 AM
Styrene	< 0.65	0.65		ug/m3	1	11/27/2013 12:53:00 AM
Tetrachloroethylene	< 1.0	1.0		ug/m3	1	11/27/2013 12:53:00 AM
Tetrahydrofuran	< 0.45	0.45		ug/m3	1	11/27/2013 12:53:00 AM
Toluene	4.5	0.57		ug/m3	1	11/27/2013 12:53:00 AM
trans-1,2-Dichloroethene	< 0.60	0.60		ug/m3	1	11/27/2013 12:53:00 AM
trans-1,3-Dichloropropene	< 0.69	0.69		ug/m3	1	11/27/2013 12:53:00 AM
Trichloroethene	1.1	0.22		ug/m3	1	11/27/2013 12:53:00 AM
Vinyl acetate	< 0.54	0.54		ug/m3	1	11/27/2013 12:53:00 AM
Vinyl Bromide	< 0.67	0.67		ug/m3	1	11/27/2013 12:53:00 AM
Vinyl chloride	< 0.10	0.10		ug/m3	1	11/27/2013 12:53:00 AM

Qualifiers:

**	Reporting Limit	.	Results reported are not blank corrected
B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK112625.D Vial: 44
Acq On : 27 Nov 2013 12:53 am Operator: RJP
Sample : C1311058-001A Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 27 07:39:41 2013 Quant Results File: AO15_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Oct 15 18:12:29 2013
Response via : Initial Calibration
DataAcq Meth : 1UG_T015

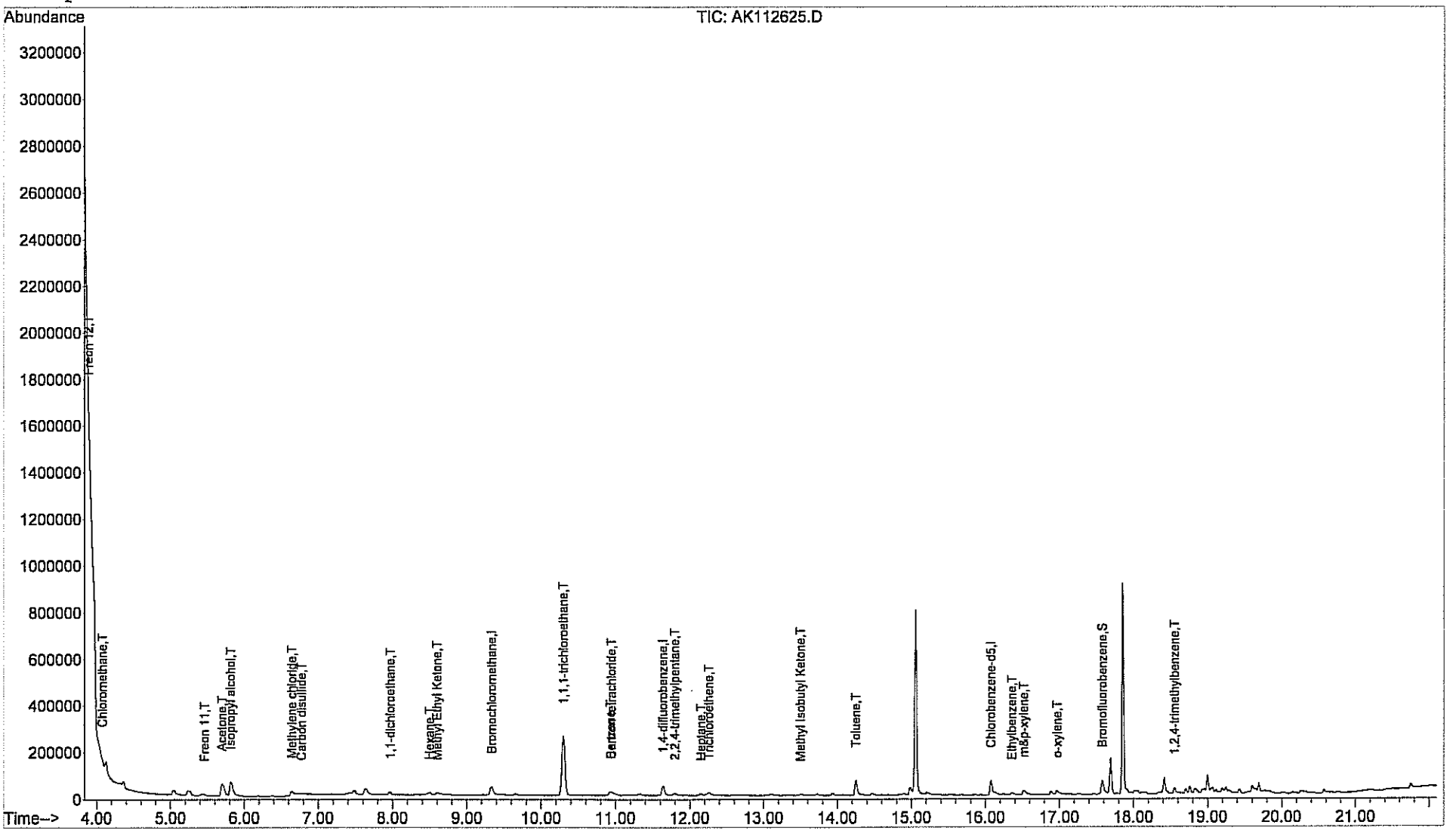
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane	9.33	128	20445	1.00	ppb		-0.03
34) 1,4-difluorobenzene	11.64	114	48700	1.00	ppb		-0.03
49) Chlorobenzene-d5	16.08	117	54290	1.00	ppb		-0.02
System Monitoring Compounds							
62) Bromofluorobenzene	17.58	95	28487	0.89	ppb		-0.02
Spiked Amount 1.000	Range 70 - 130		Recovery = 89.00%				
Target Compounds							Qvalue
4) Freon 12	3.90	85	38845	0.57	ppb		100
5) Chloromethane	4.09	50	8226	0.51	ppb		83
14) Freon 11	5.45	101	13025	0.25	ppb		97
15) Acetone	5.70	58	31768	5.63	ppb	#	22
16) Isopropyl alcohol	5.82	45	106396	7.17	ppb	#	100
20) Methylene chloride	6.64	84	11032	0.84	ppb		97
22) Carbon disulfide	6.77	76	4609	0.11	ppb		90
25) 1,1-dichloroethane	7.97	63	6280	0.14	ppb		95
27) Methyl Ethyl Ketone	8.61	72	5955	0.78	ppb	#	100
29) Hexane	8.49	57	5259	0.22	ppb	#	53
35) 1,1,1-trichloroethane	10.30	97	233565	5.95	ppb		99
37) Carbon tetrachloride	10.95	117	5530	0.11	ppb		96
38) Benzene	10.93	78	18623	0.36	ppb		97
41) 2,2,4-trimethylpentane	11.80	57	7981	0.13	ppb		77
42) Heptane	12.16	43	3176	0.17	ppb	#	64
43) Trichloroethene	12.27	130	4780	0.20	ppb		99
50) Toluene	14.25	92	35576	1.17	ppb		100
51) Methyl Isobutyl Ketone	13.49	43	6035	0.24	ppb		92
57) Ethylbenzene	16.36	91	8447	0.15	ppb		97
58) m&p-xylene	16.52	91	18995	0.39	ppb		99
61) o-xylene	16.96	91	9232	0.13	ppb		89
67) 1,2,4-trimethylbenzene	18.55	105	12668	0.26	ppb		97

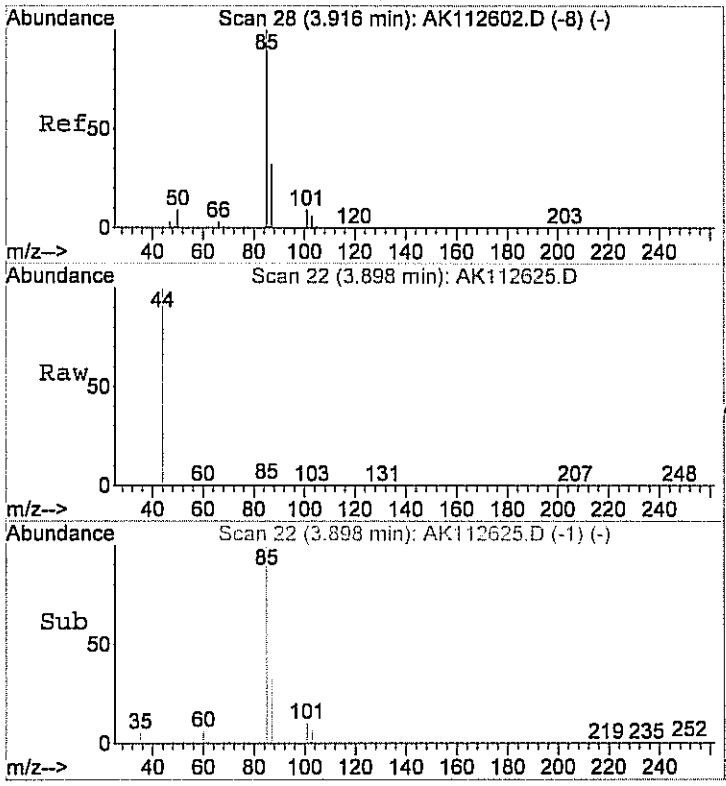
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK112625.D Vial: 44
Acq On : 27 Nov 2013 12:53 am Operator: RJP
Sample : C1311058-001A Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 29 10:58 2013 Quant Results File: AO15_1UG.RES

Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Wed Dec 11 12:48:42 2013
Response via : Initial Calibration

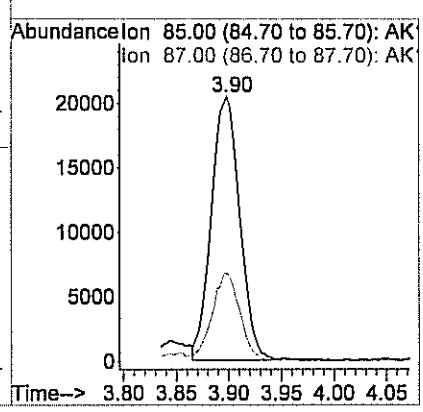


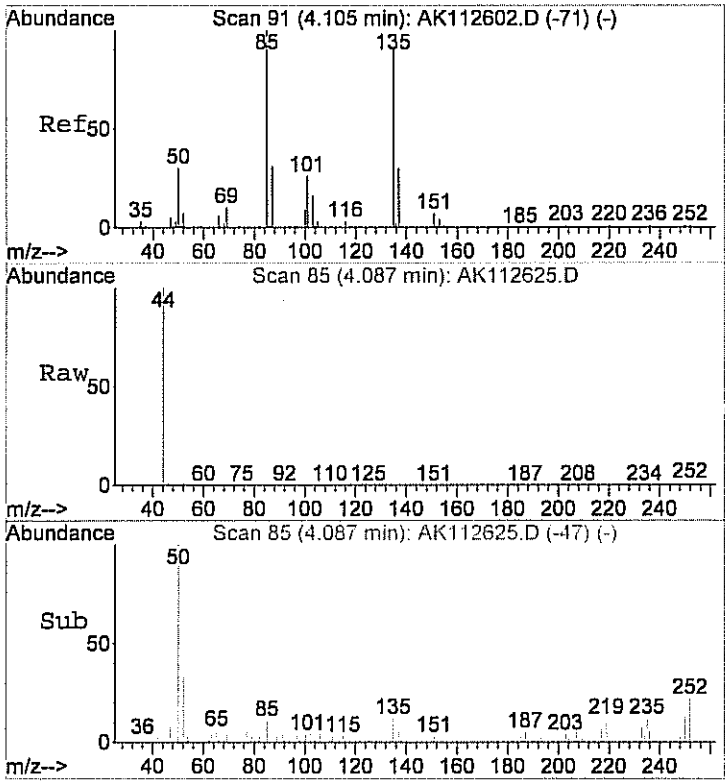


#4
Freon 12
Concen: 0.57 ppb
RT: 3.90 min Scan# 22
Delta R.T. -0.04 min
Lab File: AK112625.D
Acq: 27 Nov 2013 12:53 am

Tgt Ion: 85 Resp: 38845

Ion	Ratio	Lower	Upper
85	100		
87	32.9	12.8	52.8

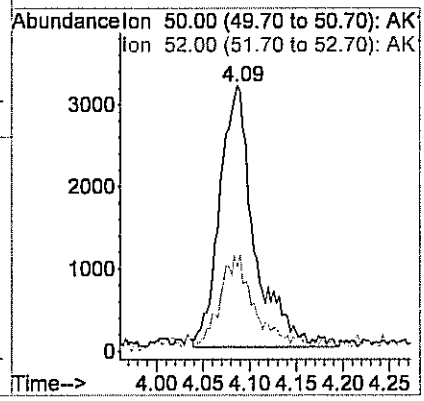


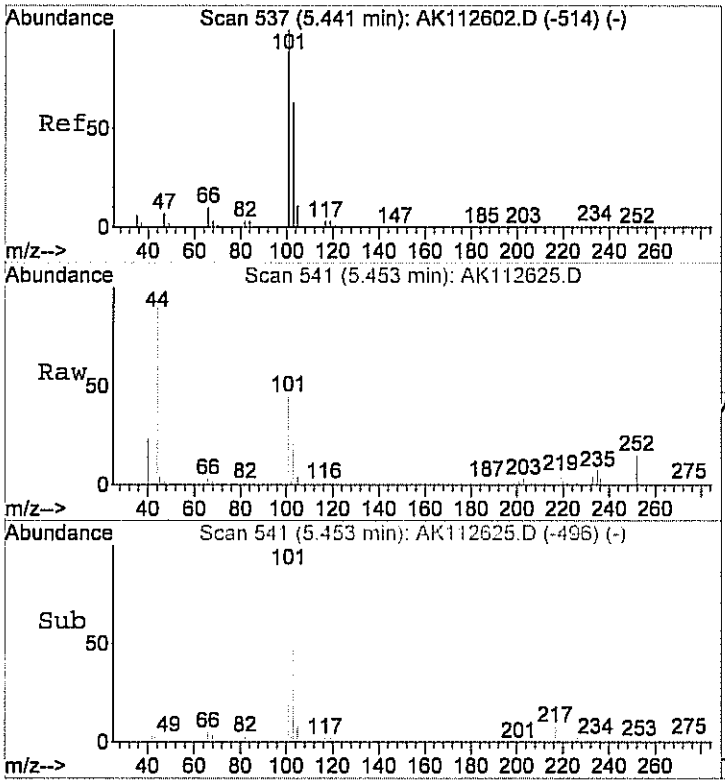


#5
Chloromethane
Concen: 0.51 ppb
RT: 4.09 min Scan# 85
Delta R.T. -0.04 min
Lab File: AK112625.D
Acq: 27 Nov 2013 12:53 am

Tgt Ion: 50 Resp: 8226

Ion	Ratio	Lower	Upper
50	100		
52	38.5	9.4	49.4

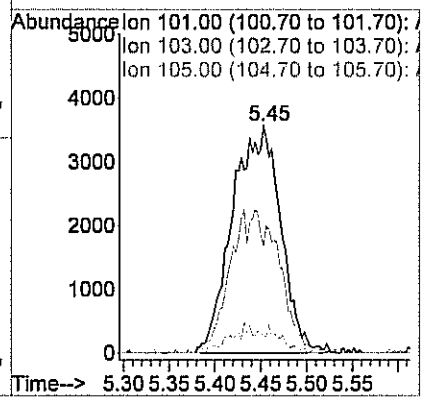


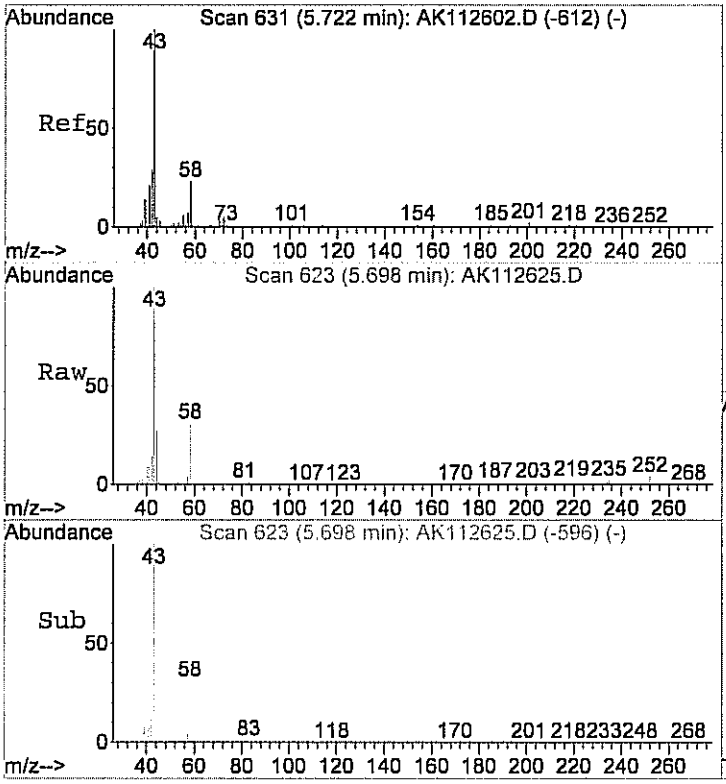


#14
Freon 11
Concen: 0.25 ppb
RT: 5.45 min Scan# 541
Delta R.T. -0.02 min
Lab File: AK112625.D
Acq: 27 Nov 2013 12:53 am

Tgt Ion:101 Resp: 13025

Ion	Ratio	Lower	Upper
101	100		
103	63.2	46.0	86.0
105	11.0	0.0	31.7

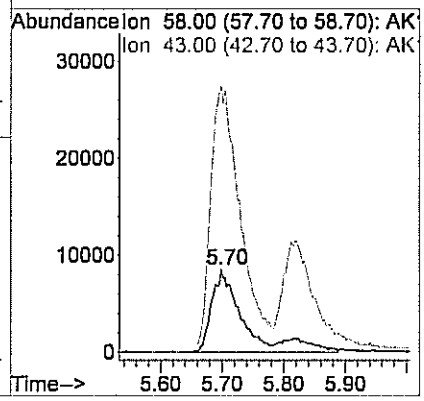


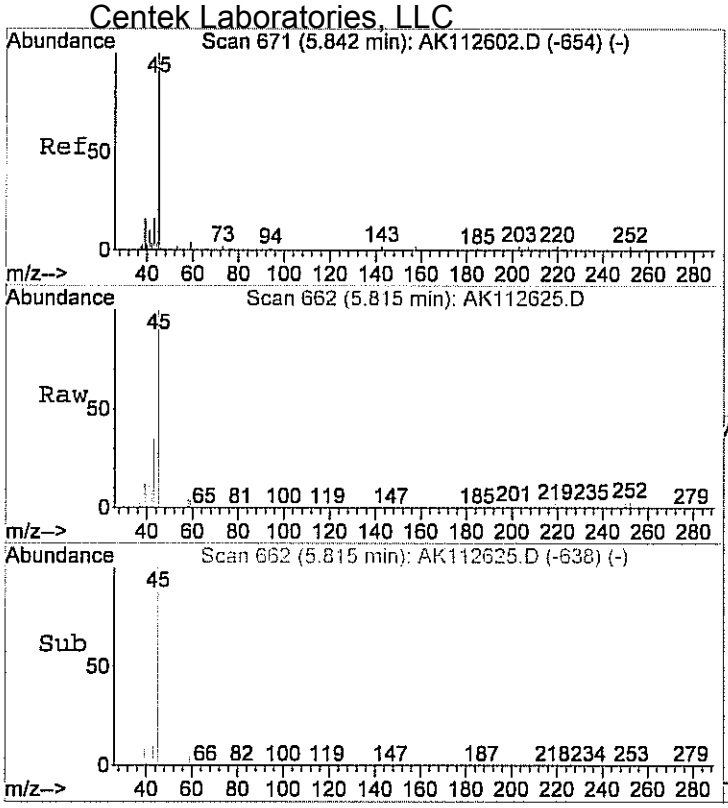


#15
Acetone
Concen: 5.63 ppb
RT: 5.70 min Scan# 623
Delta R.T. -0.07 min
Lab File: AK112625.D
Acq: 27 Nov 2013 12:53 am

Tgt Ion: 58 Resp: 31768

Ion	Ratio	Lower	Upper
58	100		
43	413.6	650.3	710.3#

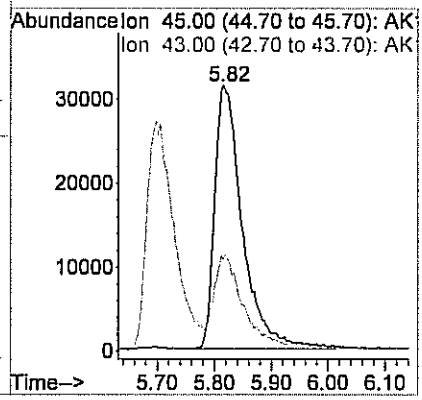


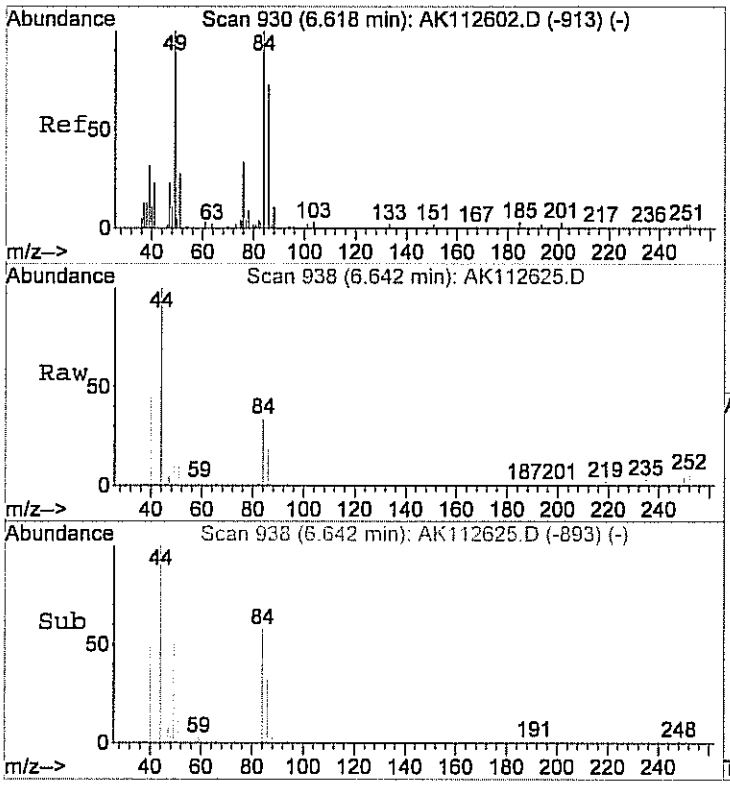


#16
Isopropyl alcohol
Concen: 7.17 ppb
RT: 5.82 min Scan# 662
Delta R.T. -0.08 min
Lab File: AK112625.D
Acq: 27 Nov 2013 12:53 am

Tgt Ion: 45 Resp: 106396

Ion	Ratio	Lower	Upper
45	100		
43	36.6	0.0	20.0#

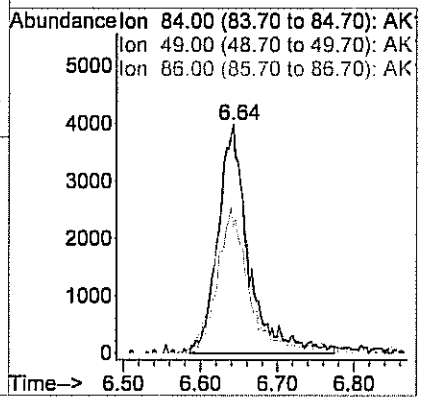


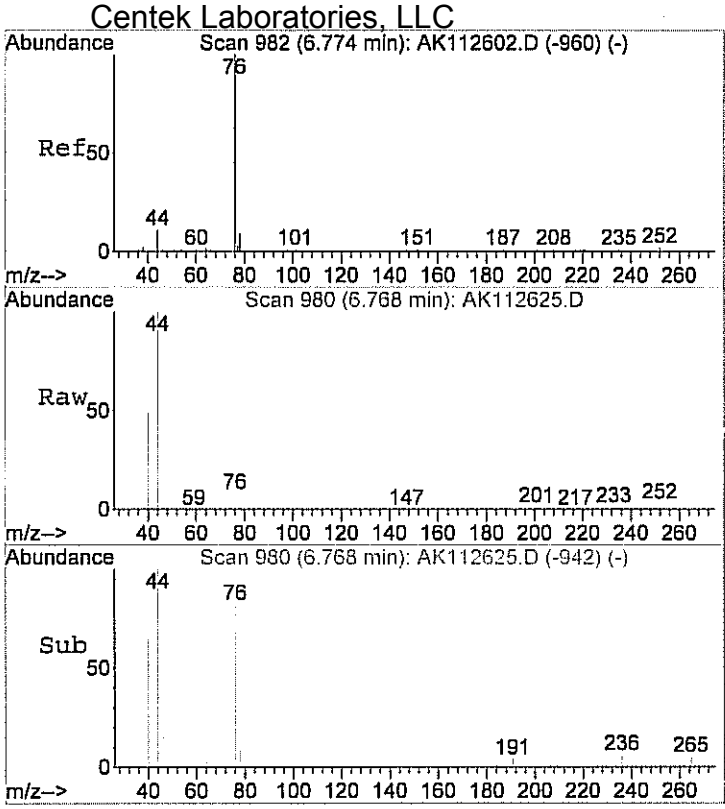


#20
Methylene chloride
Concen: 0.84 ppb
RT: 6.64 min Scan# 938
Delta R.T. -0.02 min
Lab File: AK112625.D
Acq: 27 Nov 2013 12:53 am

Tgt Ion: 84 Resp: 11032

Ion	Ratio	Lower	Upper
84	100		
49	98.2	82.2	122.2
86	64.7	45.4	85.4

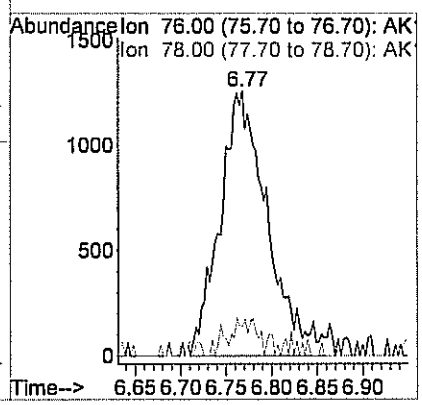


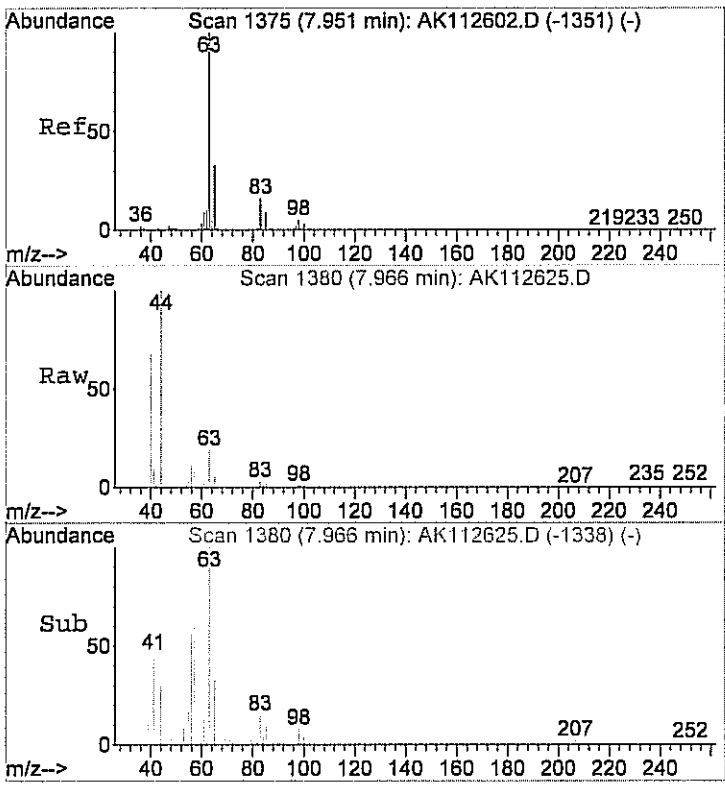


#22
Carbon disulfide
Concen: 0.11 ppb
RT: 6.77 min Scan# 980
Delta R.T. -0.04 min
Lab File: AK112625.D
Acq: 27 Nov 2013 12:53 am

Tgt Ion: 76 Resp: 4609

Ion	Ratio	Lower	Upper
76	100		
78	6.2	0.0	29.9

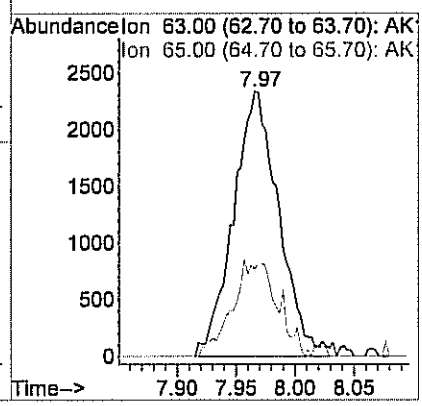


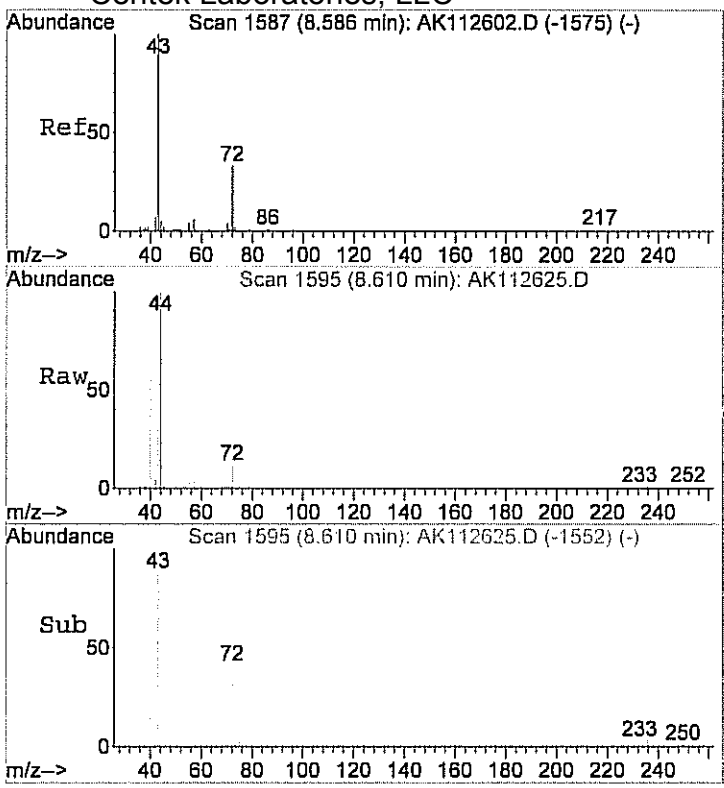


#25
1,1-dichloroethane
Concen: 0.14 ppb
RT: 7.97 min Scan# 1380
Delta R.T. -0.02 min
Lab File: AK112625.D
Acq: 27 Nov 2013 12:53 am

Tgt Ion: 63 Resp: 6280

Ion	Ratio	Lower	Upper
63	100		
65	35.4	12.8	52.8

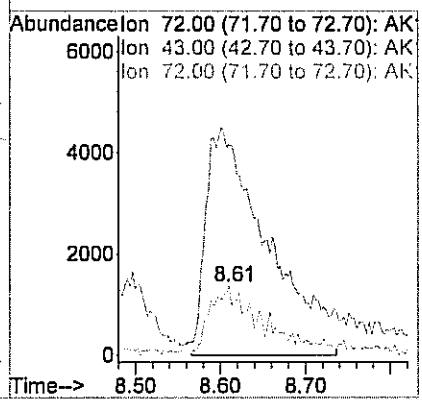


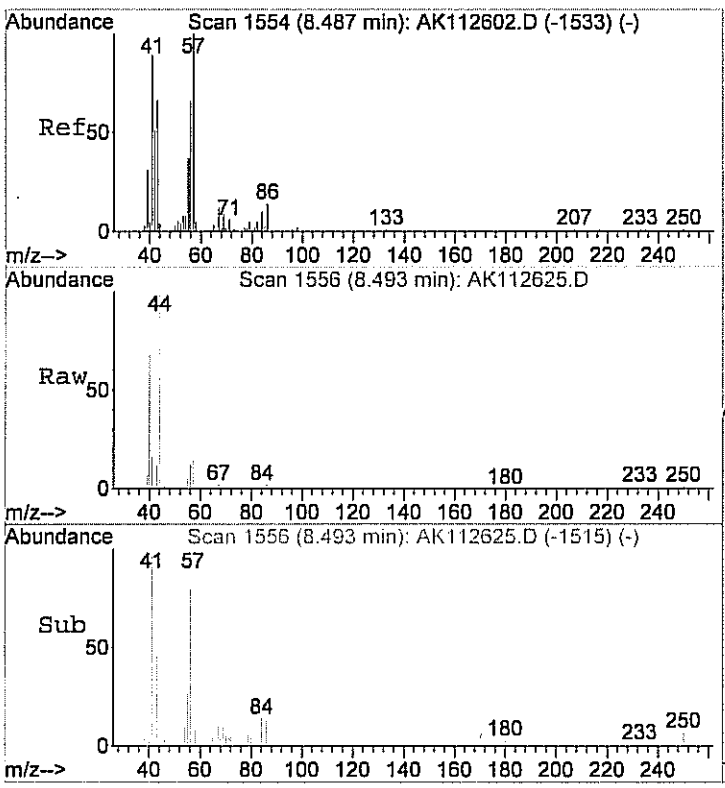


#27
Methyl Ethyl Ketone
Concen: 0.78 ppb
RT: 8.61 min Scan# 1595
Delta R.T. -0.02 min
Lab File: AK112625.D
Acq: 27 Nov 2013 12:53 am

Tgt Ion: 72 Resp: 5955

Ion	Ratio	Lower	Upper
72	100		
43	348.4	0.0	20.0#
72	100.0	80.0	120.0

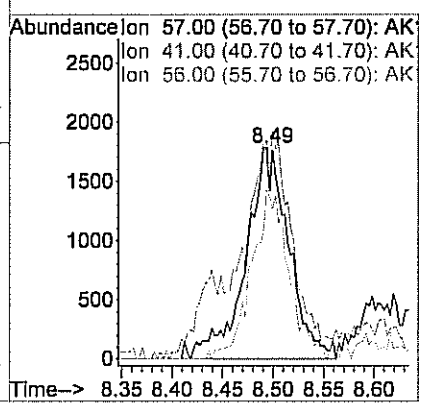


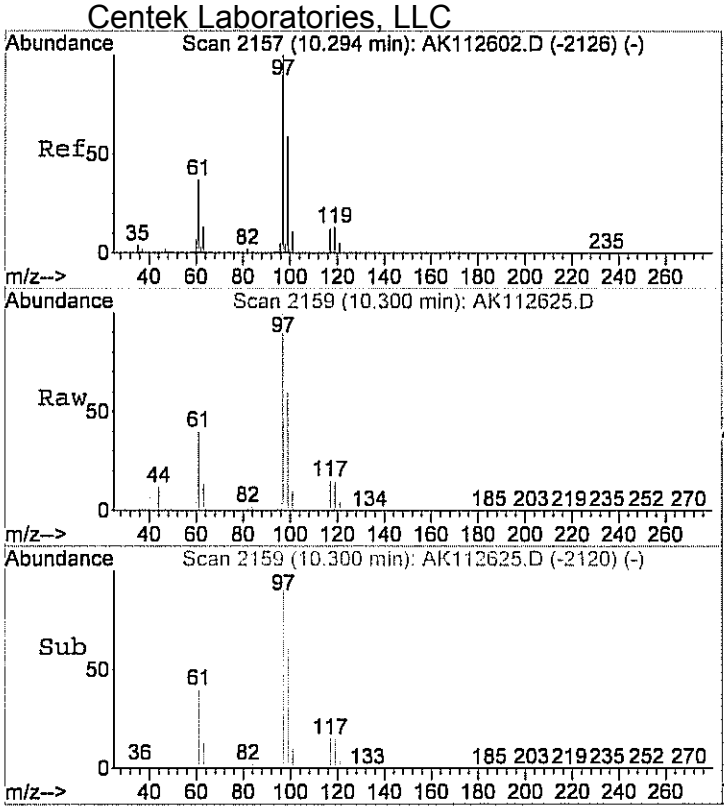


#29
Hexane
Concen: 0.22 ppb
RT: 8.49 min Scan# 1556
Delta R.T. -0.03 min
Lab File: AK112625.D
Acq: 27 Nov 2013 12:53 am

Tgt Ion: 57 Resp: 5259

Ion	Ratio	Lower	Upper
57	100		
41	158.6	68.6	108.6#
56	69.8	43.7	83.7

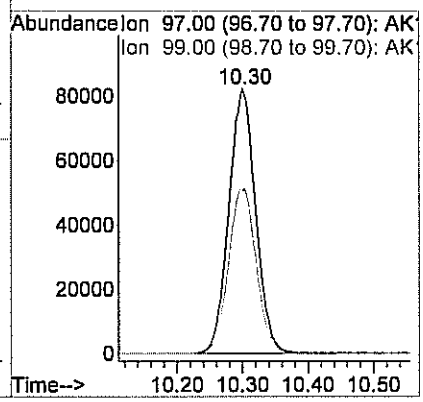


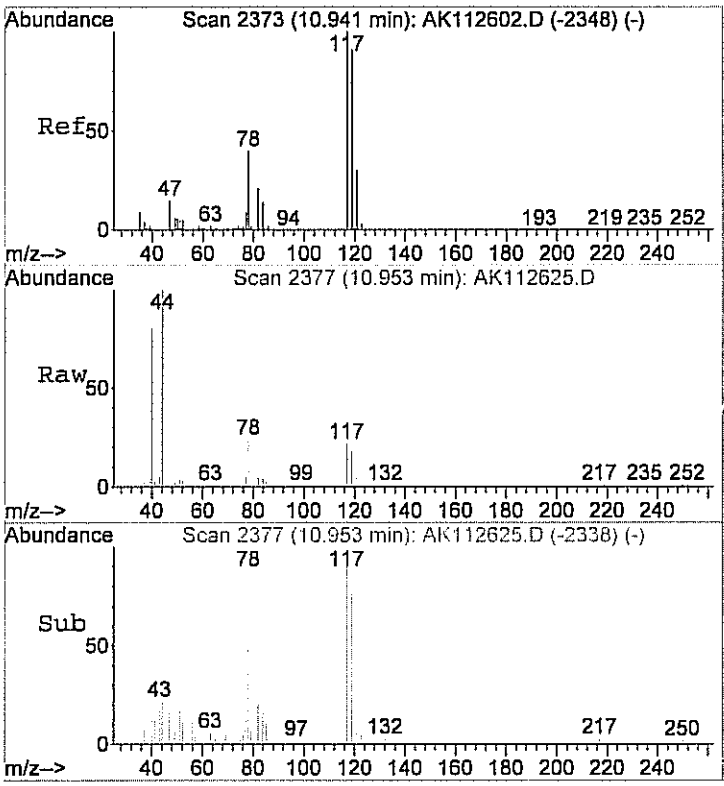


#35
1,1,1-trichloroethane
Concen: 5.95 ppb
RT: 10.30 min Scan# 2159
Delta R.T. -0.03 min
Lab File: AK112625.D
Acq: 27 Nov 2013 12:53 am

Tgt Ion: 97 Resp: 233565

Ion	Ratio	Lower	Upper
97	100		
99	64.7	45.3	85.3

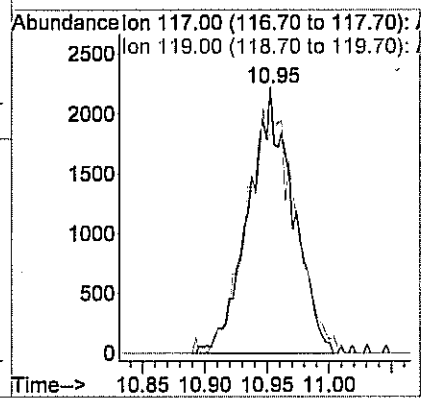


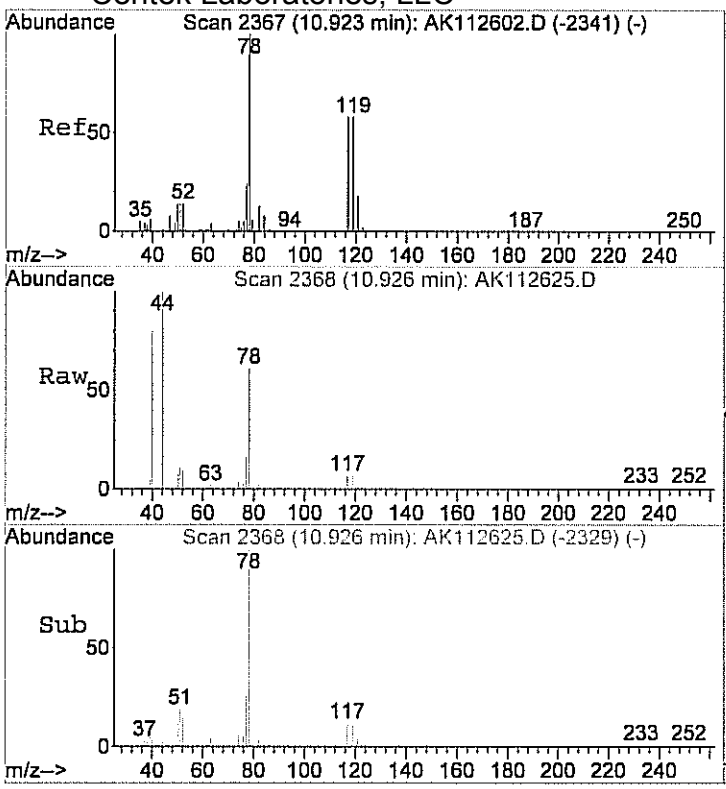


#37
Carbon tetrachloride
Concen: 0.11 ppb
RT: 10.95 min Scan# 2377
Delta R.T. -0.03 min
Lab File: AK112625.D
Acq: 27 Nov 2013 12:53 am

Tgt Ion:117 Resp: 5530

Ion	Ratio	Lower	Upper
117	100		
119	100.9	76.8	116.8

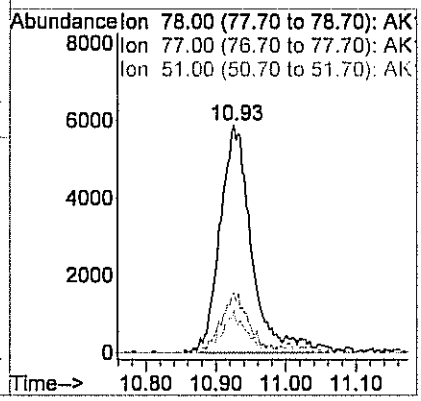


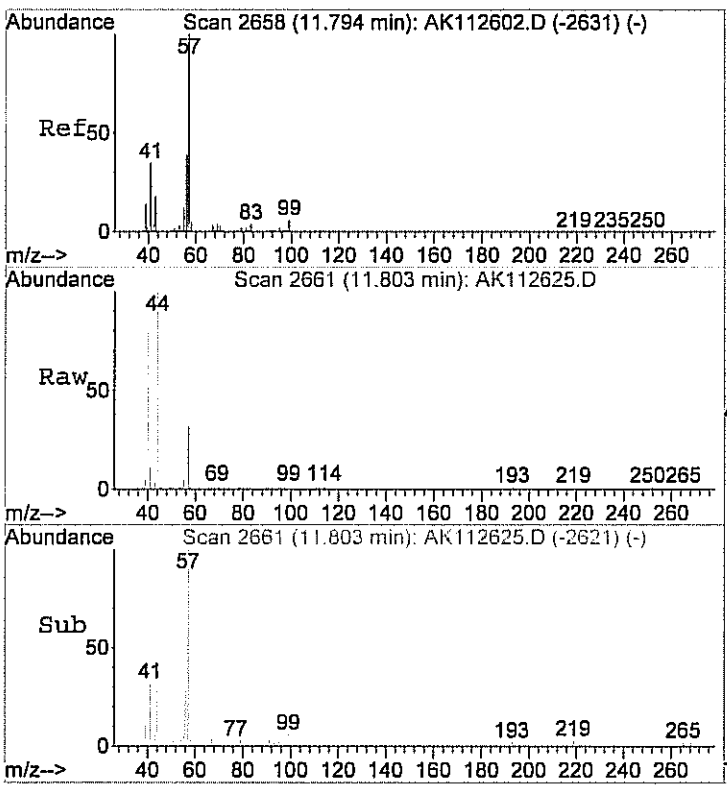


#38
Benzene
Concen: 0.36 ppb
RT: 10.93 min Scan# 2368
Delta R.T. -0.03 min
Lab File: AK112625.D
Acq: 27 Nov 2013 12:53 am

Tgt Ion: 78 Resp: 18623

Ion	Ratio	Lower	Upper
78	100		
77	25.9	6.7	46.7
51	15.4	0.0	37.6

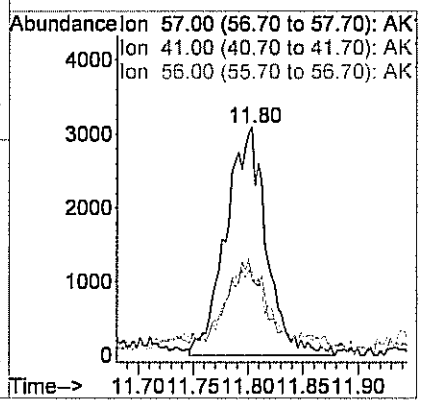


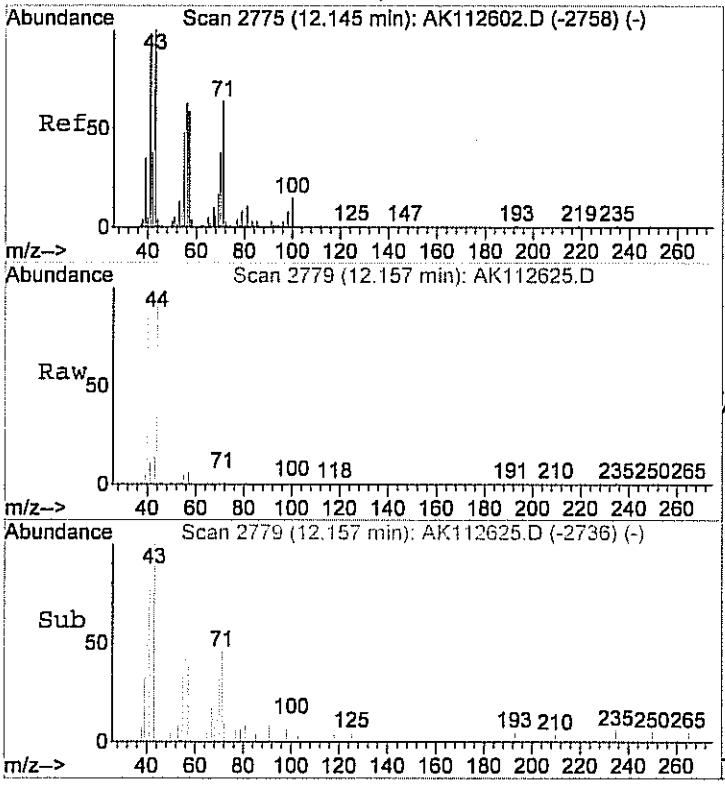


#41
2,2,4-trimethylpentane
Concen: 0.13 ppb
RT: 11.80 min Scan# 2661
Delta R.T. -0.03 min
Lab File: AK112625.D
Acq: 27 Nov 2013 12:53 am

Tgt Ion: 57 Resp: 7981

Ion	Ratio	Lower	Upper
57	100		
41	50.4	12.0	52.0
56	45.8	16.8	56.8

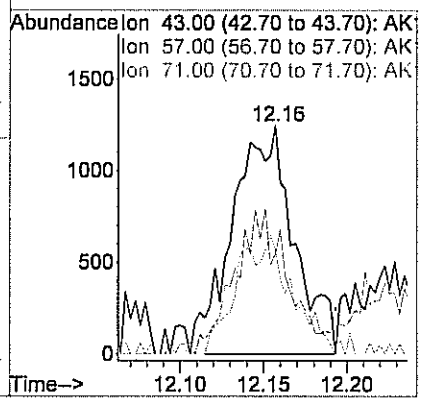


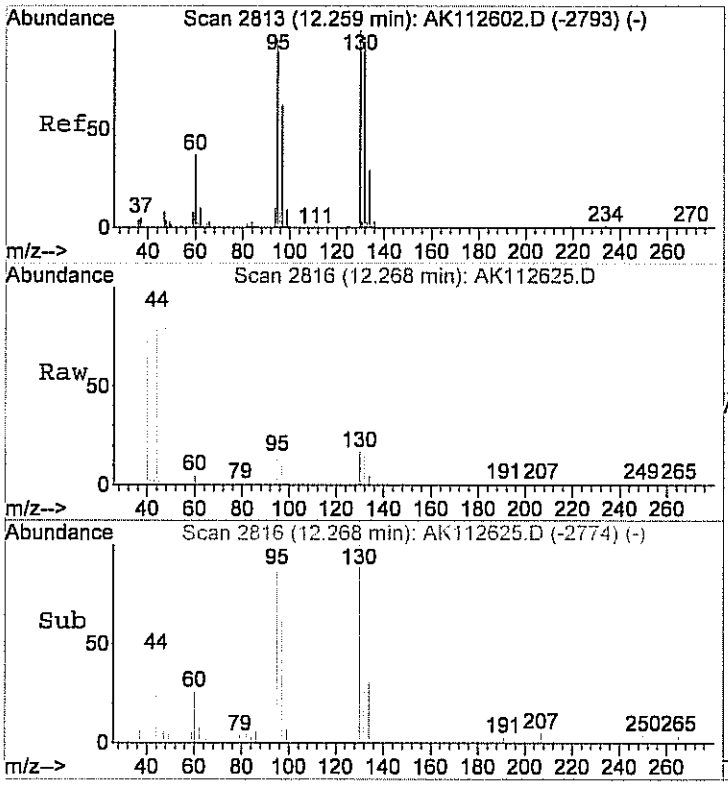


#42
Heptane
Concen: 0.17 ppb
RT: 12.16 min Scan# 2779
Delta R.T. -0.02 min
Lab File: AK112625.D
Acq: 27 Nov 2013 12:53 am

Tgt Ion: 43 Resp: 3176

Ion	Ratio	Lower	Upper
43	100		
57	100.2	40.9	80.9#
71	46.2	41.8	81.8

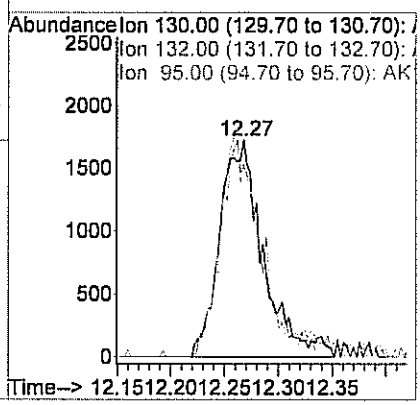


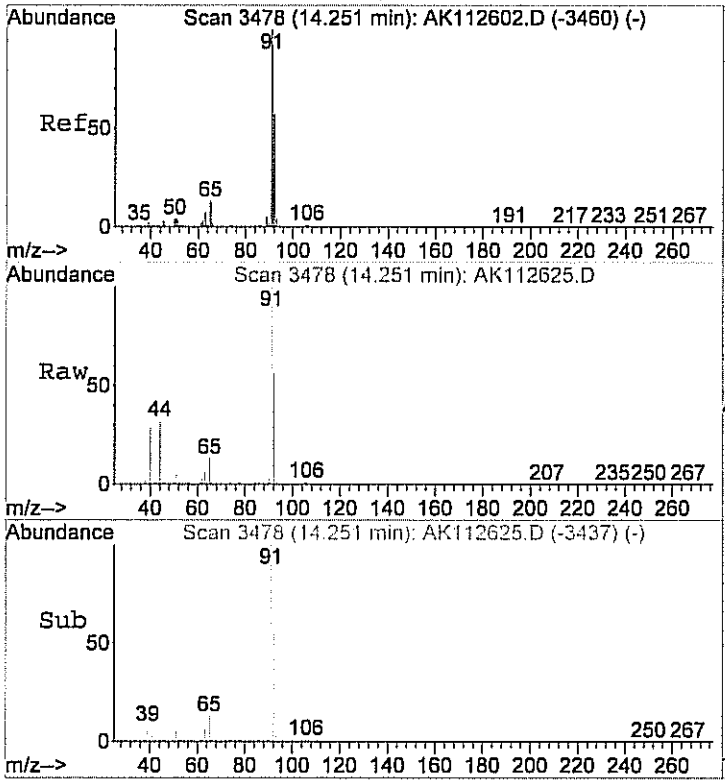


#43
Trichloroethene
Concen: 0.20 ppb
RT: 12.27 min Scan# 2816
Delta R.T. -0.02 min
Lab File: AK112625.D
Acq: 27 Nov 2013 12:53 am

Tgt Ion:130 Resp: 4780

Ion	Ratio	Lower	Upper
130	100		
132	97.6	77.0	117.0
95	97.5	76.9	116.9

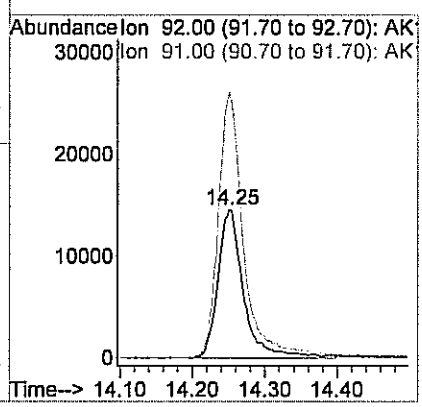


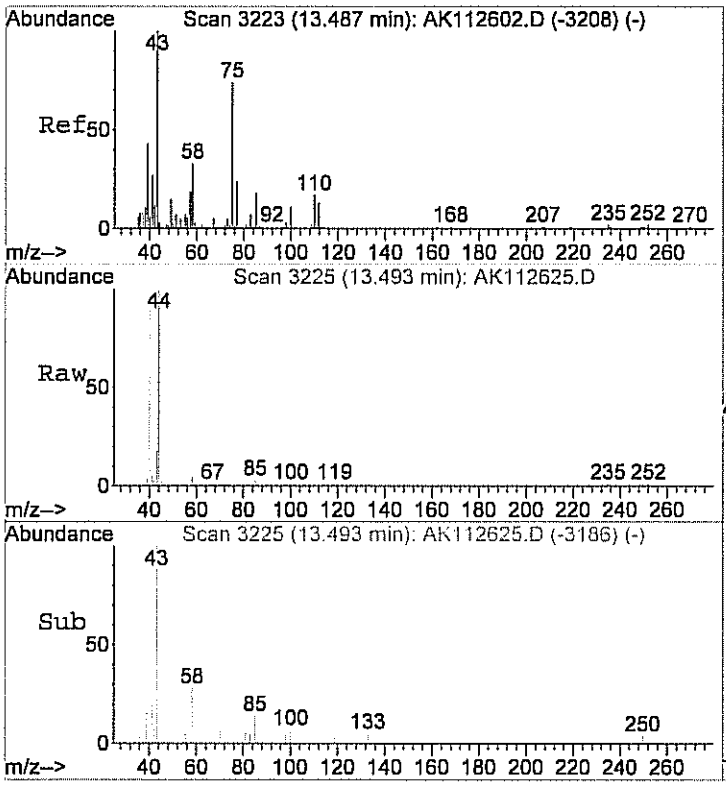


#50
Toluene
Concen: 1.17 ppb
RT: 14.25 min Scan# 3478
Delta R.T. -0.03 min
Lab File: AK112625.D
Acq: 27 Nov 2013 12:53 am

Tgt Ion: 92 Resp: 35576

Ion	Ratio	Lower	Upper
92	100		
91	176.5	156.6	196.6

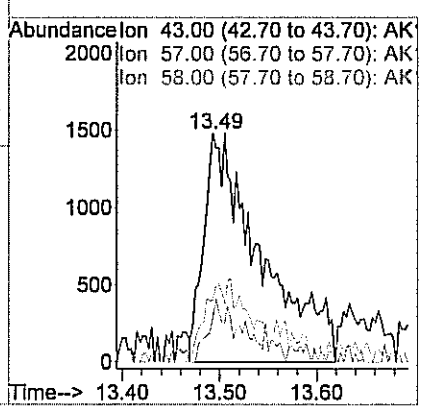


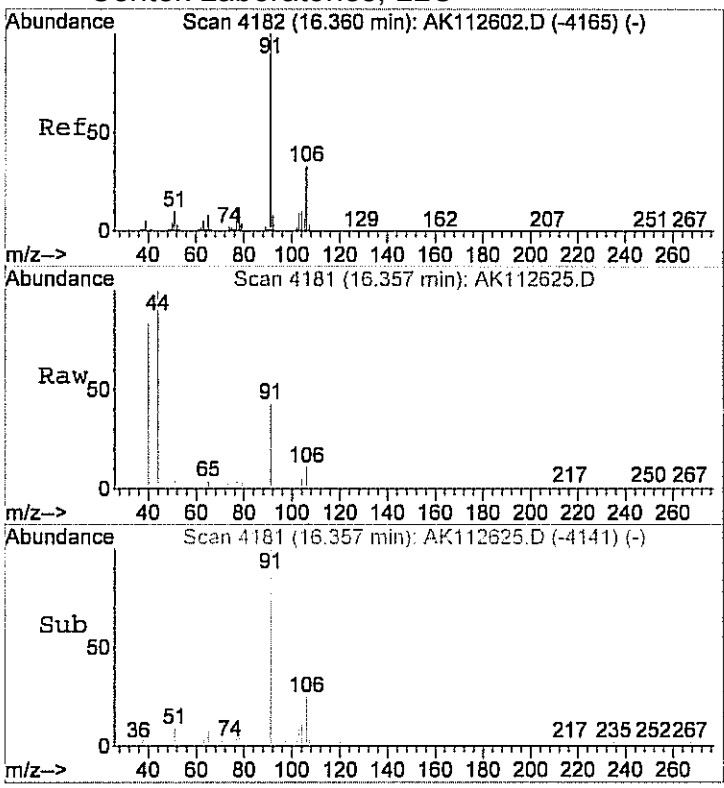


#51
Methyl Isobutyl Ketone
Concen: 0.24 ppb
RT: 13.49 min Scan# 3225
Delta R.T. -0.03 min
Lab File: AK112625.D
Acq: 27 Nov 2013 12:53 am

Tgt Ion: 43 Resp: 6035

Ion	Ratio	Lower	Upper
43	100		
57	17.1	2.7	42.7
58	35.0	18.6	58.6

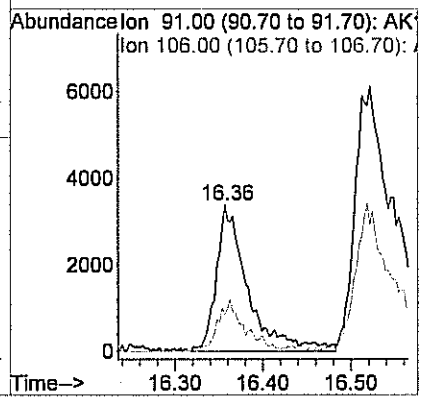


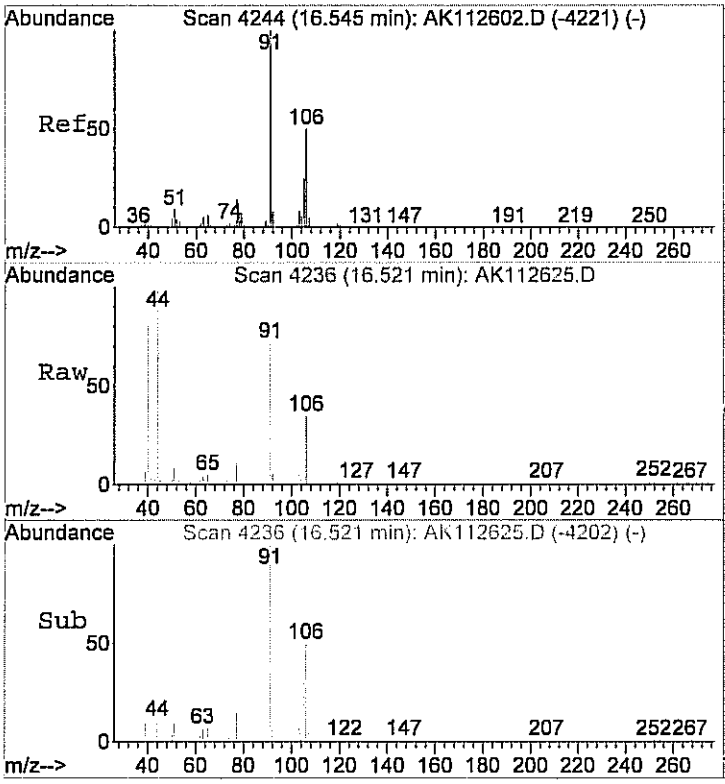


#57
Ethylbenzene
Concen: 0.15 ppb
RT: 16.36 min Scan# 4181
Delta R.T. -0.03 min
Lab File: AK112625.D
Acq: 27 Nov 2013 12:53 am

Tgt Ion: 91 Resp: 8447

Ion	Ratio	Lower	Upper
91	100		
106	31.3	12.8	52.8

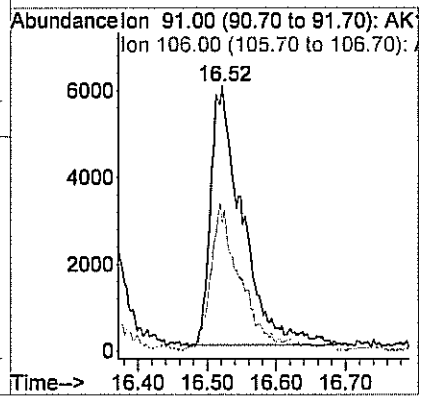


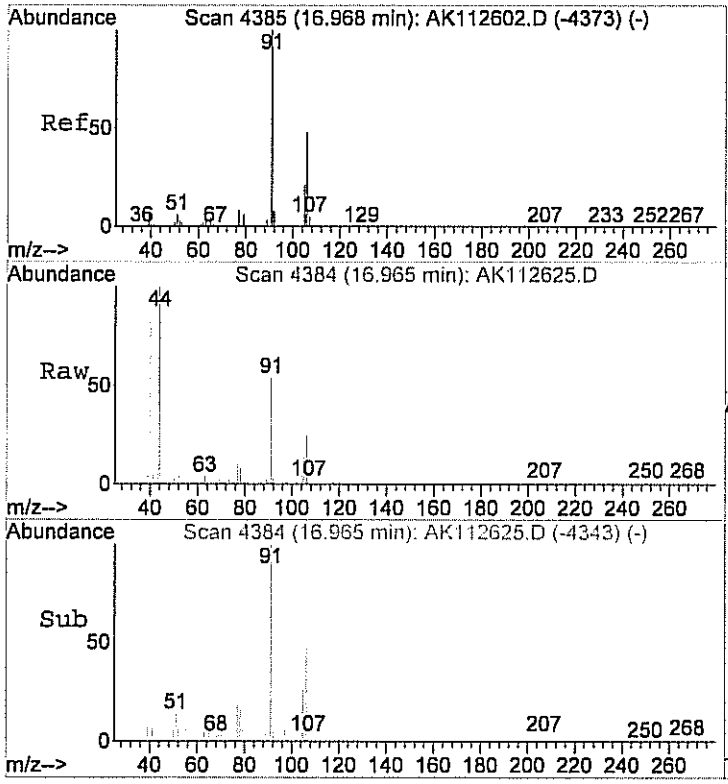


#58
m&p-xylene
Concen: 0.39 ppb
RT: 16.52 min Scan# 4236
Delta R.T. -0.05 min
Lab File: AK112625.D
Acq: 27 Nov 2013 12:53 am

Tgt Ion: 91 Resp: 18995

Ion	Ratio	Lower	Upper
91	100		
106	51.7	31.3	71.3

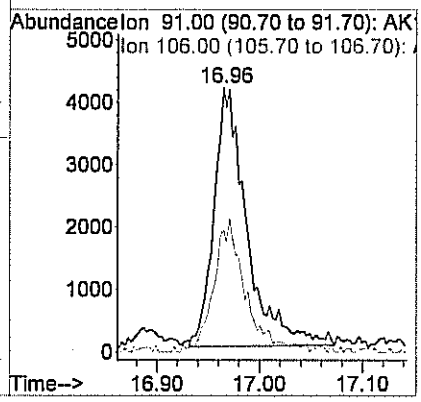


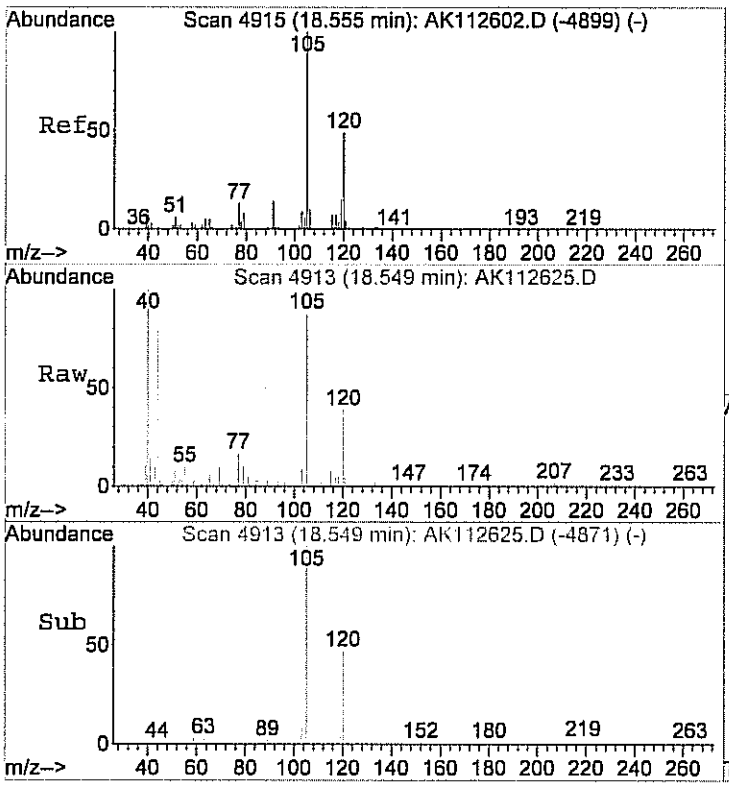


#61
o-xylene
Concen: 0.13 ppb
RT: 16.96 min Scan# 4384
Delta R.T. -0.03 min
Lab File: AK112625.D
Acq: 27 Nov 2013 12:53 am

Tgt Ion: 91 Resp: 9232

Ion	Ratio	Lower	Upper
91	100		
106	49.6	22.3	62.3

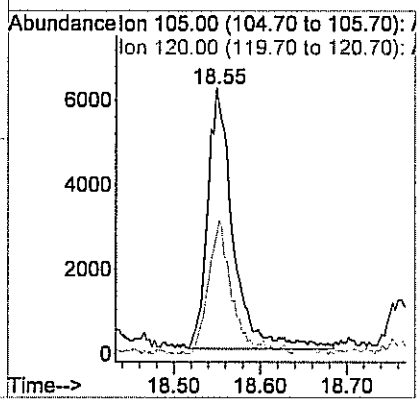




#67
1,2,4-trimethylbenzene
Concen: 0.26 ppb
RT: 18.55 min Scan# 4913
Delta R.T. -0.02 min
Lab File: AK112625.D
Acq: 27 Nov 2013 12:53 am

Tgt Ion:105 Resp: 12668

Ion	Ratio	Lower	Upper
105	100		
120	44.9	26.8	66.8



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK112717.D Vial: 17
Acq On : 27 Nov 2013 7:35 pm Operator: RJP
Sample : C1311058-001A 10X Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 29 10:56:08 2013 Quant Results File: AO15_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Oct 15 18:12:29 2013
Response via : Initial Calibration
DataAcq Meth : 1UG_T015

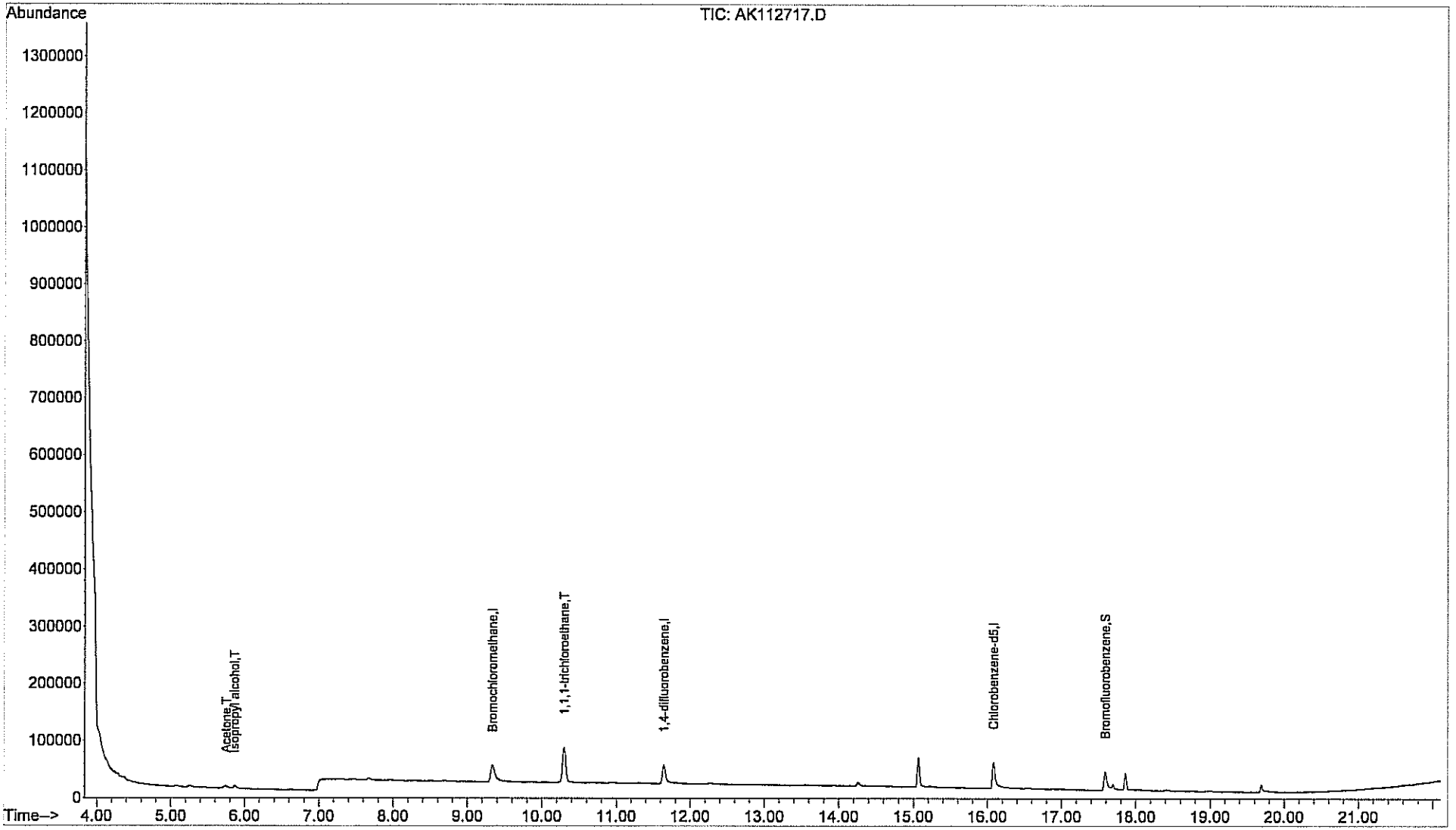
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.34	128	18988	1.00	ppb	-0.02
34) 1,4-difluorobenzene	11.64	114	43002	1.00	ppb	-0.02
49) Chlorobenzene-d5	16.08	117	44007	1.00	ppb	-0.02
System Monitoring Compounds						
62) Bromofluorobenzene	17.59	95	18897	0.73	ppb	-0.02
Spiked Amount 1.000	Range 70 - 130		Recovery = 73.00%			
Target Compounds						Qvalue
15) Acetone	5.76	58	3588	0.68	ppb	# 21
16) Isopropyl alcohol	5.87	45	9797	0.71	ppb	# 100
35) 1,1,1-trichloroethane	10.30	97	59800	1.73	ppb	100

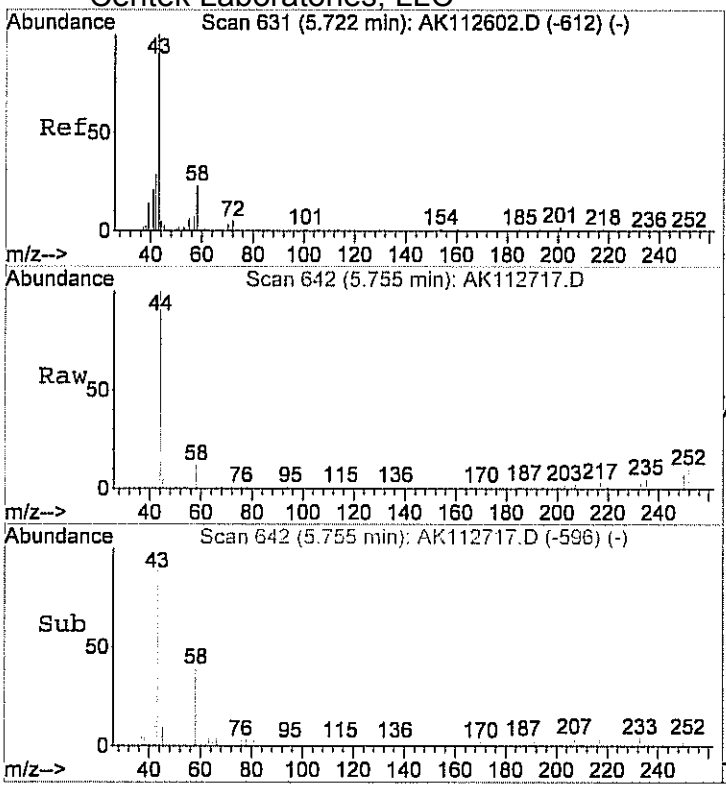
(#) = qualifier out of range (m) = manual integration (+) = signals summed
AK112717.D AO15_1UG.M Wed Dec 11 12:53:04 2013 MSD1 Page 1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK112717.D Vial: 17
Acq On : 27 Nov 2013 7:35 pm Operator: RJP
Sample : C1311058-001A 10X Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Dec 2 8:41 2013 Quant Results File: AO15_1UG.RES

Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Wed Dec 11 12:48:42 2013
Response via : Initial Calibration

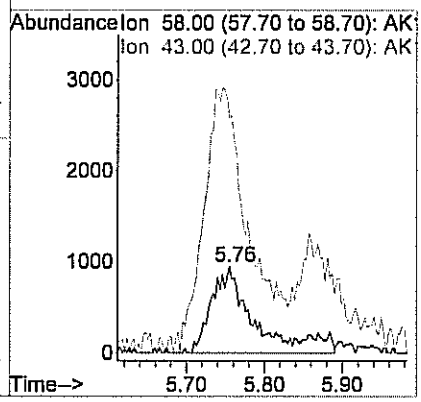


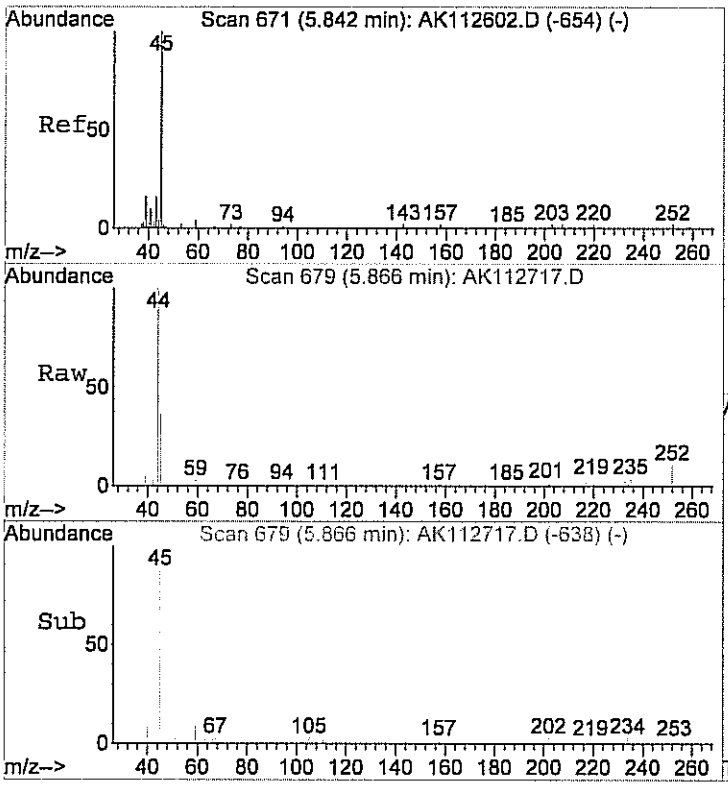


#15
Acetone
Concen: 0.68 ppb
RT: 5.76 min Scan# 642
Delta R.T. -0.01 min
Lab File: AK112717.D
Acq: 27 Nov 2013 7:35 pm

Tgt Ion: 58 Resp: 3588

Ion	Ratio	Lower	Upper
58	100		
43	412.5	650.3	710.3#

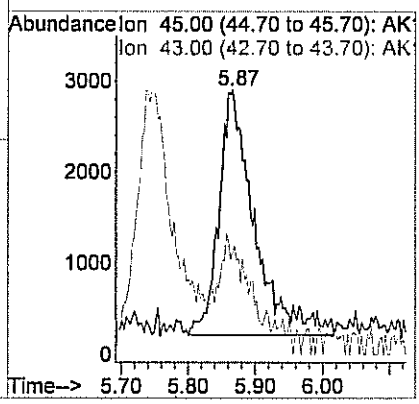


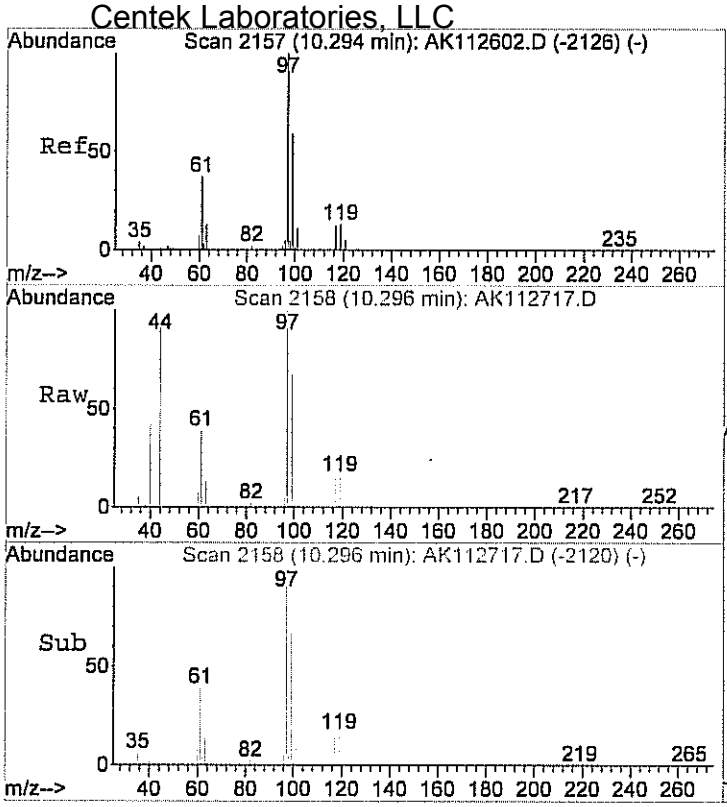


#16
Isopropyl alcohol
Concen: 0.71 ppb
RT: 5.87 min Scan# 679
Delta R.T. -0.03 min
Lab File: AK112717.D
Acq: 27 Nov 2013 7:35 pm

Tgt Ion: 45 Resp: 9797

Ion	Ratio	Lower	Upper
45	100		
43	0.0	0.0	20.0

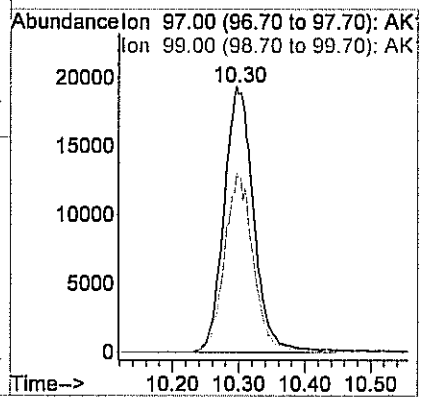




#35
1,1,1-trichloroethane
Concen: 1.73 ppb
RT: 10.30 min Scan# 2158
Delta R.T. -0.04 min
Lab File: AK112717.D
Acq: 27 Nov 2013 7:35 pm

Tgt Ion: 97 Resp: 59800

Ion	Ratio	Lower	Upper
97	100		
99	65.5	45.3	85.3



Centek Laboratories, LLC

Date: *11-Dec-13*

CLIENT:	HDR Engineering	**Client Sample ID:**	175-W-SS
Lab Order:	C1311058	**Tag Number:**	217,308
Project:	Aluminum Louvre	**Collection Date:**	11/18/2013
Lab ID:	C1311058-002A	**Matrix:**	

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS		FLD				Analyst:
Lab Vacuum In	-7			"Hg		11/20/2013
Lab Vacuum Out	-30			"Hg		11/20/2013
1UG/M3 BY METHOD TO15		TO-15				Analyst: RJP
1,1,1-Trichloroethane	1.4	0.15		ppbV	1	11/27/2013 11:06:00 PM
1,1,2,2-Tetrachloroethane	< 0.15	0.15		ppbV	1	11/27/2013 11:06:00 PM
1,1,2-Trichloroethane	< 0.15	0.15		ppbV	1	11/27/2013 11:06:00 PM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	11/27/2013 11:06:00 PM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	11/27/2013 11:06:00 PM
1,2,4-Trichlorobenzene	< 0.15	0.15		ppbV	1	11/27/2013 11:06:00 PM
1,2,4-Trimethylbenzene	0.54	0.15		ppbV	1	11/27/2013 11:06:00 PM
1,2-Dibromoethane	< 0.15	0.15		ppbV	1	11/27/2013 11:06:00 PM
1,2-Dichlorobenzene	< 0.15	0.15		ppbV	1	11/27/2013 11:06:00 PM
1,2-Dichloroethane	< 0.15	0.15		ppbV	1	11/27/2013 11:06:00 PM
1,2-Dichloropropane	< 0.15	0.15		ppbV	1	11/27/2013 11:06:00 PM
1,3,5-Trimethylbenzene	0.22	0.15		ppbV	1	11/27/2013 11:06:00 PM
1,3-butadiene	< 0.15	0.15		ppbV	1	11/27/2013 11:06:00 PM
1,3-Dichlorobenzene	< 0.15	0.15		ppbV	1	11/27/2013 11:06:00 PM
1,4-Dichlorobenzene	0.11	0.15	J	ppbV	1	11/27/2013 11:06:00 PM
1,4-Dioxane	< 0.30	0.30		ppbV	1	11/27/2013 11:06:00 PM
2,2,4-trimethylpentane	0.77	0.15		ppbV	1	11/27/2013 11:06:00 PM
4-ethyltoluene	0.14	0.15	J	ppbV	1	11/27/2013 11:06:00 PM
Acetone	6.7	3.0		ppbV	10	11/27/2013 11:40:00 PM
Allyl chloride	< 0.15	0.15		ppbV	1	11/27/2013 11:06:00 PM
Benzene	0.51	0.15		ppbV	1	11/27/2013 11:06:00 PM
Benzyl chloride	< 0.15	0.15		ppbV	1	11/27/2013 11:06:00 PM
Bromodichloromethane	< 0.15	0.15		ppbV	1	11/27/2013 11:06:00 PM
Bromoform	< 0.15	0.15		ppbV	1	11/27/2013 11:06:00 PM
Bromomethane	< 0.15	0.15		ppbV	1	11/27/2013 11:06:00 PM
Carbon disulfide	0.16	0.15		ppbV	1	11/27/2013 11:06:00 PM
Carbon tetrachloride	< 0.15	0.15		ppbV	1	11/27/2013 11:06:00 PM
Chlorobenzene	< 0.15	0.15		ppbV	1	11/27/2013 11:06:00 PM
Chloroethane	< 0.15	0.15		ppbV	1	11/27/2013 11:06:00 PM
Chloroform	< 0.15	0.15		ppbV	1	11/27/2013 11:06:00 PM
Chloromethane	< 0.15	0.15		ppbV	1	11/27/2013 11:06:00 PM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	11/27/2013 11:06:00 PM
cis-1,3-Dichloropropene	< 0.15	0.15		ppbV	1	11/27/2013 11:06:00 PM
Cyclohexane	< 0.15	0.15		ppbV	1	11/27/2013 11:06:00 PM
Dibromochloromethane	< 0.15	0.15		ppbV	1	11/27/2013 11:06:00 PM
Ethyl acetate	< 0.25	0.25		ppbV	1	11/27/2013 11:06:00 PM

Qualifiers:

**	Reporting Limit	.	Results reported are not blank corrected
B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: *11-Dec-13*

CLIENT:	HDR Engineering	**Client Sample ID:**	175-W-SS
Lab Order:	C1311058	**Tag Number:**	217,308
Project:	Aluminum Louvre	**Collection Date:**	11/18/2013
Lab ID:	C1311058-002A	**Matrix:**	

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15		**TO-15**				Analyst: **RJP**
Ethylbenzene	0.24	0.15		ppbV	1	11/27/2013 11:06:00 PM
Freon 11	0.96	0.15		ppbV	1	11/27/2013 11:06:00 PM
Freon 113	< 0.15	0.15		ppbV	1	11/27/2013 11:06:00 PM
Freon 114	< 0.15	0.15		ppbV	1	11/27/2013 11:06:00 PM
Freon 12	< 0.15	0.15		ppbV	1	11/27/2013 11:06:00 PM
Heptane	< 0.15	0.15		ppbV	1	11/27/2013 11:06:00 PM
Hexachloro-1,3-butadiene	< 0.15	0.15		ppbV	1	11/27/2013 11:06:00 PM
Hexane	0.31	0.15		ppbV	1	11/27/2013 11:06:00 PM
Isopropyl alcohol	0.44	0.15		ppbV	1	11/27/2013 11:06:00 PM
m&p-Xylene	0.82	0.30		ppbV	1	11/27/2013 11:06:00 PM
Methyl Butyl Ketone	< 0.30	0.30		ppbV	1	11/27/2013 11:06:00 PM
Methyl Ethyl Ketone	0.74	0.30		ppbV	1	11/27/2013 11:06:00 PM
Methyl Isobutyl Ketone	< 0.30	0.30		ppbV	1	11/27/2013 11:06:00 PM
Methyl tert-butyl ether	< 0.15	0.15		ppbV	1	11/27/2013 11:06:00 PM
Methylene chloride	0.75	0.15		ppbV	1	11/27/2013 11:06:00 PM
o-Xylene	0.22	0.15		ppbV	1	11/27/2013 11:06:00 PM
Propylene	< 0.15	0.15		ppbV	1	11/27/2013 11:06:00 PM
Styrene	< 0.15	0.15		ppbV	1	11/27/2013 11:06:00 PM
Tetrachloroethylene	3.3	1.5		ppbV	10	11/27/2013 11:40:00 PM
Tetrahydrofuran	< 0.15	0.15		ppbV	1	11/27/2013 11:06:00 PM
Toluene	2.3	1.5		ppbV	10	11/27/2013 11:40:00 PM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	11/27/2013 11:06:00 PM
trans-1,3-Dichloropropene	< 0.15	0.15		ppbV	1	11/27/2013 11:06:00 PM
Trichloroethene	0.12	0.15	J	ppbV	1	11/27/2013 11:06:00 PM
Vinyl acetate	< 0.15	0.15		ppbV	1	11/27/2013 11:06:00 PM
Vinyl Bromide	< 0.15	0.15		ppbV	1	11/27/2013 11:06:00 PM
Vinyl chloride	< 0.15	0.15		ppbV	1	11/27/2013 11:06:00 PM
Surr: Bromofluorobenzene	93.0	70-130		%REC	1	11/27/2013 11:06:00 PM

Qualifiers:

**	Reporting Limit	.	Results reported are not blank corrected
B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: *11-Dec-13*

CLIENT:	HDR Engineering	**Client Sample ID:**	175-W-SS
Lab Order:	C1311058	**Tag Number:**	217,308
Project:	Aluminum Louvre	**Collection Date:**	11/18/2013
Lab ID:	C1311058-002A	**Matrix:**	

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15		TO-15				Analyst: RJP
1,1,1-Trichloroethane	7.9	0.83		ug/m3	1	11/27/2013 11:06:00 PM
1,1,2,2-Tetrachloroethane	< 1.0	1.0		ug/m3	1	11/27/2013 11:06:00 PM
1,1,2-Trichloroethane	< 0.83	0.83		ug/m3	1	11/27/2013 11:06:00 PM
1,1-Dichloroethane	< 0.62	0.62		ug/m3	1	11/27/2013 11:06:00 PM
1,1-Dichloroethene	< 0.60	0.60		ug/m3	1	11/27/2013 11:06:00 PM
1,2,4-Trichlorobenzene	< 1.1	1.1		ug/m3	1	11/27/2013 11:06:00 PM
1,2,4-Trimethylbenzene	2.7	0.75		ug/m3	1	11/27/2013 11:06:00 PM
1,2-Dibromoethane	< 1.2	1.2		ug/m3	1	11/27/2013 11:06:00 PM
1,2-Dichlorobenzene	< 0.92	0.92		ug/m3	1	11/27/2013 11:06:00 PM
1,2-Dichloroethane	< 0.62	0.62		ug/m3	1	11/27/2013 11:06:00 PM
1,2-Dichloropropane	< 0.70	0.70		ug/m3	1	11/27/2013 11:06:00 PM
1,3,5-Trimethylbenzene	1.1	0.75		ug/m3	1	11/27/2013 11:06:00 PM
1,3-butadiene	< 0.34	0.34		ug/m3	1	11/27/2013 11:06:00 PM
1,3-Dichlorobenzene	< 0.92	0.92		ug/m3	1	11/27/2013 11:06:00 PM
1,4-Dichlorobenzene	0.67	0.92	J	ug/m3	1	11/27/2013 11:06:00 PM
1,4-Dioxane	< 1.1	1.1		ug/m3	1	11/27/2013 11:06:00 PM
2,2,4-trimethylpentane	3.7	0.71		ug/m3	1	11/27/2013 11:06:00 PM
4-ethyltoluene	0.70	0.75	J	ug/m3	1	11/27/2013 11:06:00 PM
Acetone	16	7.2		ug/m3	10	11/27/2013 11:40:00 PM
Allyl chloride	< 0.48	0.48		ug/m3	1	11/27/2013 11:06:00 PM
Benzene	1.7	0.49		ug/m3	1	11/27/2013 11:06:00 PM
Benzyl chloride	< 0.88	0.88		ug/m3	1	11/27/2013 11:06:00 PM
Bromodichloromethane	< 1.0	1.0		ug/m3	1	11/27/2013 11:06:00 PM
Bromoform	< 1.6	1.6		ug/m3	1	11/27/2013 11:06:00 PM
Bromomethane	< 0.59	0.59		ug/m3	1	11/27/2013 11:06:00 PM
Carbon disulfide	0.51	0.47		ug/m3	1	11/27/2013 11:06:00 PM
Carbon tetrachloride	< 0.96	0.96		ug/m3	1	11/27/2013 11:06:00 PM
Chlorobenzene	< 0.70	0.70		ug/m3	1	11/27/2013 11:06:00 PM
Chloroethane	< 0.40	0.40		ug/m3	1	11/27/2013 11:06:00 PM
Chloroform	< 0.74	0.74		ug/m3	1	11/27/2013 11:06:00 PM
Chloromethane	< 0.31	0.31		ug/m3	1	11/27/2013 11:06:00 PM
cis-1,2-Dichloroethene	< 0.60	0.60		ug/m3	1	11/27/2013 11:06:00 PM
cis-1,3-Dichloropropene	< 0.69	0.69		ug/m3	1	11/27/2013 11:06:00 PM
Cyclohexane	< 0.52	0.52		ug/m3	1	11/27/2013 11:06:00 PM
Dibromochloromethane	< 1.3	1.3		ug/m3	1	11/27/2013 11:06:00 PM
Ethyl acetate	< 0.92	0.92		ug/m3	1	11/27/2013 11:06:00 PM
Ethylbenzene	1.1	0.66		ug/m3	1	11/27/2013 11:06:00 PM
Freon 11	5.5	0.86		ug/m3	1	11/27/2013 11:06:00 PM
Freon 113	< 1.2	1.2		ug/m3	1	11/27/2013 11:06:00 PM
Freon 114	< 1.1	1.1		ug/m3	1	11/27/2013 11:06:00 PM

Qualifiers:

**	Reporting Limit	.	Results reported are not blank corrected
B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: *11-Dec-13*

CLIENT:	HDR Engineering	**Client Sample ID:**	175-W-SS
Lab Order:	C1311058	**Tag Number:**	217,308
Project:	Aluminum Louvre	**Collection Date:**	11/18/2013
Lab ID:	C1311058-002A	**Matrix:**	

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15		TO-15				Analyst: RJP
Freon 12	< 0.75	0.75		ug/m3	1	11/27/2013 11:06:00 PM
Heptane	< 0.62	0.62		ug/m3	1	11/27/2013 11:06:00 PM
Hexachloro-1,3-butadiene	< 1.6	1.6		ug/m3	1	11/27/2013 11:06:00 PM
Hexane	1.1	0.54		ug/m3	1	11/27/2013 11:06:00 PM
Isopropyl alcohol	1.1	0.37		ug/m3	1	11/27/2013 11:06:00 PM
m&p-Xylene	3.6	1.3		ug/m3	1	11/27/2013 11:06:00 PM
Methyl Butyl Ketone	< 1.2	1.2		ug/m3	1	11/27/2013 11:06:00 PM
Methyl Ethyl Ketone	2.2	0.90		ug/m3	1	11/27/2013 11:06:00 PM
Methyl Isobutyl Ketone	< 1.2	1.2		ug/m3	1	11/27/2013 11:06:00 PM
Methyl tert-butyl ether	< 0.55	0.55		ug/m3	1	11/27/2013 11:06:00 PM
Methylene chloride	2.6	0.53		ug/m3	1	11/27/2013 11:06:00 PM
o-Xylene	0.97	0.66		ug/m3	1	11/27/2013 11:06:00 PM
Propylene	< 0.26	0.26		ug/m3	1	11/27/2013 11:06:00 PM
Styrene	< 0.65	0.65		ug/m3	1	11/27/2013 11:06:00 PM
Tetrachloroethylene	23	10		ug/m3	10	11/27/2013 11:40:00 PM
Tetrahydrofuran	< 0.45	0.45		ug/m3	1	11/27/2013 11:06:00 PM
Toluene	8.8	5.7		ug/m3	10	11/27/2013 11:40:00 PM
trans-1,2-Dichloroethene	< 0.60	0.60		ug/m3	1	11/27/2013 11:06:00 PM
trans-1,3-Dichloropropene	< 0.69	0.69		ug/m3	1	11/27/2013 11:06:00 PM
Trichloroethene	0.66	0.82	J	ug/m3	1	11/27/2013 11:06:00 PM
Vinyl acetate	< 0.54	0.54		ug/m3	1	11/27/2013 11:06:00 PM
Vinyl Bromide	< 0.67	0.67		ug/m3	1	11/27/2013 11:06:00 PM
Vinyl chloride	< 0.39	0.39		ug/m3	1	11/27/2013 11:06:00 PM

Qualifiers:

**	Reporting Limit	.	Results reported are not blank corrected
B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK112723.D Vial: 23
Acq On : 27 Nov 2013 11:06 pm Operator: RJP
Sample : C1311058-002A Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 29 10:56:14 2013 Quant Results File: AO15_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Oct 15 18:12:29 2013
Response via : Initial Calibration
DataAcq Meth : 1UG_T015

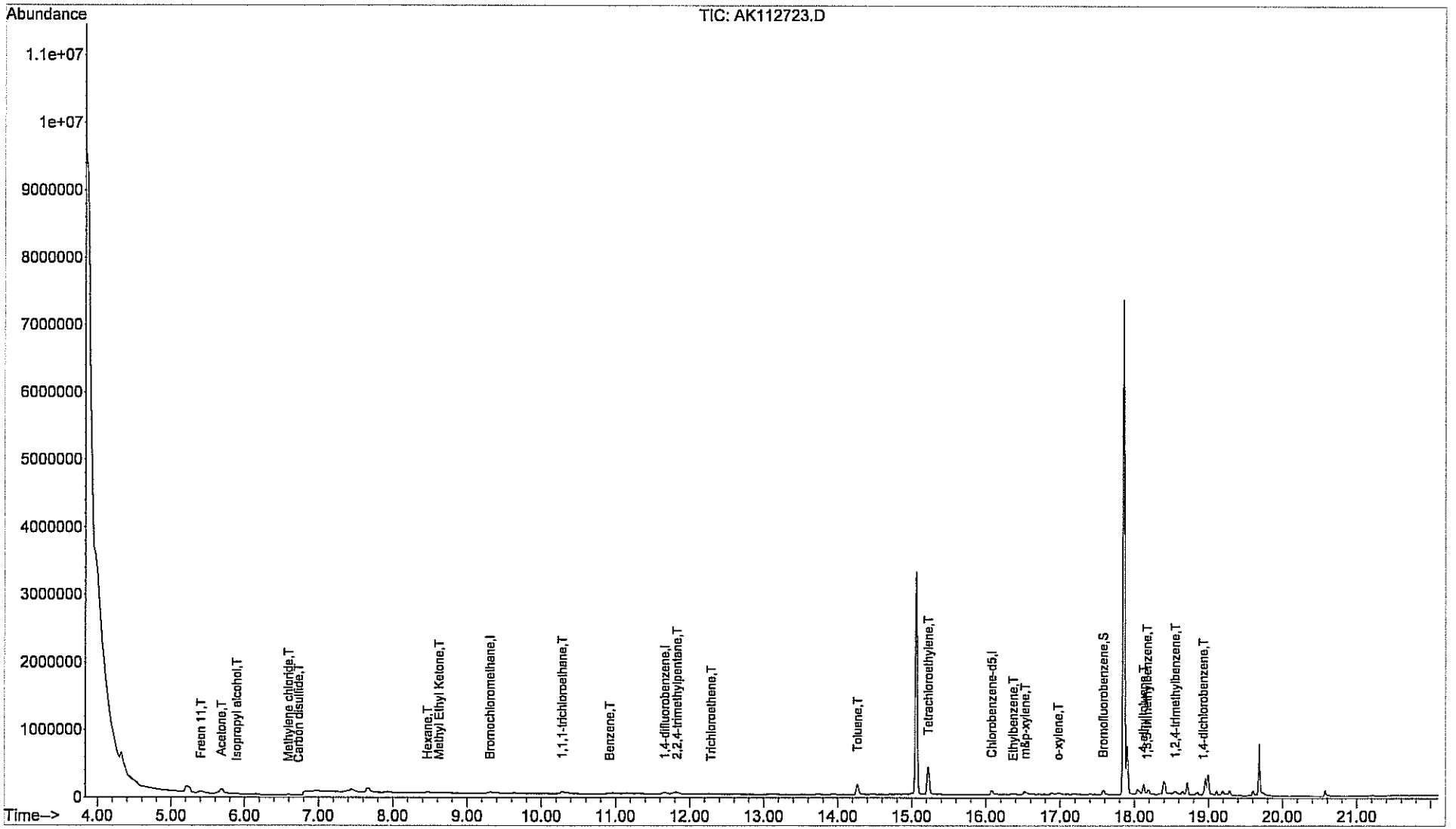
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane	9.32	128	21214	1.00	ppb		-0.05
34) 1,4-difluorobenzene	11.66	114	47554	1.00	ppb		0.00
49) Chlorobenzene-d5	16.08	117	54146	1.00	ppb		-0.02
System Monitoring Compounds							
62) Bromofluorobenzene	17.58	95	29544	0.93	ppb		-0.02
Spiked Amount 1.000	Range 70 - 130		Recovery = 93.00%				
Target Compounds							Qvalue
14) Freon 11	5.40	101	52881	0.96	ppb		99
15) Acetone	5.69	58	36179	6.18	ppb	#	29
16) Isopropyl alcohol	5.90	45	6700	0.44	ppb	#	100
20) Methylene chloride	6.59	84	10131	0.75	ppb		98
22) Carbon disulfide	6.73	76	7095	0.16	ppb		98
27) Methyl Ethyl Ketone	8.63	72	5914	0.74	ppb	#	100
29) Hexane	8.47	57	7765	0.31	ppb	#	43
35) 1,1,1-trichloroethane	10.28	97	54507	1.42	ppb		99
38) Benzene	10.91	78	25841	0.51	ppb		99
41) 2,2,4-trimethylpentane	11.83	57	47102	0.77	ppb		89
43) Trichloroethene	12.29	130	2791	0.12	ppb		96
50) Toluene	14.26	92	86250	2.84	ppb		98
55) Tetrachloroethylene	15.22	164	121818	3.87	ppb		98
57) Ethylbenzene	16.37	91	13325	0.24	ppb		98
58) m&p-xylene	16.52	91	40050	0.82	ppb		100
61) o-xylene	16.97	91	16490	0.22	ppb		87
65) 4-ethyltoluene	18.11	105	8839m	0.14	ppb		
66) 1,3,5-trimethylbenzene	18.16	105	15756m	0.22	ppb		
67) 1,2,4-trimethylbenzene	18.55	105	26917	0.54	ppb		98
70) 1,4-dichlorobenzene	18.92	146	5207	0.11	ppb		93

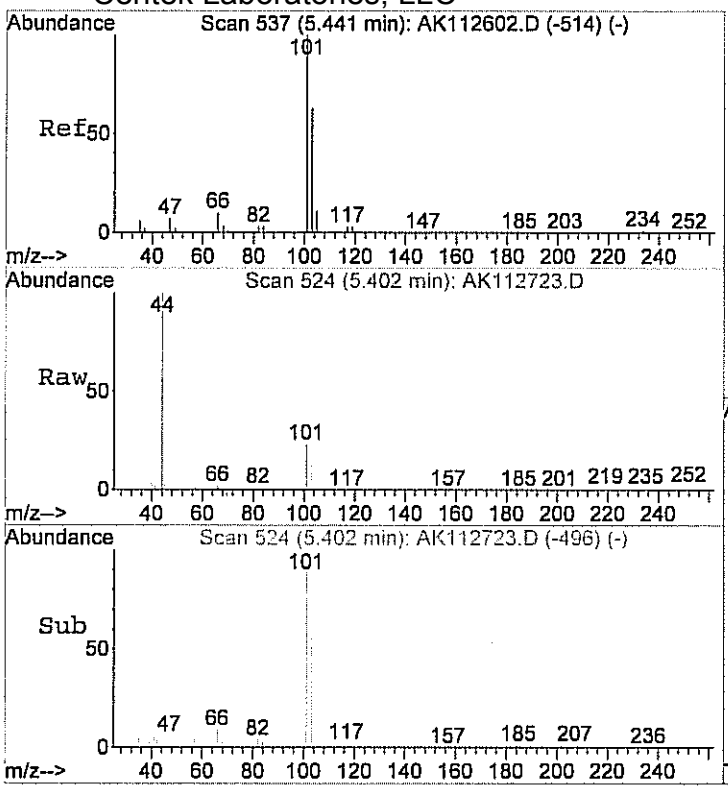
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK112723.D Vial: 23
Acq On : 27 Nov 2013 11:06 pm Operator: RJP
Sample : C1311058-002A Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 29 11:07 2013 Quant Results File: AO15_1UG.RES

Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Wed Dec 11 12:48:42 2013
Response via : Initial Calibration

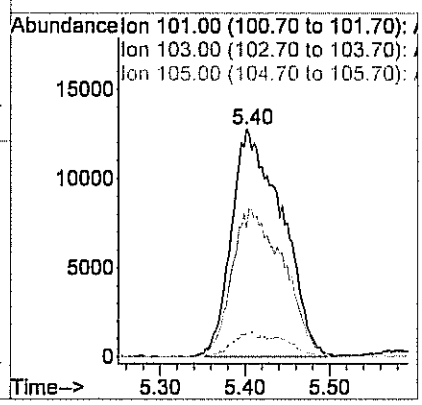


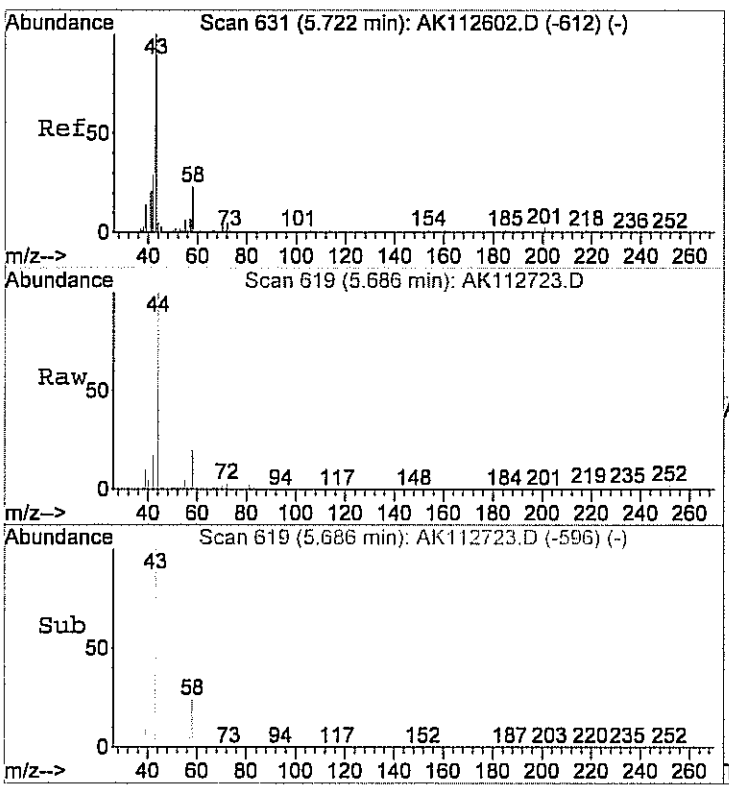


#14
Freon 11
Concen: 0.96 ppb
RT: 5.40 min Scan# 524
Delta R.T. -0.07 min
Lab File: AK112723.D
Acq: 27 Nov 2013 11:06 pm

Tgt Ion:101 Resp: 52881

Ion	Ratio	Lower	Upper
101	100		
103	66.3	46.0	86.0
105	10.9	0.0	31.7

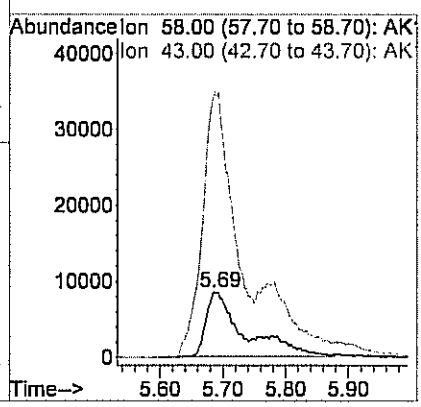


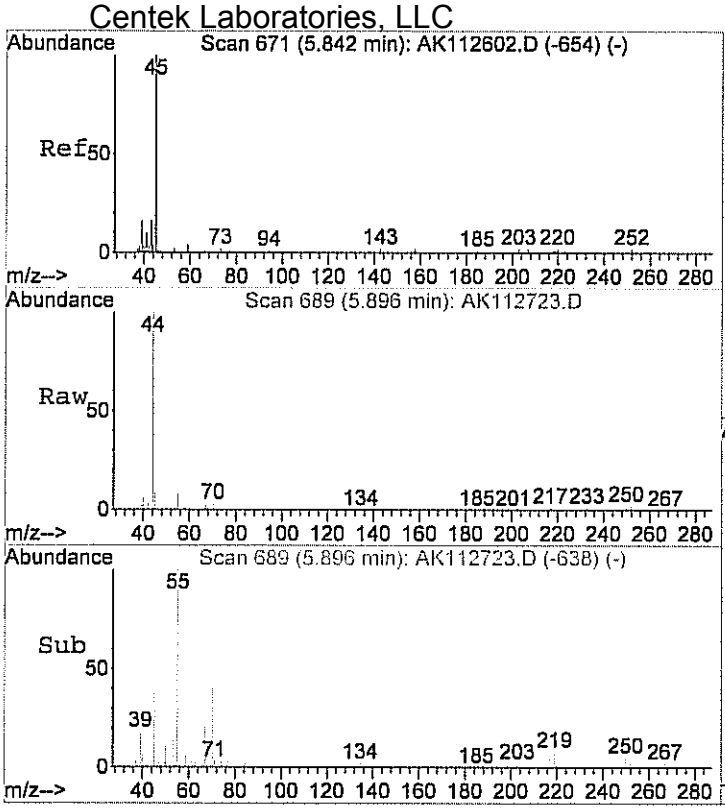


#15
Acetone
Concen: 6.18 ppb
RT: 5.69 min Scan# 619
Delta R.T. -0.08 min
Lab File: AK112723.D
Acq: 27 Nov 2013 11:06 pm

Tgt Ion: 58 Resp: 36179

Ion	Ratio	Lower	Upper
58	100		
43	439.3	650.3	710.3#

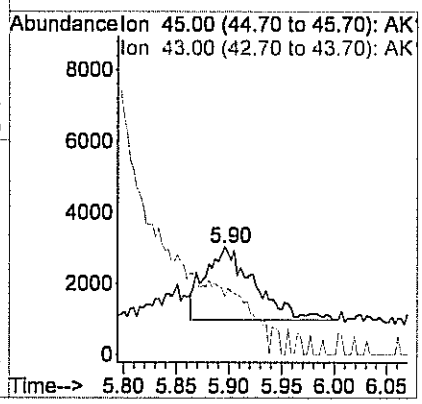


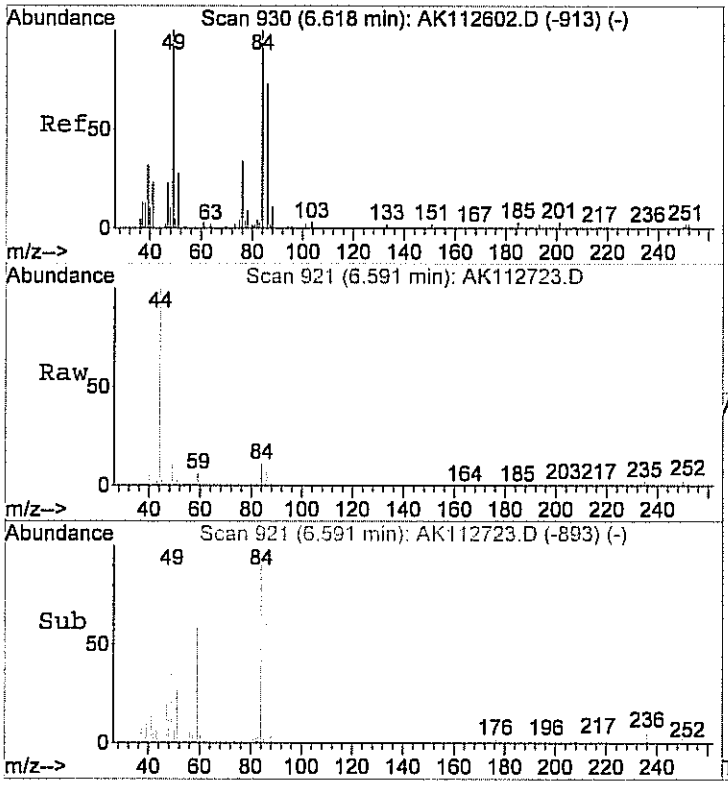


#16
Isopropyl alcohol
Concen: 0.44 ppb
RT: 5.90 min Scan# 689
Delta R.T. 0.00 min
Lab File: AK112723.D
Acq: 27 Nov 2013 11:06 pm

Tgt Ion: 45 Resp: 6700

Ion	Ratio	Lower	Upper
45	100		
43	0.0	0.0	20.0

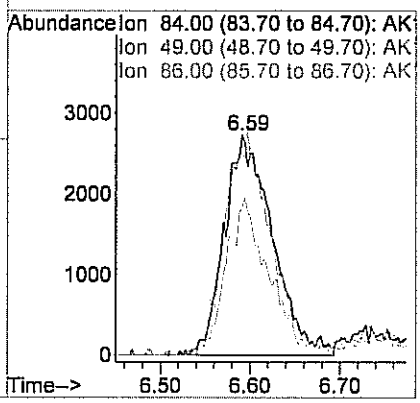


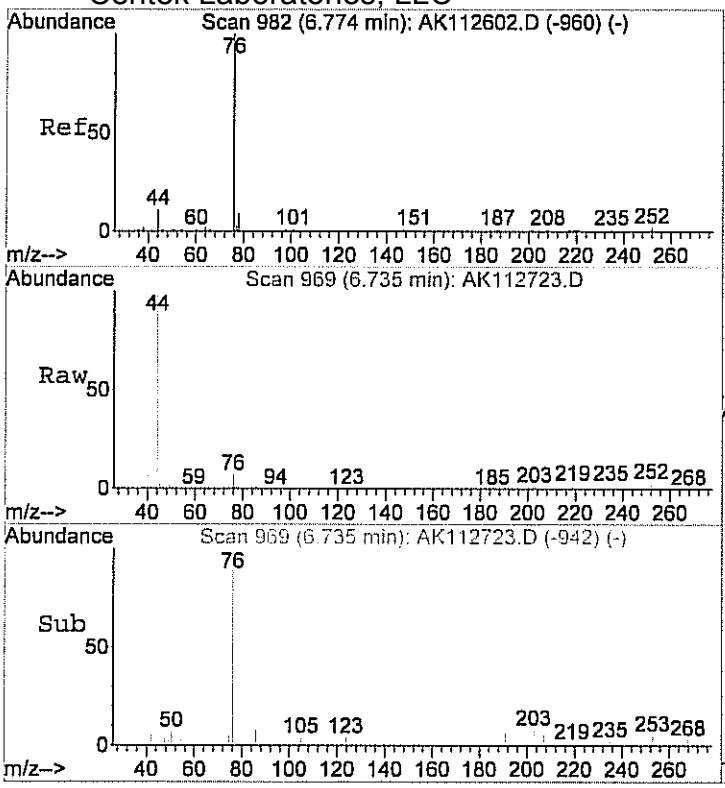


#20
Methylene chloride
Concen: 0.75 ppb
RT: 6.59 min Scan# 921
Delta R.T. -0.07 min
Lab File: AK112723.D
Acq: 27 Nov 2013 11:06 pm

Tgt Ion: 84 Resp: 10131

Ion	Ratio	Lower	Upper
84	100		
49	101.3	82.2	122.2
86	63.3	45.4	85.4

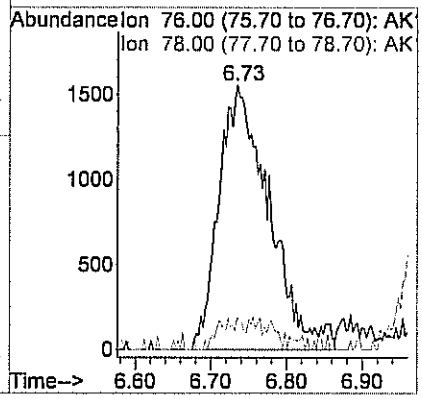


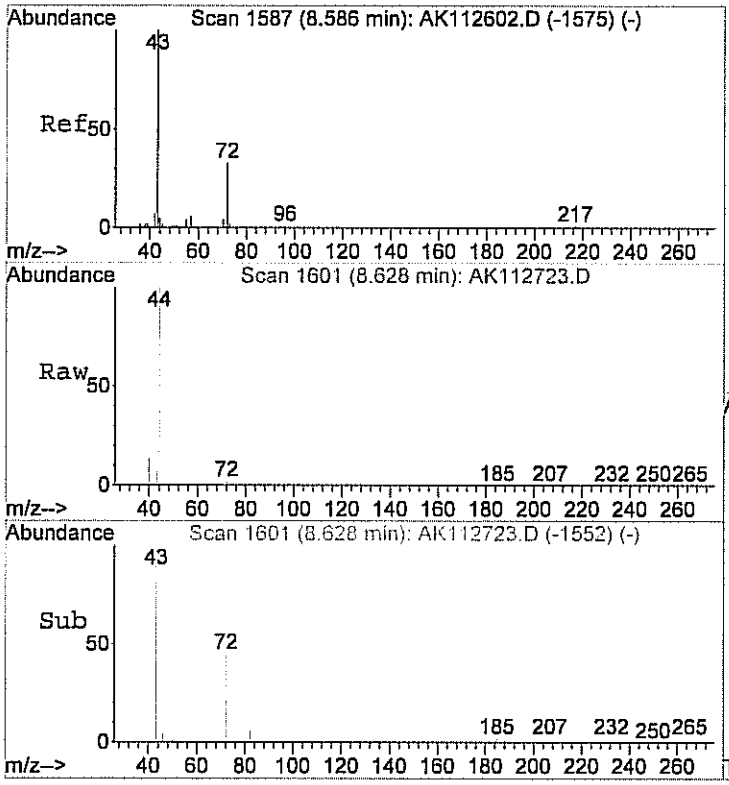


#22
Carbon disulfide
Concen: 0.16 ppb
RT: 6.73 min Scan# 969
Delta R.T. -0.07 min
Lab File: AK112723.D
Acq: 27 Nov 2013 11:06 pm

Tgt Ion: 76 Resp: 7095

Ion	Ratio	Lower	Upper
76	100		
78	10.7	0.0	29.9

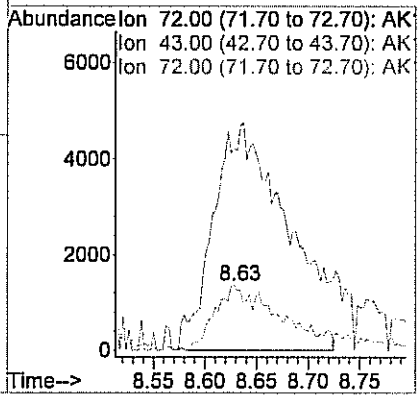


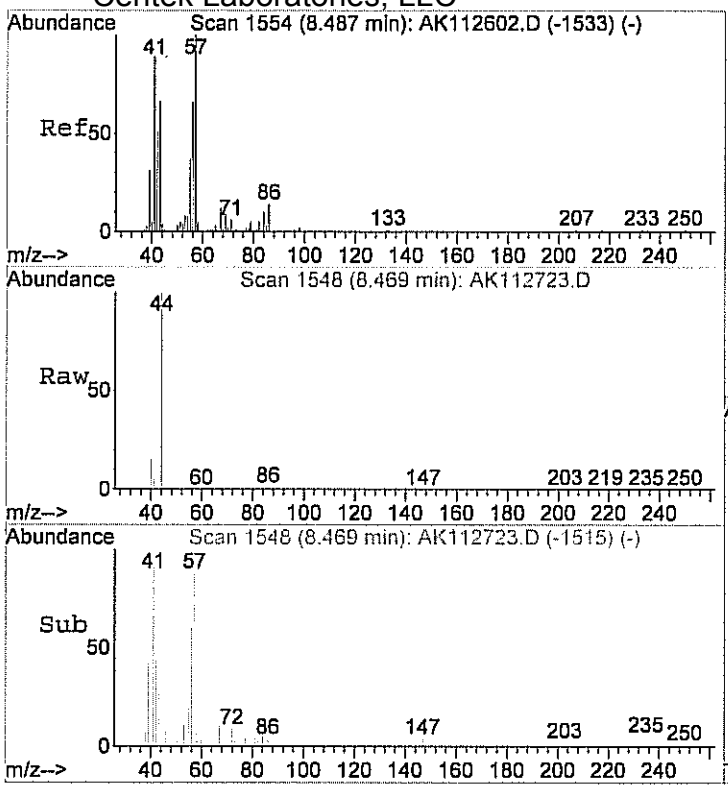


#27
Methyl Ethyl Ketone
Concen: 0.74 ppb
RT: 8.63 min Scan# 1601
Delta R.T. -0.00 min
Lab File: AK112723.D
Acq: 27 Nov 2013 11:06 pm

Tgt Ion: 72 Resp: 5914

Ion	Ratio	Lower	Upper
72	100		
43	0.0	0.0	20.0
72	100.0	80.0	120.0

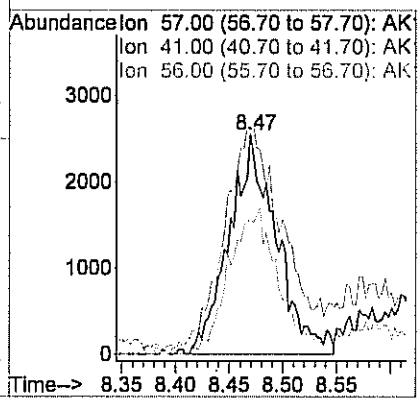


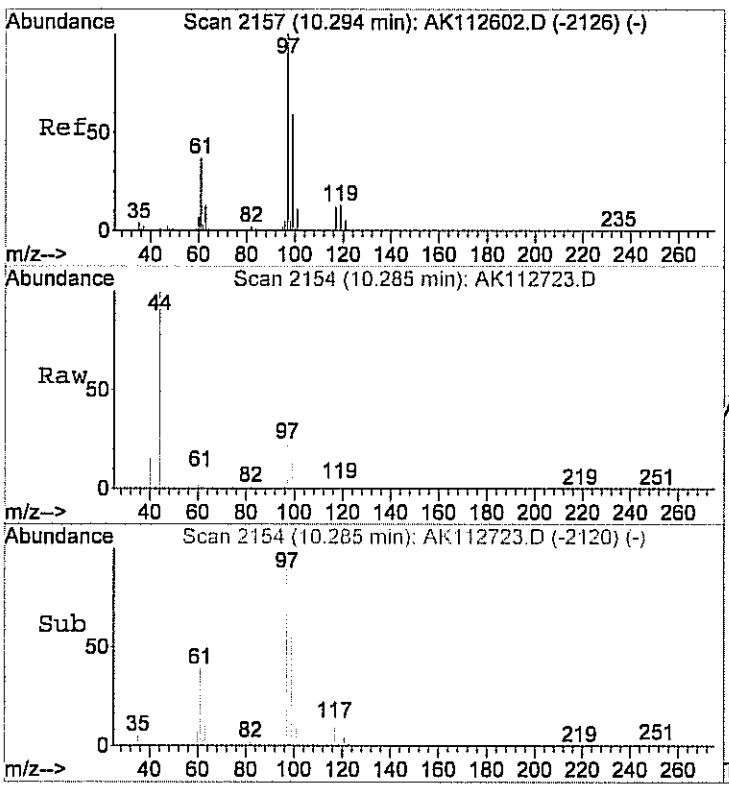


#29
Hexane
Concen: 0.31 ppb
RT: 8.47 min Scan# 1548
Delta R.T. -0.05 min
Lab File: AK112723.D
Acq: 27 Nov 2013 11:06 pm

Tgt Ion: 57 Resp: 7765

Ion	Ratio	Lower	Upper
57	100		
41	160.4	68.6	108.6#
56	85.7	43.7	83.7#

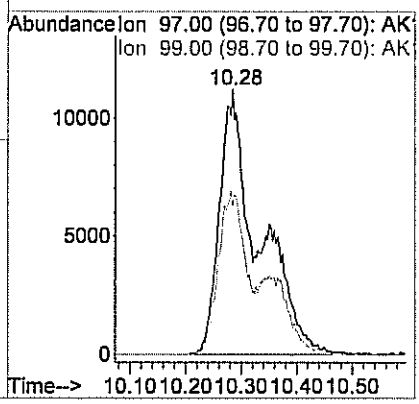


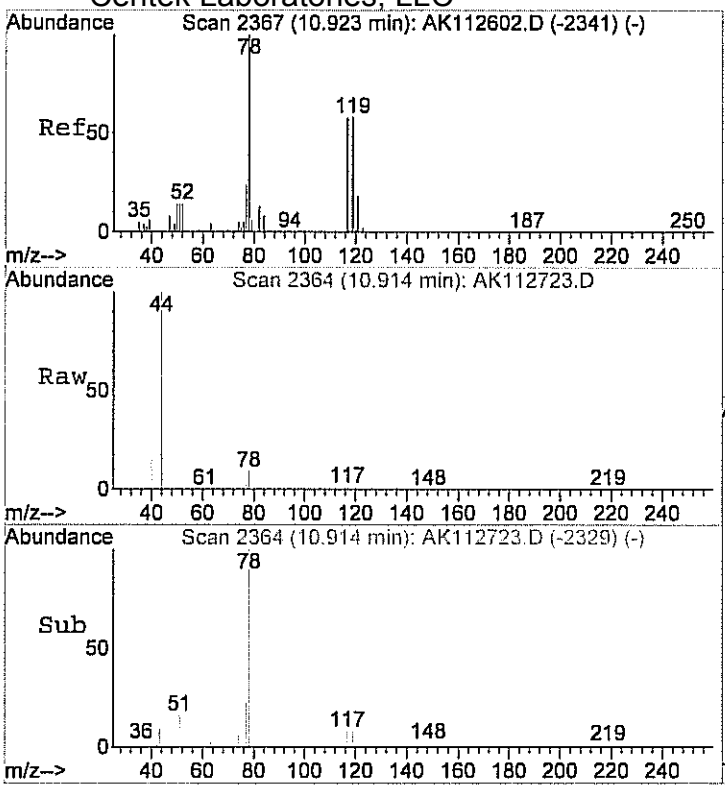


#35
1,1,1-trichloroethane
Concen: 1.42 ppb
RT: 10.28 min Scan# 2154
Delta R.T. -0.05 min
Lab File: AK112723.D
Acq: 27 Nov 2013 11:06 pm

Tgt Ion: 97 Resp: 54507

Ion	Ratio	Lower	Upper
97	100		
99	65.9	45.3	85.3

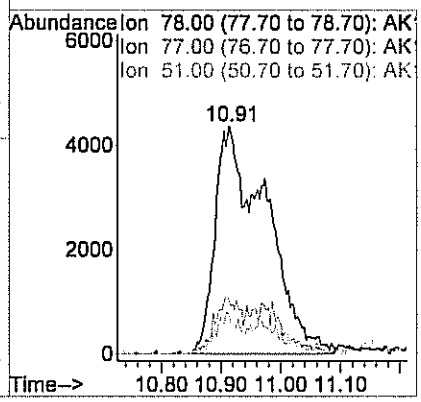


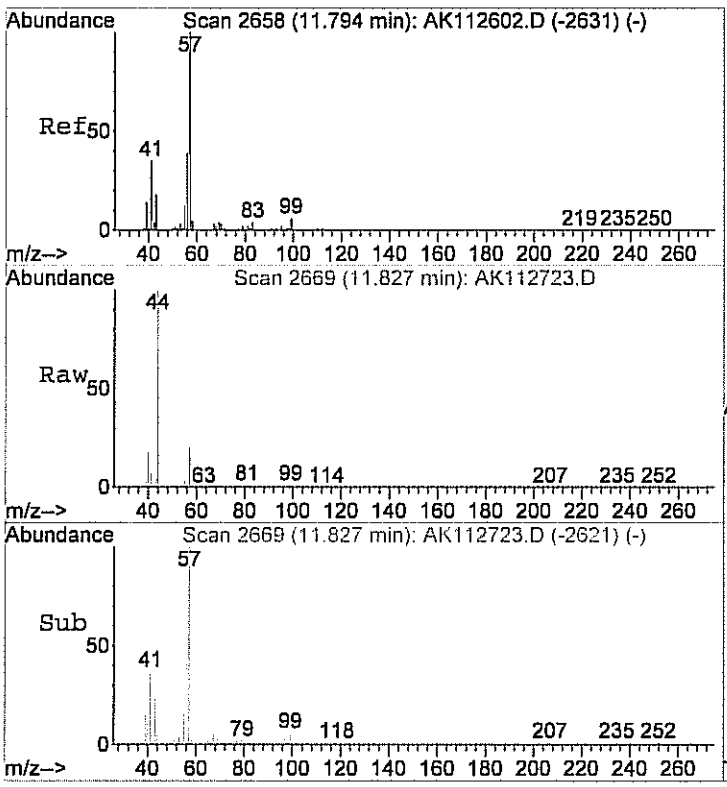


#38
Benzene
Concen: 0.51 ppb
RT: 10.91 min Scan# 2364
Delta R.T. -0.05 min
Lab File: AK112723.D
Acq: 27 Nov 2013 11:06 pm

Tgt Ion: 78 Resp: 25841

Ion	Ratio	Lower	Upper
78	100		
77	27.3	6.7	46.7
51	16.9	0.0	37.6

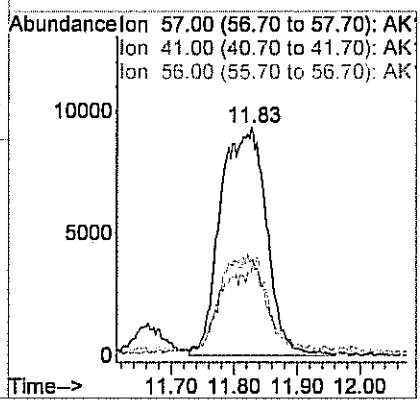


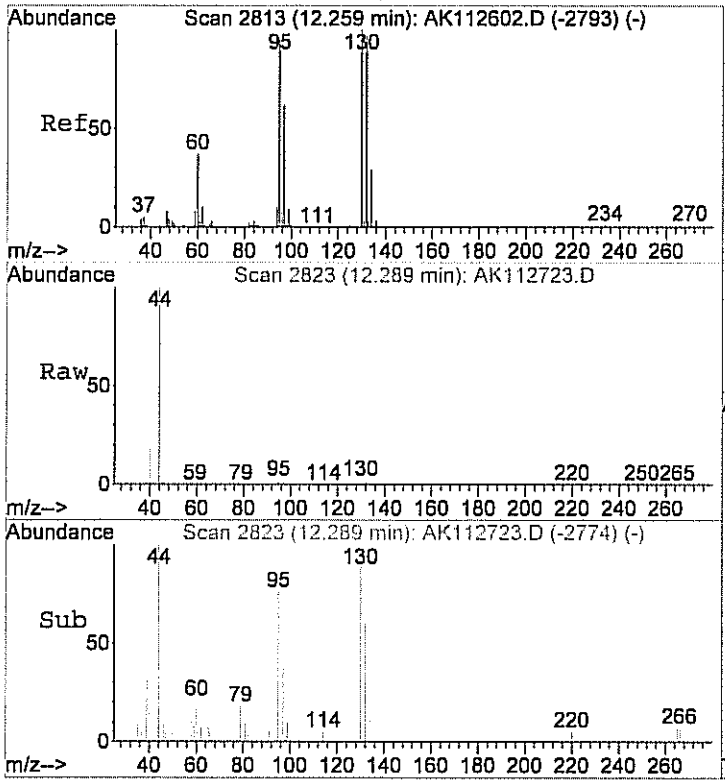


#41
2,2,4-trimethylpentane
Concen: 0.77 ppb
RT: 11.83 min Scan# 2669
Delta R.T. -0.01 min
Lab File: AK112723.D
Acq: 27 Nov 2013 11:06 pm

Tgt Ion: 57 Resp: 47102

Ion	Ratio	Lower	Upper
57	100		
41	37.5	12.0	52.0
56	44.5	16.8	56.8

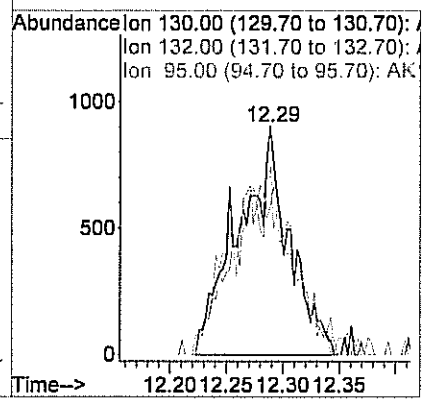


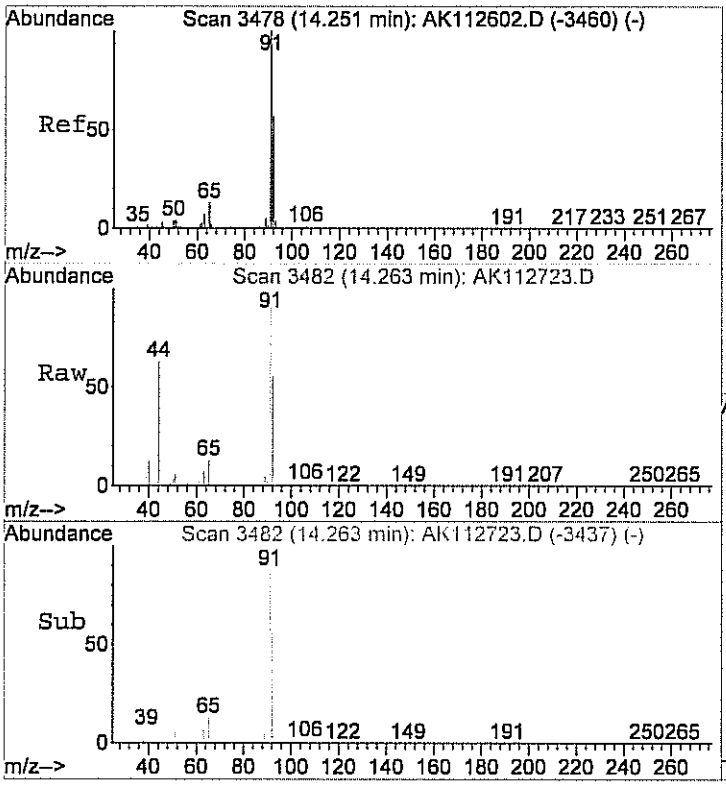


#43
Trichloroethene
Concen: 0.12 ppb
RT: 12.29 min Scan# 2823
Delta R.T. -0.00 min
Lab File: AK112723.D
Acq: 27 Nov 2013 11:06 pm

Tgt Ion:130 Resp: 2791

Ion	Ratio	Lower	Upper
130	100		
132	91.9	77.0	117.0
95	94.5	76.9	116.9

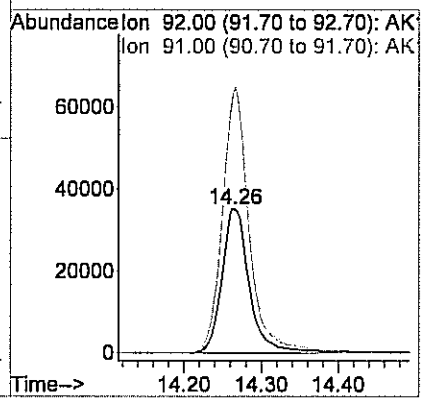


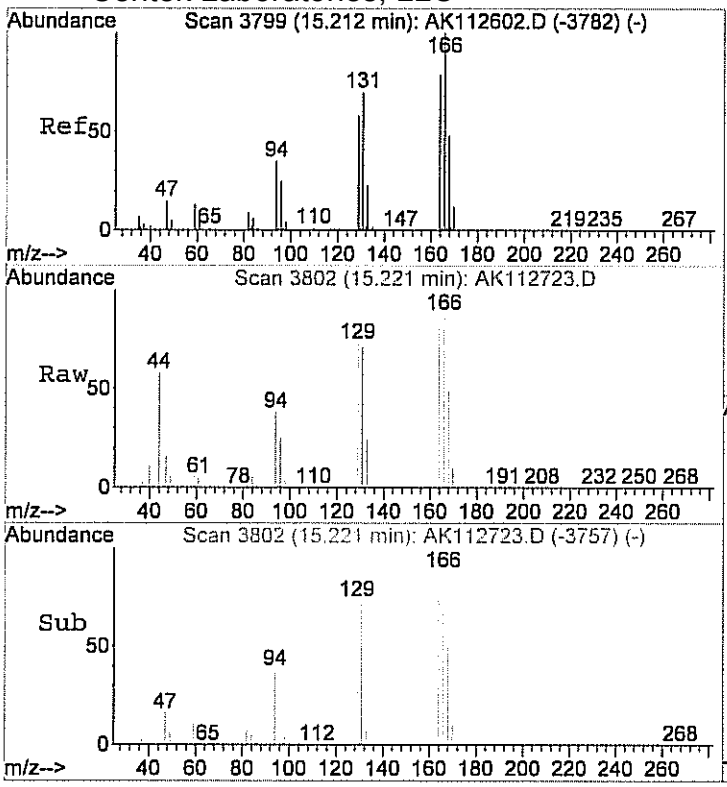


#50
Toluene
Concen: 2.84 ppb
RT: 14.26 min Scan# 3482
Delta R.T. -0.02 min
Lab File: AK112723.D
Acq: 27 Nov 2013 11:06 pm

Tgt Ion: 92 Resp: 86250

Ion	Ratio	Lower	Upper
92	100		
91	179.3	156.6	196.6

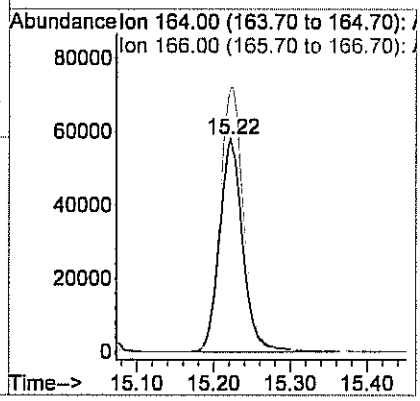


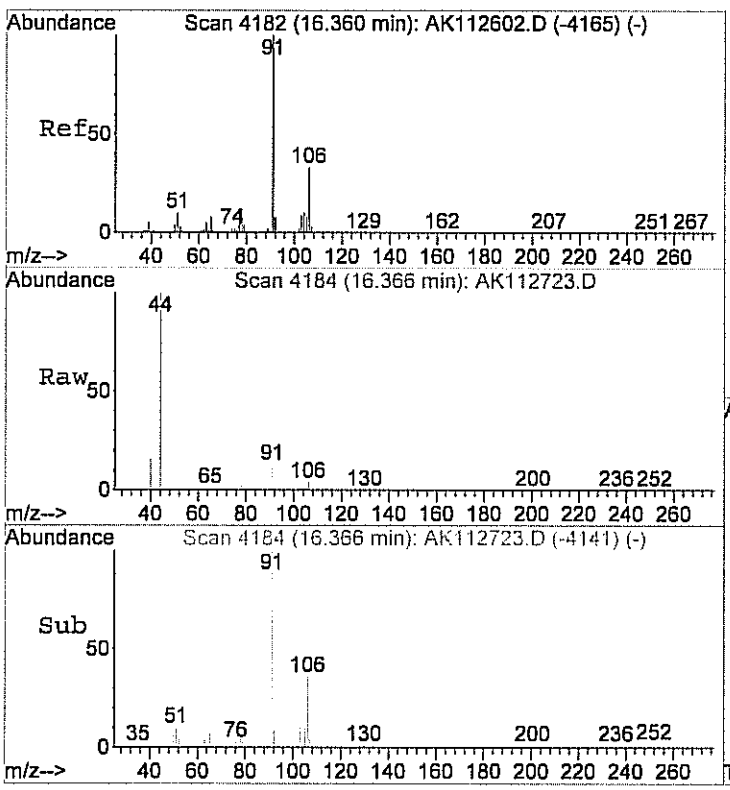


#55
Tetrachloroethylene
Concen: 3.87 ppb
RT: 15.22 min Scan# 3802
Delta R.T. -0.02 min
Lab File: AK112723.D
Acq: 27 Nov 2013 11:06 pm

Tgt Ion:164 Resp: 121818

Ion	Ratio	Lower	Upper
164	100		
166	127.0	108.8	148.8

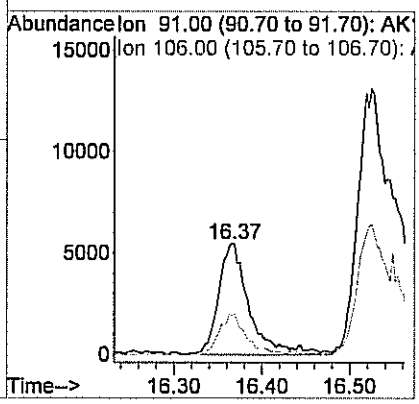


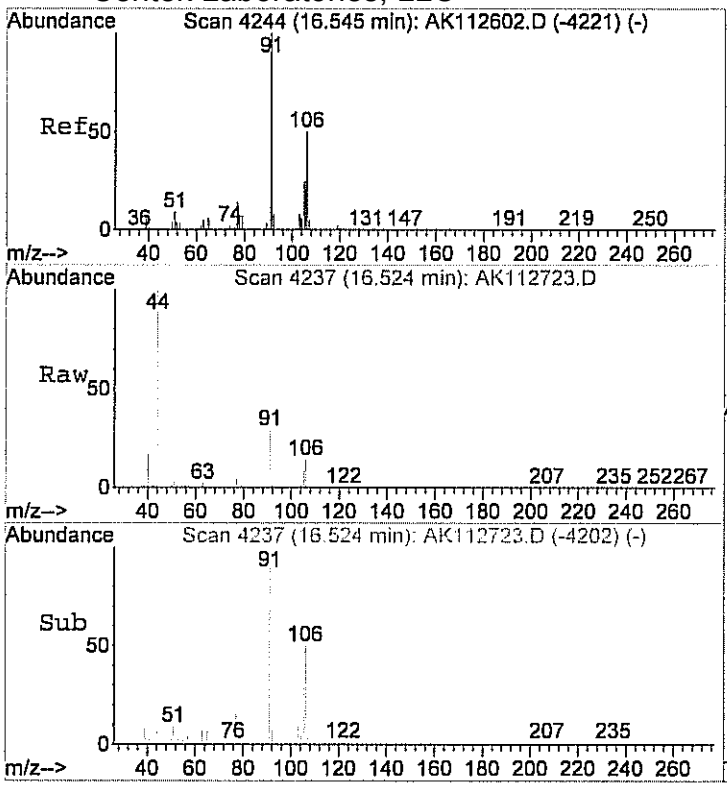


#57
Ethylbenzene
Concen: 0.24 ppb
RT: 16.37 min Scan# 4184
Delta R.T. -0.02 min
Lab File: AK112723.D
Acq: 27 Nov 2013 11:06 pm

Tgt Ion: 91 Resp: 13325

Ion	Ratio	Lower	Upper
91	100		
106	31.6	12.8	52.8

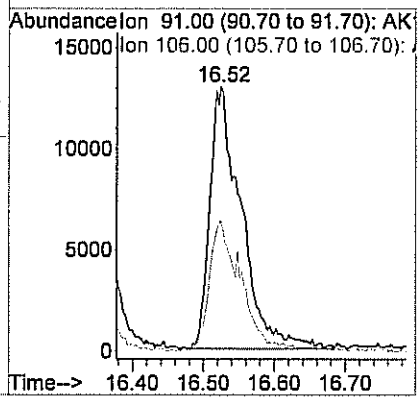


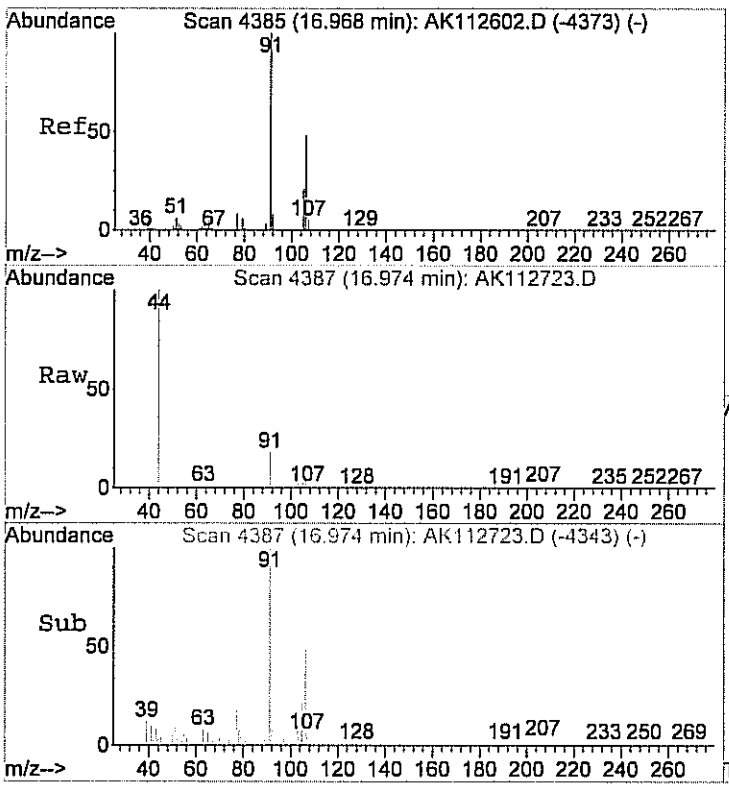


#58
m&p-xylene
Concen: 0.82 ppb
RT: 16.52 min Scan# 4237
Delta R.T. -0.05 min
Lab File: AK112723.D
Acq: 27 Nov 2013 11:06 pm

Tgt Ion: 91 Resp: 40050

Ion	Ratio	Lower	Upper
91	100		
106	51.0	31.3	71.3

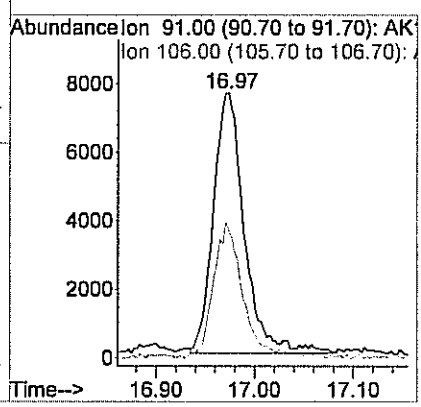


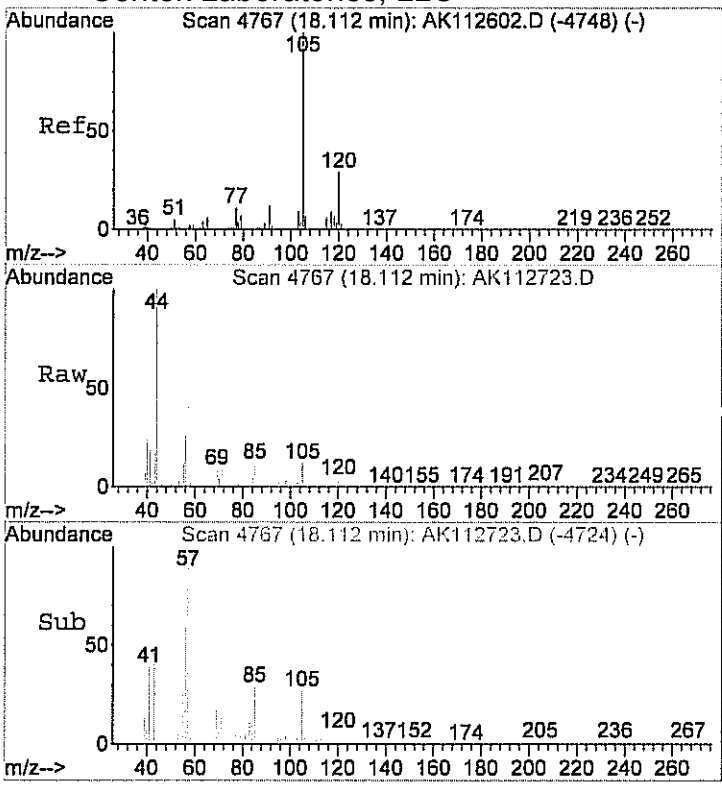


#61
o-xylene
Concen: 0.22 ppb
RT: 16.97 min Scan# 4387
Delta R.T. -0.02 min
Lab File: AK112723.D
Acq: 27 Nov 2013 11:06 pm

Tgt Ion: 91 Resp: 16490

Ion	Ratio	Lower	Upper
91	100		
106	50.3	22.3	62.3

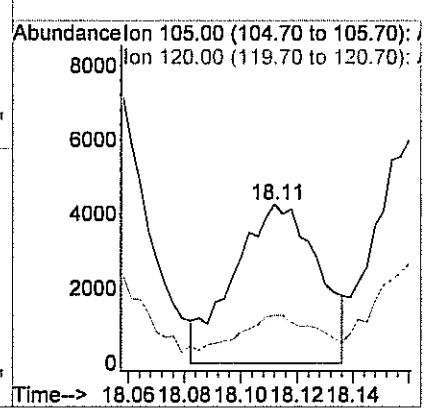


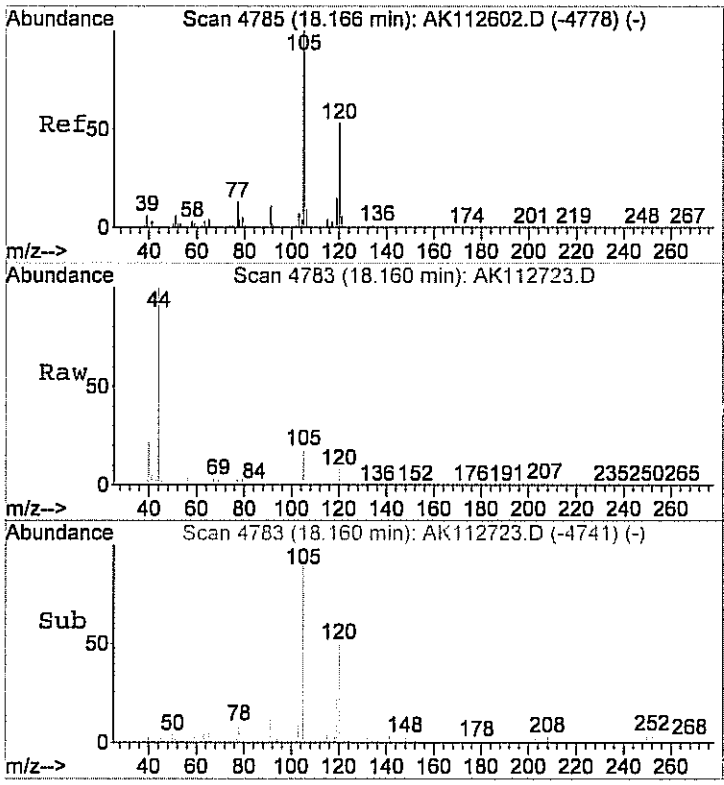


#65
4-ethyltoluene
Concen: 0.14 ppb m
RT: 18.11 min Scan# 4767
Delta R.T. -0.02 min
Lab File: AK112723.D
Acq: 27 Nov 2013 11:06 pm

Tgt Ion:105 Resp: 8839

Ion	Ratio	Lower	Upper
105	100		
120	0.0	35.6	75.6#

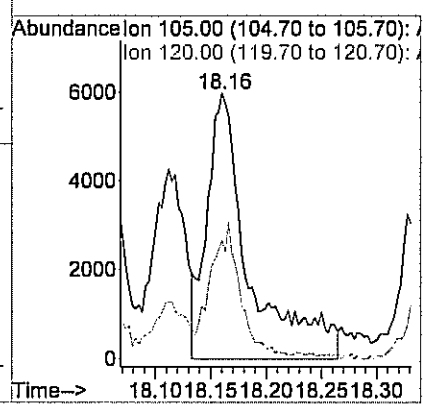


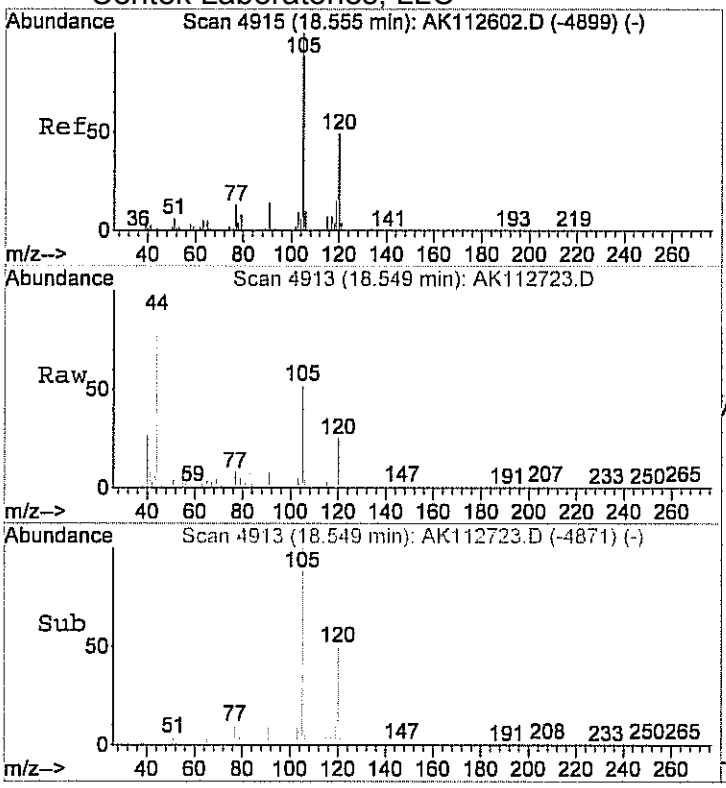


#66
1,3,5-trimethylbenzene
Concen: 0.22 ppb m
RT: 18.16 min Scan# 4783
Delta R.T. -0.02 min
Lab File: AK112723.D
Acq: 27 Nov 2013 11:06 pm

Tgt Ion:105 Resp: 15756

Ion	Ratio	Lower	Upper
105	100		
120	86.0	26.4	66.4#

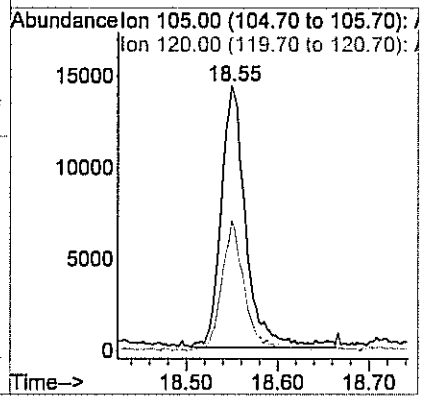


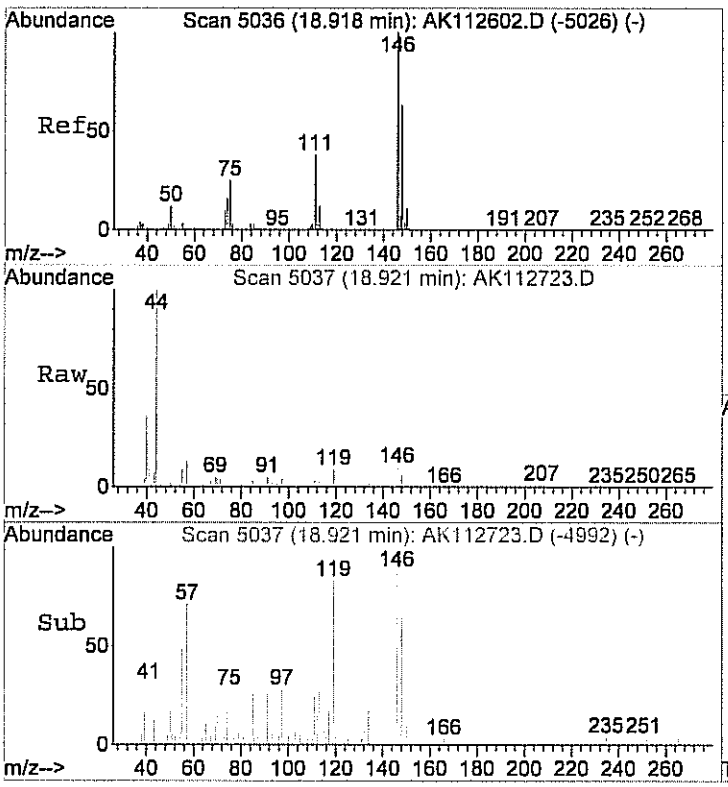


#67
1,2,4-trimethylbenzene
Concen: 0.54 ppb
RT: 18.55 min Scan# 4913
Delta R.T. -0.02 min
Lab File: AK112723.D
Acq: 27 Nov 2013 11:06 pm

Tgt Ion:105 Resp: 26917

Ion	Ratio	Lower	Upper
105	100		
120	48.0	26.8	66.8

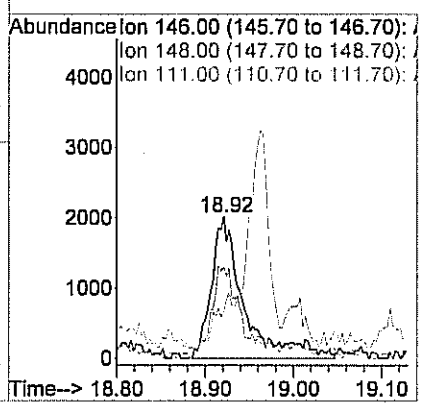




#70
1,4-dichlorobenzene
Concen: 0.11 ppb
RT: 18.92 min Scan# 5037
Delta R.T. -0.02 min
Lab File: AK112723.D
Acq: 27 Nov 2013 11:06 pm

Tgt Ion:146 Resp: 5207

Ion	Ratio	Lower	Upper
146	100		
148	69.7	45.3	85.3
111	30.2	15.2	55.2



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK112724.D Vial: 24
Acq On : 27 Nov 2013 11:40 pm Operator: RJP
Sample : C1311058-002A 10X Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 29 10:56:15 2013 Quant Results File: AO15_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Oct 15 18:12:29 2013
Response via : Initial Calibration
DataAcq Meth : 1UG_T015

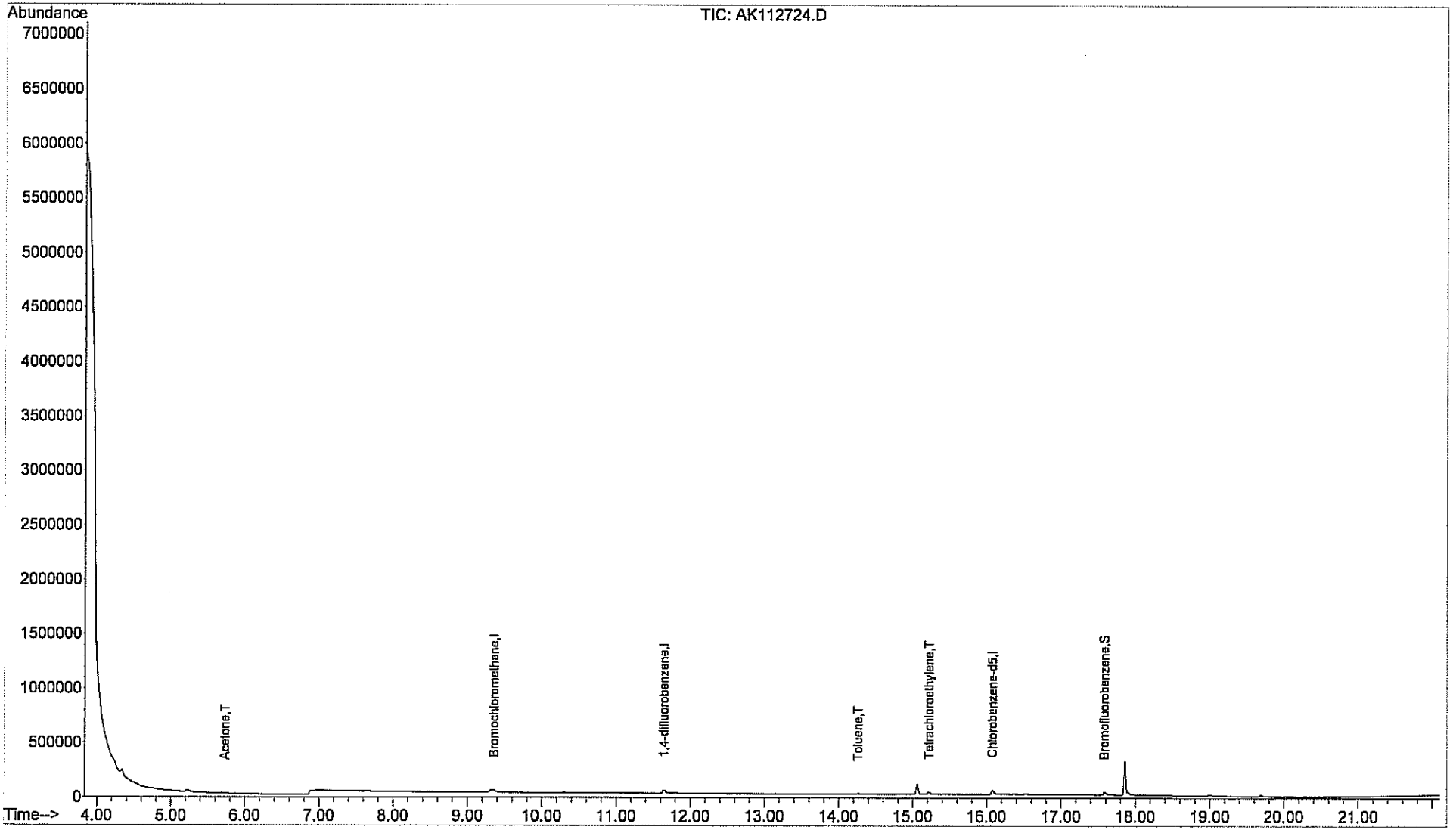
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.36	128	18798	1.00	ppb	0.00
34) 1,4-difluorobenzene	11.65	114	40385	1.00	ppb	-0.02
49) Chlorobenzene-d5	16.08	117	37954	1.00	ppb	-0.02
System Monitoring Compounds						
62) Bromofluorobenzene	17.59	95	18793m	0.84	ppb	-0.02
Spiked Amount 1.000	Range 70 - 130		Recovery = 84.00%			
Target Compounds						Qvalue
15) Acetone	5.74	58	3490	0.67	ppb	# 24
50) Toluene	14.26	92	4837	0.23	ppb	# 85
55) Tetrachloroethylene	15.22	164	7341	0.33	ppb	94

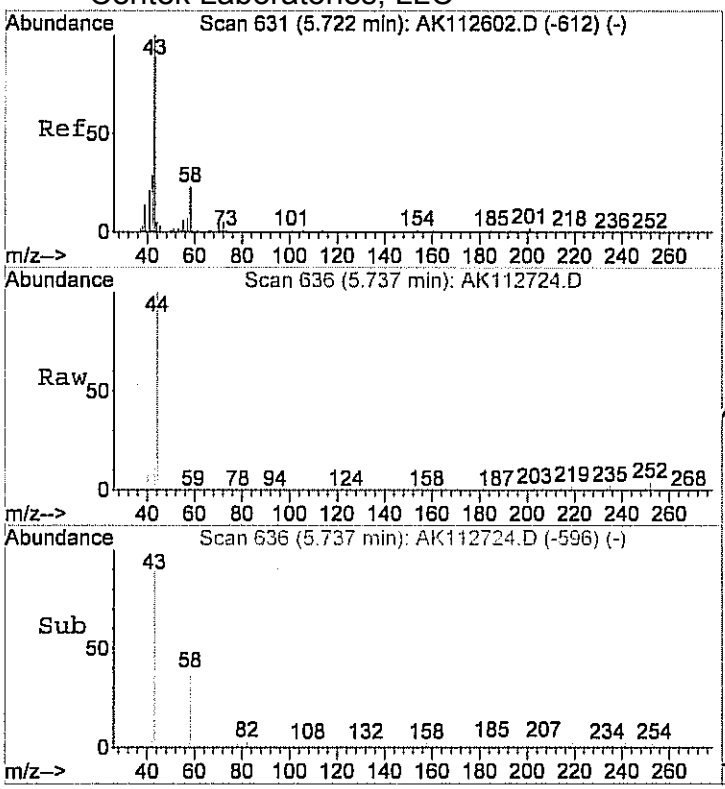
(#) = qualifier out of range (m) = manual integration (+) = signals summed
AK112724.D AO15_1UG.M Wed Dec 11 12:53:37 2013 MSD1 Page 1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK112724.D Vial: 24
Acq On : 27 Nov 2013 11:40 pm Operator: RJP
Sample : C1311058-002A 10X Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Dec 2 8:42 2013 Quant Results File: AO15_1UG.RES

Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Wed Dec 11 12:48:42 2013
Response via : Initial Calibration

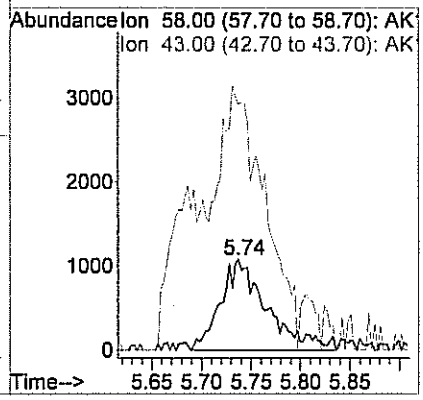


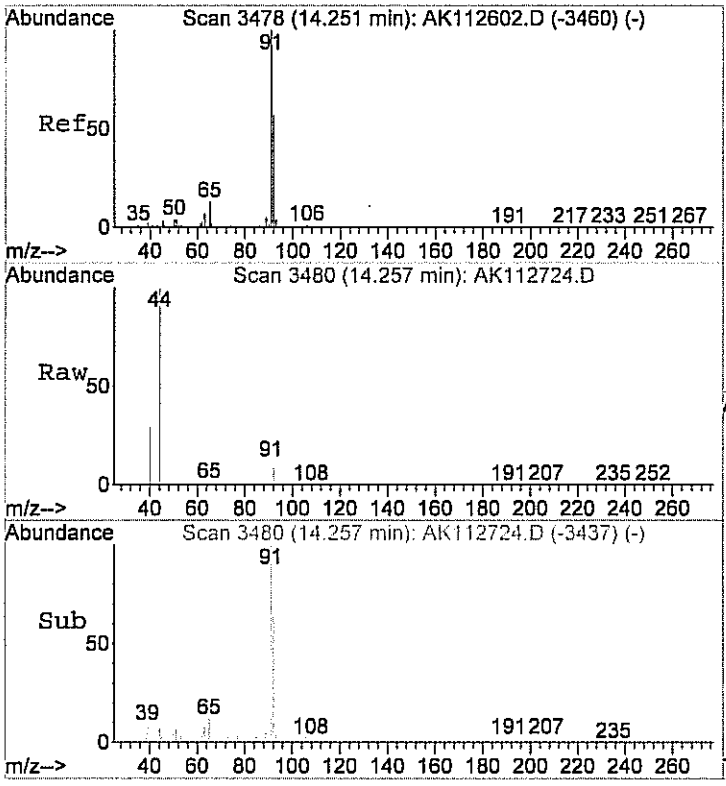


#15
Acetone
Concen: 0.67 ppb
RT: 5.74 min Scan# 636
Delta R.T. -0.03 min
Lab File: AK112724.D
Acq: 27 Nov 2013 11:40 pm

Tgt Ion: 58 Resp: 3490

Ion	Ratio	Lower	Upper
58	100		
43	421.2	650.3	710.3#

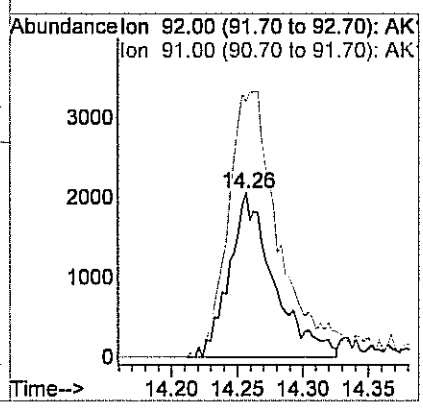


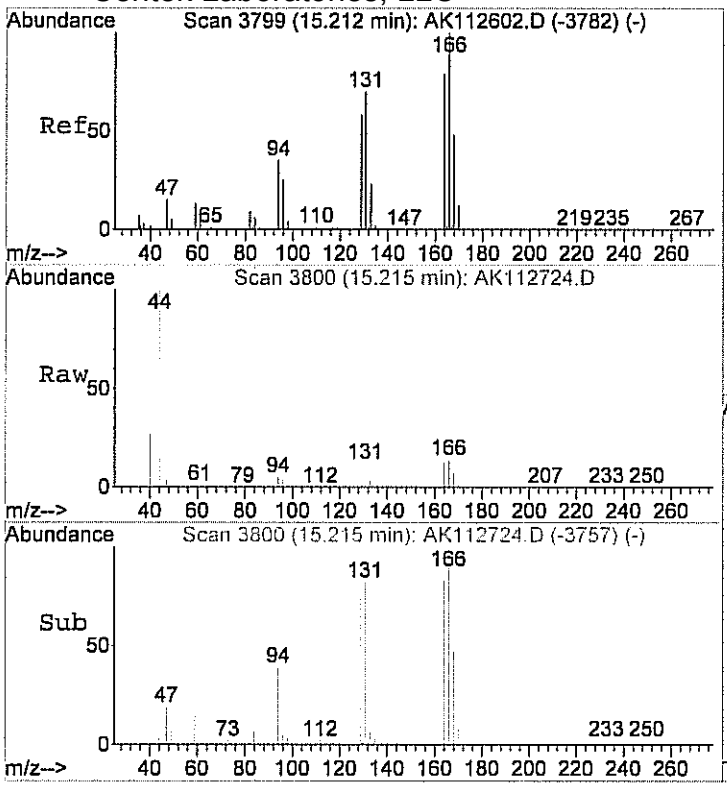


#50
Toluene
Concen: 0.23 ppb
RT: 14.26 min Scan# 3480
Delta R.T. -0.02 min
Lab File: AK112724.D
Acq: 27 Nov 2013 11:40 pm

Tgt Ion: 92 Resp: 4837

Ion	Ratio	Lower	Upper
92	100		
91	197.5	156.6	196.6#

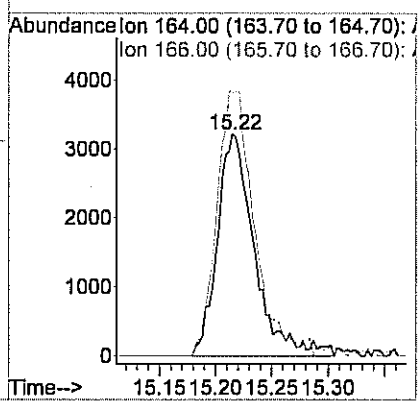




#55
Tetrachloroethylene
Concen: 0.33 ppb
RT: 15.22 min Scan# 3800
Delta R.T. -0.02 min
Lab File: AK112724.D
Acq: 27 Nov 2013 11:40 pm

Tgt Ion:164 Resp: 7341

Ion	Ratio	Lower	Upper
164	100		
166	121.9	108.8	148.8



Centek Laboratories, LLC

Date: *11-Dec-13*

CLIENT:	HDR Engineering	**Client Sample ID:**	OA-11-2013
Lab Order:	C1311058	**Tag Number:**	190,373
Project:	Aluminum Louvre	**Collection Date:**	11/18/2013
Lab ID:	C1311058-003A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS		FLD				Analyst:
Lab Vacuum In	-6			"Hg		11/20/2013
Lab Vacuum Out	-30			"Hg		11/20/2013
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		TO-15				Analyst: RJP
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	11/27/2013 1:30:00 AM
1,1,2,2-Tetrachloroethane	< 0.15	0.15		ppbV	1	11/27/2013 1:30:00 AM
1,1,2-Trichloroethane	< 0.15	0.15		ppbV	1	11/27/2013 1:30:00 AM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	11/27/2013 1:30:00 AM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	11/27/2013 1:30:00 AM
1,2,4-Trichlorobenzene	< 0.15	0.15		ppbV	1	11/27/2013 1:30:00 AM
1,2,4-Trimethylbenzene	< 0.15	0.15		ppbV	1	11/27/2013 1:30:00 AM
1,2-Dibromoethane	< 0.15	0.15		ppbV	1	11/27/2013 1:30:00 AM
1,2-Dichlorobenzene	< 0.15	0.15		ppbV	1	11/27/2013 1:30:00 AM
1,2-Dichloroethane	< 0.15	0.15		ppbV	1	11/27/2013 1:30:00 AM
1,2-Dichloropropane	< 0.15	0.15		ppbV	1	11/27/2013 1:30:00 AM
1,3,5-Trimethylbenzene	< 0.15	0.15		ppbV	1	11/27/2013 1:30:00 AM
1,3-butadiene	< 0.15	0.15		ppbV	1	11/27/2013 1:30:00 AM
1,3-Dichlorobenzene	< 0.15	0.15		ppbV	1	11/27/2013 1:30:00 AM
1,4-Dichlorobenzene	< 0.15	0.15		ppbV	1	11/27/2013 1:30:00 AM
1,4-Dioxane	< 0.30	0.30		ppbV	1	11/27/2013 1:30:00 AM
2,2,4-trimethylpentane	0.94	0.15		ppbV	1	11/27/2013 1:30:00 AM
4-ethyltoluene	< 0.15	0.15		ppbV	1	11/27/2013 1:30:00 AM
Acetone	3.9	3.0		ppbV	10	11/27/2013 8:09:00 PM
Allyl chloride	< 0.15	0.15		ppbV	1	11/27/2013 1:30:00 AM
Benzene	0.18	0.15		ppbV	1	11/27/2013 1:30:00 AM
Benzyl chloride	< 0.15	0.15		ppbV	1	11/27/2013 1:30:00 AM
Bromodichloromethane	< 0.15	0.15		ppbV	1	11/27/2013 1:30:00 AM
Bromoform	< 0.15	0.15		ppbV	1	11/27/2013 1:30:00 AM
Bromomethane	< 0.15	0.15		ppbV	1	11/27/2013 1:30:00 AM
Carbon disulfide	< 0.15	0.15		ppbV	1	11/27/2013 1:30:00 AM
Carbon tetrachloride	0.11	0.040		ppbV	1	11/27/2013 1:30:00 AM
Chlorobenzene	< 0.15	0.15		ppbV	1	11/27/2013 1:30:00 AM
Chloroethane	< 0.15	0.15		ppbV	1	11/27/2013 1:30:00 AM
Chloroform	< 0.15	0.15		ppbV	1	11/27/2013 1:30:00 AM
Chloromethane	0.39	0.15		ppbV	1	11/27/2013 1:30:00 AM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	11/27/2013 1:30:00 AM
cis-1,3-Dichloropropene	< 0.15	0.15		ppbV	1	11/27/2013 1:30:00 AM
Cyclohexane	0.12	0.15	J	ppbV	1	11/27/2013 1:30:00 AM
Dibromochloromethane	< 0.15	0.15		ppbV	1	11/27/2013 1:30:00 AM
Ethyl acetate	< 0.25	0.25		ppbV	1	11/27/2013 1:30:00 AM

Qualifiers:

**	Reporting Limit	.	Results reported are not blank corrected
B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: *11-Dec-13*

CLIENT:	HDR Engineering	**Client Sample ID:**	OA-11-2013
Lab Order:	C1311058	**Tag Number:**	190,373
Project:	Aluminum Louvre	**Collection Date:**	11/18/2013
Lab ID:	C1311058-003A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		**TO-15**				Analyst: **RJP**
Ethylbenzene	< 0.15	0.15		ppbV	1	11/27/2013 1:30:00 AM
Freon 11	0.23	0.15		ppbV	1	11/27/2013 1:30:00 AM
Freon 113	< 0.15	0.15		ppbV	1	11/27/2013 1:30:00 AM
Freon 114	< 0.15	0.15		ppbV	1	11/27/2013 1:30:00 AM
Freon 12	0.55	0.15		ppbV	1	11/27/2013 1:30:00 AM
Heptane	< 0.15	0.15		ppbV	1	11/27/2013 1:30:00 AM
Hexachloro-1,3-butadiene	< 0.15	0.15		ppbV	1	11/27/2013 1:30:00 AM
Hexane	0.12	0.15	J	ppbV	1	11/27/2013 1:30:00 AM
Isopropyl alcohol	0.70	0.15		ppbV	1	11/27/2013 1:30:00 AM
m&p-Xylene	0.14	0.30	J	ppbV	1	11/27/2013 1:30:00 AM
Methyl Butyl Ketone	< 0.30	0.30		ppbV	1	11/27/2013 1:30:00 AM
Methyl Ethyl Ketone	0.19	0.30	J	ppbV	1	11/27/2013 1:30:00 AM
Methyl Isobutyl Ketone	< 0.30	0.30		ppbV	1	11/27/2013 1:30:00 AM
Methyl tert-butyl ether	< 0.15	0.15		ppbV	1	11/27/2013 1:30:00 AM
Methylene chloride	0.64	0.15		ppbV	1	11/27/2013 1:30:00 AM
o-Xylene	< 0.15	0.15		ppbV	1	11/27/2013 1:30:00 AM
Propylene	< 0.15	0.15		ppbV	1	11/27/2013 1:30:00 AM
Styrene	< 0.15	0.15		ppbV	1	11/27/2013 1:30:00 AM
Tetrachloroethylene	< 0.15	0.15		ppbV	1	11/27/2013 1:30:00 AM
Tetrahydrofuran	< 0.15	0.15		ppbV	1	11/27/2013 1:30:00 AM
Toluene	0.97	0.15		ppbV	1	11/27/2013 1:30:00 AM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	11/27/2013 1:30:00 AM
trans-1,3-Dichloropropene	< 0.15	0.15		ppbV	1	11/27/2013 1:30:00 AM
Trichloroethene	0.10	0.040		ppbV	1	11/27/2013 1:30:00 AM
Vinyl acetate	< 0.15	0.15		ppbV	1	11/27/2013 1:30:00 AM
Vinyl Bromide	< 0.15	0.15		ppbV	1	11/27/2013 1:30:00 AM
Vinyl chloride	< 0.040	0.040		ppbV	1	11/27/2013 1:30:00 AM
Surr: Bromofluorobenzene	84.0	70-130		%REC	1	11/27/2013 1:30:00 AM

Qualifiers:

**	Reporting Limit	.	Results reported are not blank corrected
B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: *11-Dec-13*

CLIENT:	HDR Engineering	**Client Sample ID:**	OA-11-2013
Lab Order:	C1311058	**Tag Number:**	190,373
Project:	Aluminum Louvre	**Collection Date:**	11/18/2013
Lab ID:	C1311058-003A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		**TO-15**				Analyst: **RJP**
1,1,1-Trichloroethane	< 0.83	0.83		ug/m3	1	11/27/2013 1:30:00 AM
1,1,2,2-Tetrachloroethane	< 1.0	1.0		ug/m3	1	11/27/2013 1:30:00 AM
1,1,2-Trichloroethane	< 0.83	0.83		ug/m3	1	11/27/2013 1:30:00 AM
1,1-Dichloroethane	< 0.62	0.62		ug/m3	1	11/27/2013 1:30:00 AM
1,1-Dichloroethene	< 0.60	0.60		ug/m3	1	11/27/2013 1:30:00 AM
1,2,4-Trichlorobenzene	< 1.1	1.1		ug/m3	1	11/27/2013 1:30:00 AM
1,2,4-Trimethylbenzene	< 0.75	0.75		ug/m3	1	11/27/2013 1:30:00 AM
1,2-Dibromoethane	< 1.2	1.2		ug/m3	1	11/27/2013 1:30:00 AM
1,2-Dichlorobenzene	< 0.92	0.92		ug/m3	1	11/27/2013 1:30:00 AM
1,2-Dichloroethane	< 0.62	0.62		ug/m3	1	11/27/2013 1:30:00 AM
1,2-Dichloropropane	< 0.70	0.70		ug/m3	1	11/27/2013 1:30:00 AM
1,3,5-Trimethylbenzene	< 0.75	0.75		ug/m3	1	11/27/2013 1:30:00 AM
1,3-butadiene	< 0.34	0.34		ug/m3	1	11/27/2013 1:30:00 AM
1,3-Dichlorobenzene	< 0.92	0.92		ug/m3	1	11/27/2013 1:30:00 AM
1,4-Dichlorobenzene	< 0.92	0.92		ug/m3	1	11/27/2013 1:30:00 AM
1,4-Dioxane	< 1.1	1.1		ug/m3	1	11/27/2013 1:30:00 AM
2,2,4-trimethylpentane	4.5	0.71		ug/m3	1	11/27/2013 1:30:00 AM
4-ethyltoluene	< 0.75	0.75		ug/m3	1	11/27/2013 1:30:00 AM
Acetone	9.4	7.2		ug/m3	10	11/27/2013 8:09:00 PM
Allyl chloride	< 0.48	0.48		ug/m3	1	11/27/2013 1:30:00 AM
Benzene	0.58	0.49		ug/m3	1	11/27/2013 1:30:00 AM
Benzyl chloride	< 0.88	0.88		ug/m3	1	11/27/2013 1:30:00 AM
Bromodichloromethane	< 1.0	1.0		ug/m3	1	11/27/2013 1:30:00 AM
Bromoform	< 1.6	1.6		ug/m3	1	11/27/2013 1:30:00 AM
Bromomethane	< 0.59	0.59		ug/m3	1	11/27/2013 1:30:00 AM
Carbon disulfide	< 0.47	0.47		ug/m3	1	11/27/2013 1:30:00 AM
Carbon tetrachloride	0.70	0.26		ug/m3	1	11/27/2013 1:30:00 AM
Chlorobenzene	< 0.70	0.70		ug/m3	1	11/27/2013 1:30:00 AM
Chloroethane	< 0.40	0.40		ug/m3	1	11/27/2013 1:30:00 AM
Chloroform	< 0.74	0.74		ug/m3	1	11/27/2013 1:30:00 AM
Chloromethane	0.82	0.31		ug/m3	1	11/27/2013 1:30:00 AM
cis-1,2-Dichloroethene	< 0.60	0.60		ug/m3	1	11/27/2013 1:30:00 AM
cis-1,3-Dichloropropene	< 0.69	0.69		ug/m3	1	11/27/2013 1:30:00 AM
Cyclohexane	0.42	0.52	J	ug/m3	1	11/27/2013 1:30:00 AM
Dibromochloromethane	< 1.3	1.3		ug/m3	1	11/27/2013 1:30:00 AM
Ethyl acetate	< 0.92	0.92		ug/m3	1	11/27/2013 1:30:00 AM
Ethylbenzene	< 0.66	0.66		ug/m3	1	11/27/2013 1:30:00 AM
Freon 11	1.3	0.86		ug/m3	1	11/27/2013 1:30:00 AM
Freon 113	< 1.2	1.2		ug/m3	1	11/27/2013 1:30:00 AM
Freon 114	< 1.1	1.1		ug/m3	1	11/27/2013 1:30:00 AM

Qualifiers:

**	Reporting Limit	.	Results reported are not blank corrected
B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: *11-Dec-13*

CLIENT:	HDR Engineering	**Client Sample ID:**	OA-11-2013
Lab Order:	C1311058	**Tag Number:**	190,373
Project:	Aluminum Louvre	**Collection Date:**	11/18/2013
Lab ID:	C1311058-003A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		**TO-15**				Analyst: **RJP**
Freon 12	2.8	0.75		ug/m3	1	11/27/2013 1:30:00 AM
Heptane	< 0.62	0.62		ug/m3	1	11/27/2013 1:30:00 AM
Hexachloro-1,3-butadiene	< 1.6	1.6		ug/m3	1	11/27/2013 1:30:00 AM
Hexane	0.43	0.54	J	ug/m3	1	11/27/2013 1:30:00 AM
Isopropyl alcohol	1.7	0.37		ug/m3	1	11/27/2013 1:30:00 AM
m&p-Xylene	0.62	1.3	J	ug/m3	1	11/27/2013 1:30:00 AM
Methyl Butyl Ketone	< 1.2	1.2		ug/m3	1	11/27/2013 1:30:00 AM
Methyl Ethyl Ketone	0.57	0.90	J	ug/m3	1	11/27/2013 1:30:00 AM
Methyl Isobutyl Ketone	< 1.2	1.2		ug/m3	1	11/27/2013 1:30:00 AM
Methyl tert-butyl ether	< 0.55	0.55		ug/m3	1	11/27/2013 1:30:00 AM
Methylene chloride	2.3	0.53		ug/m3	1	11/27/2013 1:30:00 AM
o-Xylene	< 0.66	0.66		ug/m3	1	11/27/2013 1:30:00 AM
Propylene	< 0.26	0.26		ug/m3	1	11/27/2013 1:30:00 AM
Styrene	< 0.65	0.65		ug/m3	1	11/27/2013 1:30:00 AM
Tetrachloroethylene	< 1.0	1.0		ug/m3	1	11/27/2013 1:30:00 AM
Tetrahydrofuran	< 0.45	0.45		ug/m3	1	11/27/2013 1:30:00 AM
Toluene	3.7	0.57		ug/m3	1	11/27/2013 1:30:00 AM
trans-1,2-Dichloroethene	< 0.60	0.60		ug/m3	1	11/27/2013 1:30:00 AM
trans-1,3-Dichloropropene	< 0.69	0.69		ug/m3	1	11/27/2013 1:30:00 AM
Trichloroethene	0.55	0.22		ug/m3	1	11/27/2013 1:30:00 AM
Vinyl acetate	< 0.54	0.54		ug/m3	1	11/27/2013 1:30:00 AM
Vinyl Bromide	< 0.67	0.67		ug/m3	1	11/27/2013 1:30:00 AM
Vinyl chloride	< 0.10	0.10		ug/m3	1	11/27/2013 1:30:00 AM

Qualifiers:

**	Reporting Limit	.	Results reported are not blank corrected
B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK112626.D Vial: 45
Acq On : 27 Nov 2013 1:30 am Operator: RJP
Sample : C1311058-003A Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 27 07:39:42 2013 Quant Results File: AO15_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Oct 15 18:12:29 2013
Response via : Initial Calibration
DataAcq Meth : 1UG_T015

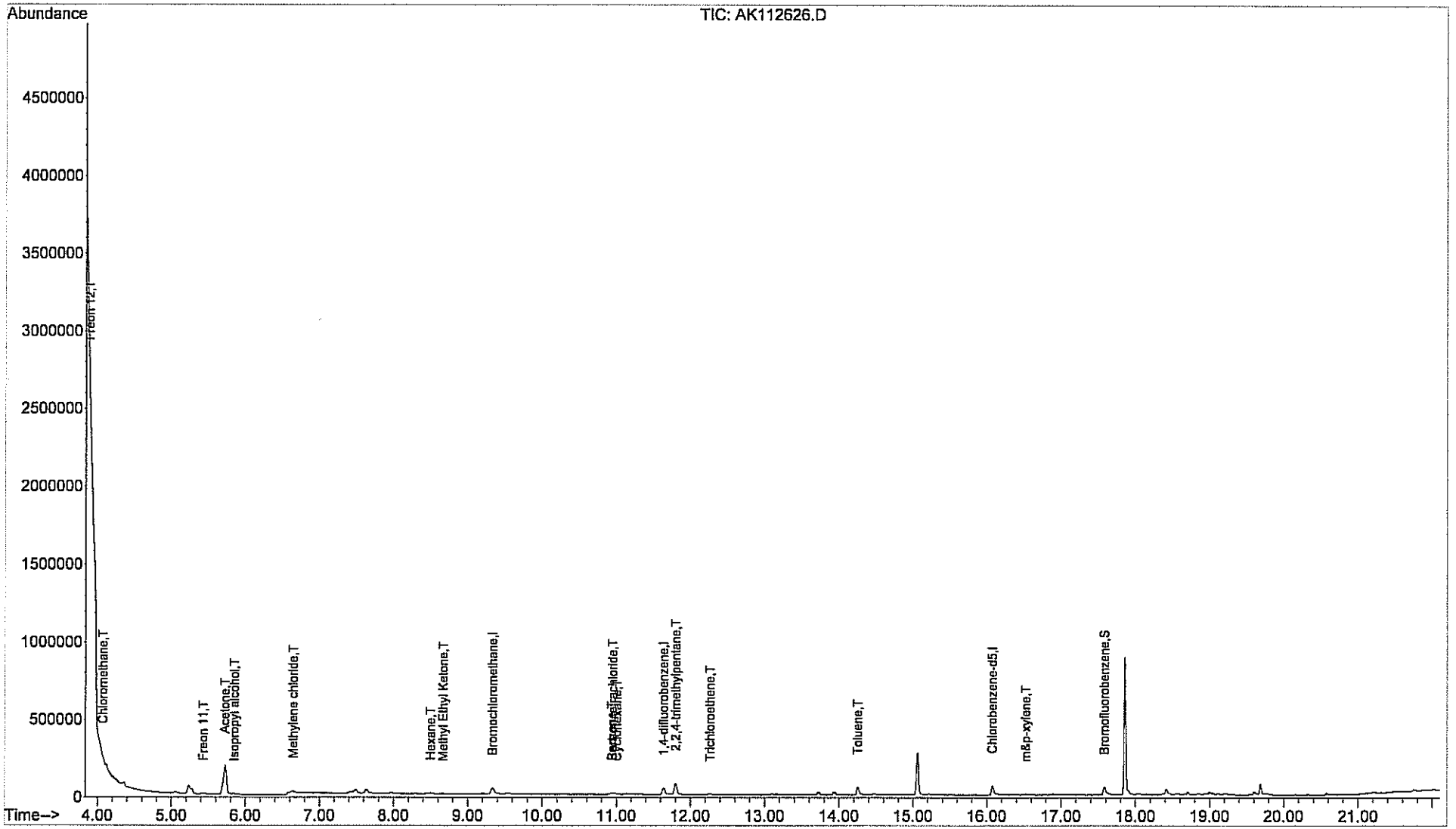
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane	9.34	128	21607	1.00	ppb		-0.02
34) 1,4-difluorobenzene	11.64	114	52036	1.00	ppb		-0.03
49) Chlorobenzene-d5	16.08	117	53752	1.00	ppb		-0.02
System Monitoring Compounds							
62) Bromofluorobenzene	17.58	95	26377	0.84	ppb		-0.02
Spiked Amount 1.000	Range 70 - 130		Recovery = 84.00%				
Target Compounds							Qvalue
4) Freon 12	3.90	85	40158	0.55	ppb		100
5) Chloromethane	4.08	50	6731	0.39	ppb		81
14) Freon 11	5.42	101	12878	0.23	ppb		97
15) Acetone	5.71	58	24094	4.04	ppb	#	37
16) Isopropyl alcohol	5.84	45	10991	0.70	ppb	#	100
20) Methylene chloride	6.64	84	8884	0.64	ppb		96
27) Methyl Ethyl Ketone	8.68	72	1509	0.19	ppb	#	100
29) Hexane	8.51	57	3077	0.12	ppb	#	59
36) Cyclohexane	11.01	56	2333	0.12	ppb	#	71
37) Carbon tetrachloride	10.95	117	5446	0.11	ppb		96
38) Benzene	10.93	78	9789	0.18	ppb		94
41) 2,2,4-trimethylpentane	11.80	57	62638	0.94	ppb		91
43) Trichloroethene	12.27	130	2701	0.10	ppb		96
50) Toluene	14.25	92	29391	0.97	ppb		98
58) m&p-xylene	16.52	91	6839	0.14	ppb		99

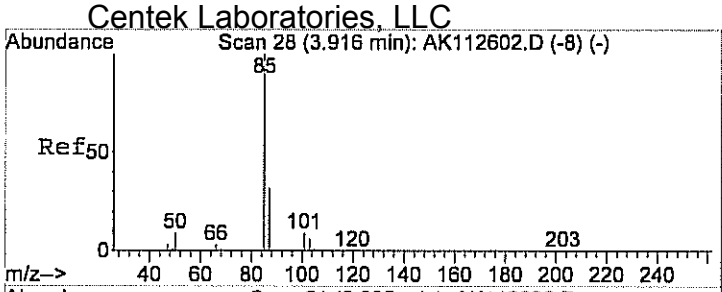
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK112626.D Vial: 45
Acq On : 27 Nov 2013 1:30 am Operator: RJP
Sample : C1311058-003A Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 29 10:59 2013 Quant Results File: AO15_1UG.RES

Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Wed Dec 11 12:48:42 2013
Response via : Initial Calibration

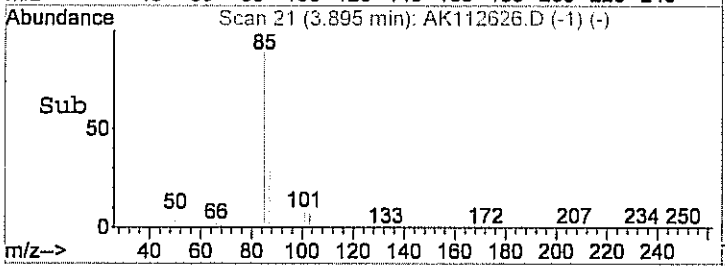


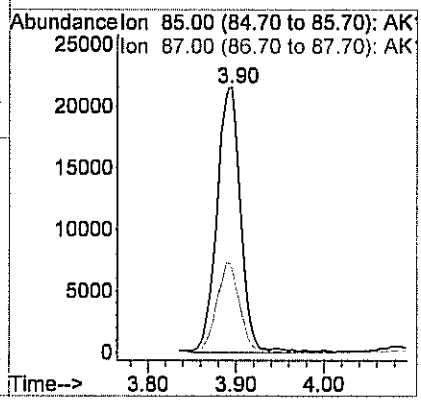


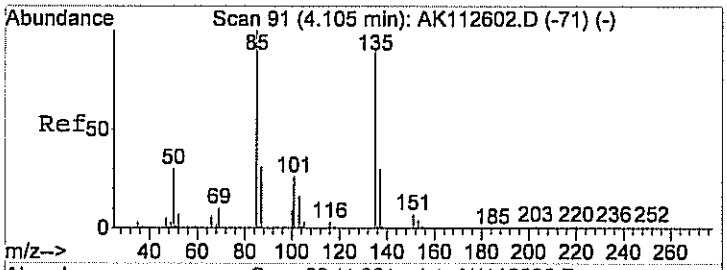
#4
Freon 12
Concen: 0.55 ppb
RT: 3.90 min Scan# 21
Delta R.T. -0.04 min
Lab File: AK112626.D
Acq: 27 Nov 2013 1:30 am

Tgt Ion: 85 Resp: 40158

Ion	Ratio	Lower	Upper
85	100		
87	32.7	12.8	52.8



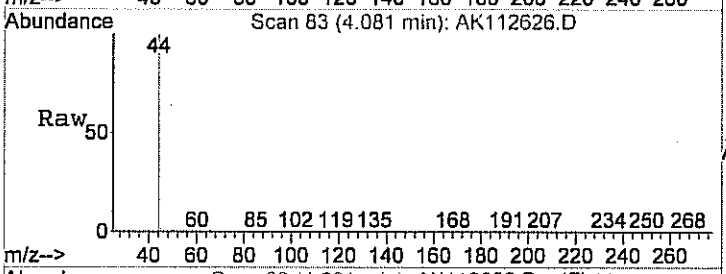


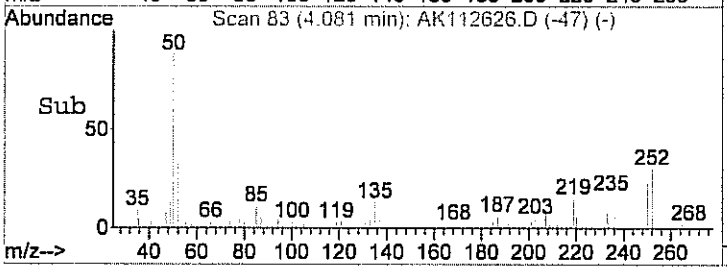


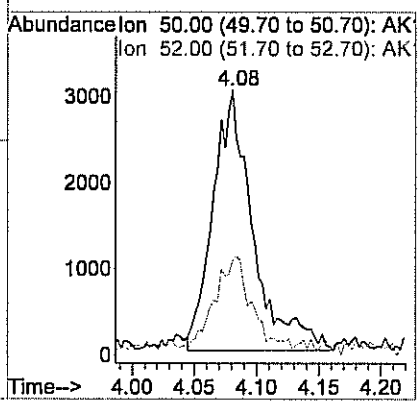
#5
Chloromethane
Concen: 0.39 ppb
RT: 4.08 min Scan# 83
Delta R.T. -0.04 min
Lab File: AK112626.D
Acq: 27 Nov 2013 1:30 am

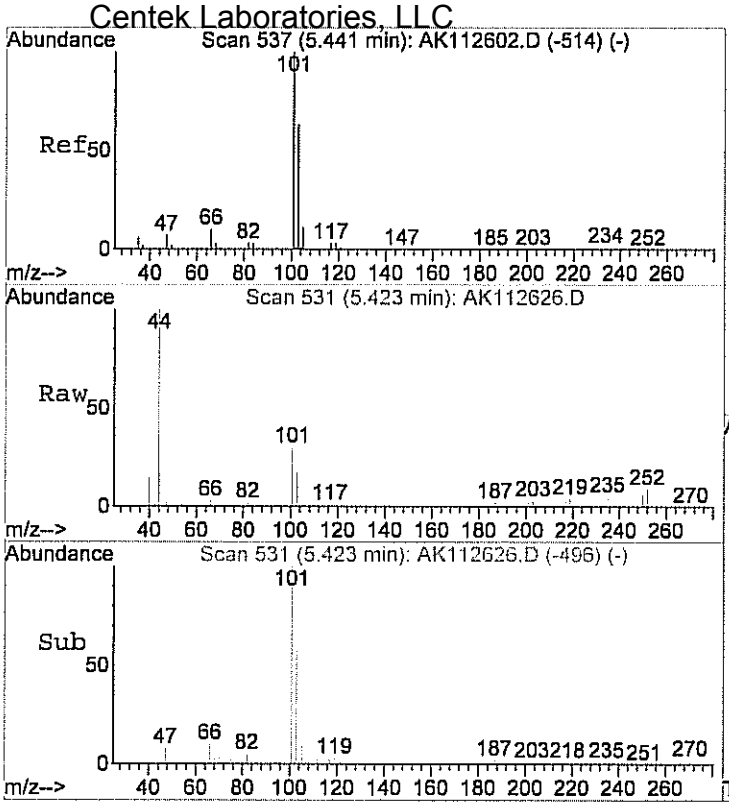
Tgt Ion: 50 Resp: 6731

Ion	Ratio	Lower	Upper
50	100		
52	39.6	9.4	49.4





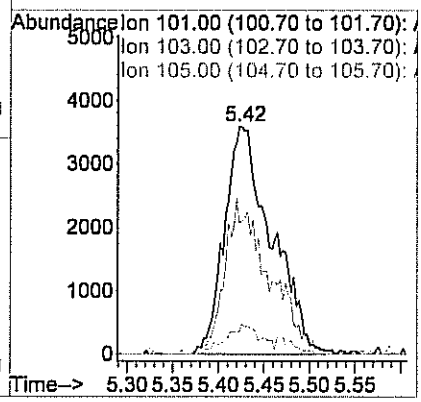


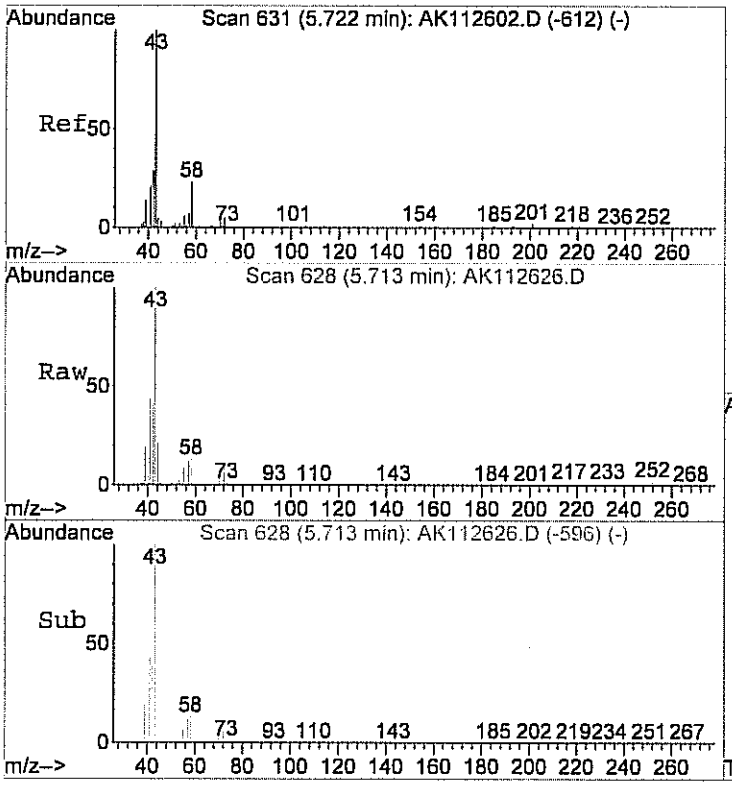


#14
Freon 11
Concen: 0.23 ppb
RT: 5.42 min Scan# 531
Delta R.T. -0.05 min
Lab File: AK112626.D
Acq: 27 Nov 2013 1:30 am

Tgt Ion:101 Resp: 12878

Ion	Ratio	Lower	Upper
101	100		
103	64.2	46.0	86.0
105	9.7	0.0	31.7

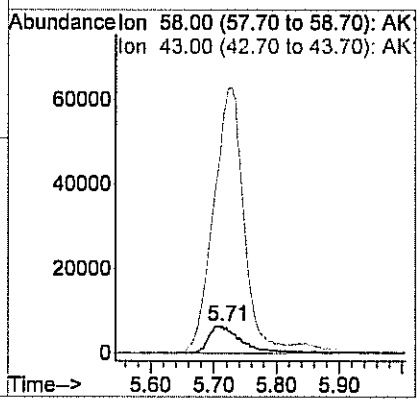


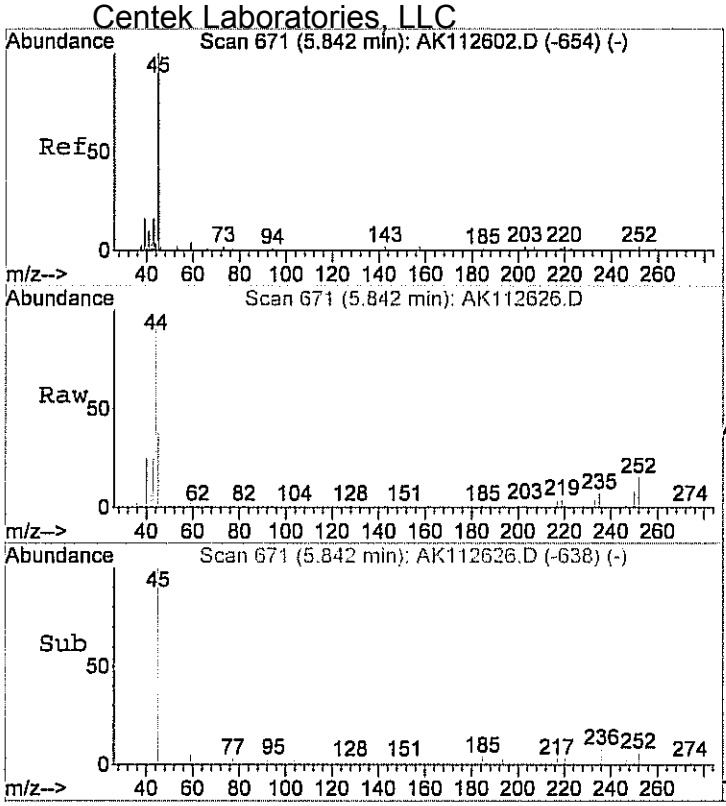


#15
Acetone
Concen: 4.04 ppb
RT: 5.71 min Scan# 628
Delta R.T. -0.05 min
Lab File: AK112626.D
Acq: 27 Nov 2013 1:30 am

Tgt Ion: 58 Resp: 24094

Ion	Ratio	Lower	Upper
58	100		
43	894.9	650.3	710.3#

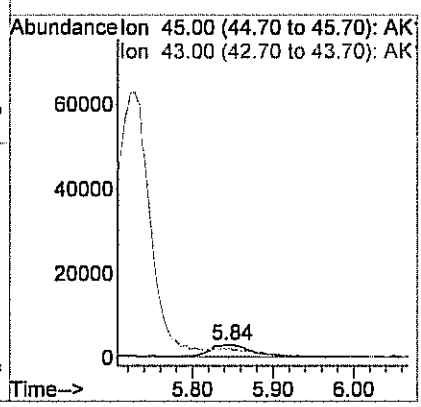


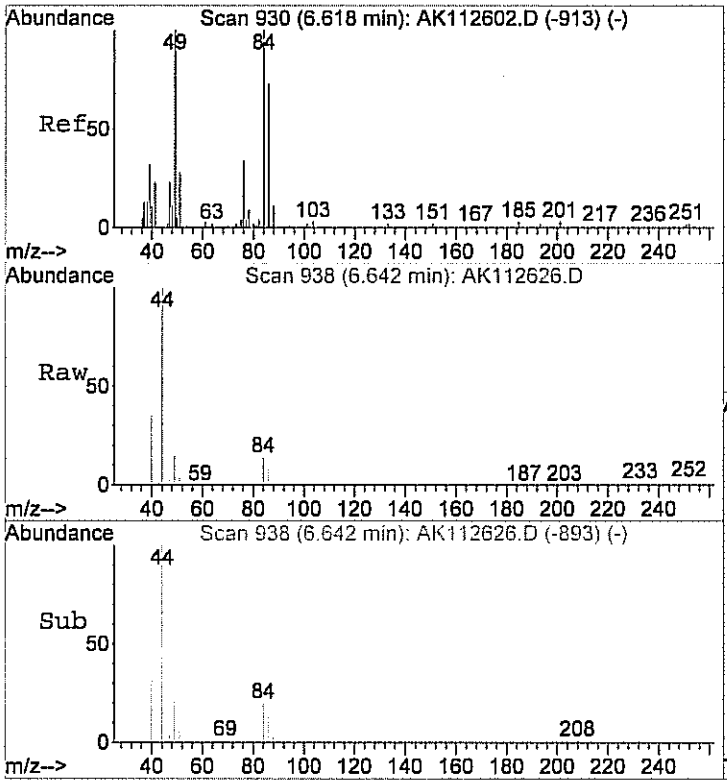


#16
Isopropyl alcohol
Concen: 0.70 ppb
RT: 5.84 min Scan# 671
Delta R.T. -0.05 min
Lab File: AK112626.D
Acq: 27 Nov 2013 1:30 am

Tgt Ion: 45 Resp: 10991

Ion	Ratio	Lower	Upper
45	100		
43	0.0	0.0	20.0

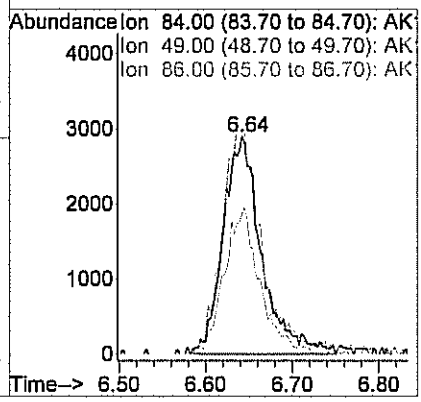


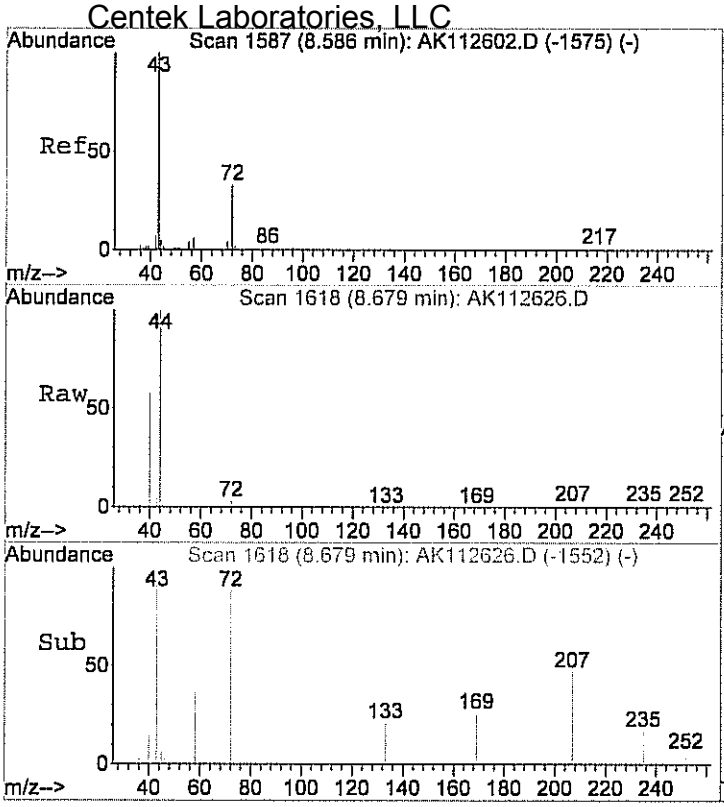


#20
Methylene chloride
Concen: 0.64 ppb
RT: 6.64 min Scan# 938
Delta R.T. -0.02 min
Lab File: AK112626.D
Acq: 27 Nov 2013 1:30 am

Tgt Ion: 84 Resp: 8884

Ion	Ratio	Lower	Upper
84	100		
49	106.3	82.2	122.2
86	62.3	45.4	85.4

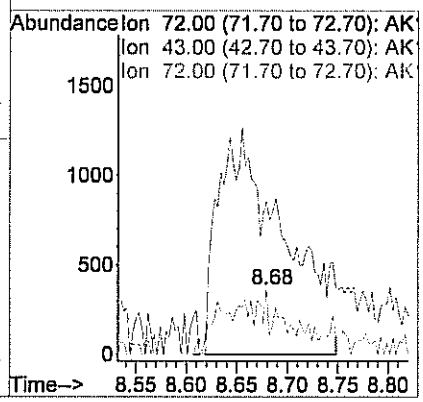


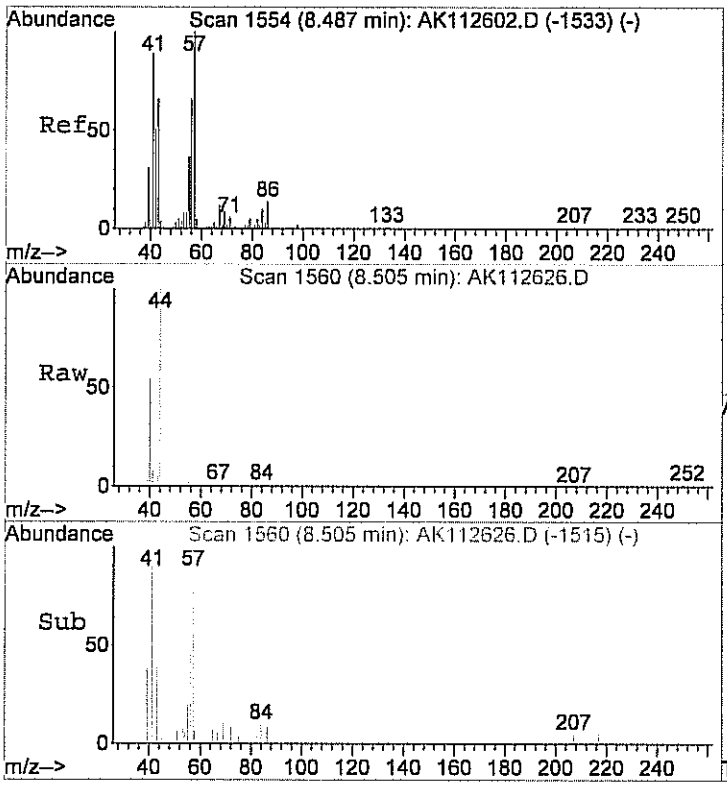


#27
Methyl Ethyl Ketone
Concen: 0.19 ppb
RT: 8.68 min Scan# 1618
Delta R.T. 0.05 min
Lab File: AK112626.D
Acq: 27 Nov 2013 1:30 am

Tgt Ion: 72 Resp: 1509

Ion	Ratio	Lower	Upper
72	100		
43	383.6	0.0	20.0#
72	100.0	80.0	120.0

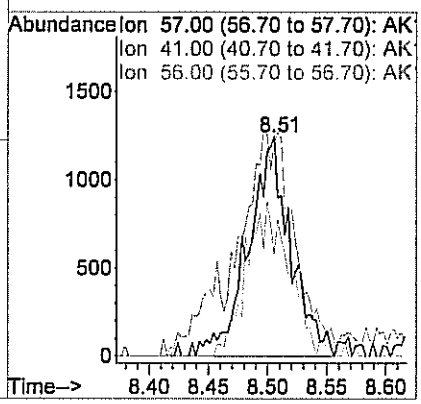


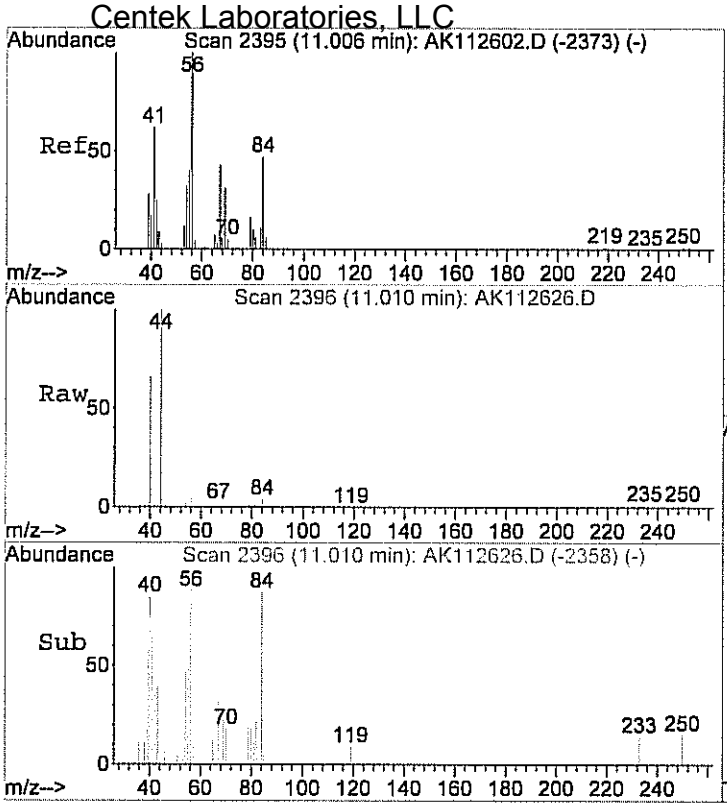


#29
Hexane
Concen: 0.12 ppb
RT: 8.51 min Scan# 1560
Delta R.T. -0.02 min
Lab File: AK112626.D
Acq: 27 Nov 2013 1:30 am

Tgt Ion: 57 Resp: 3077

Ion	Ratio	Lower	Upper
57	100		
41	149.3	68.6	108.6#
56	70.1	43.7	83.7

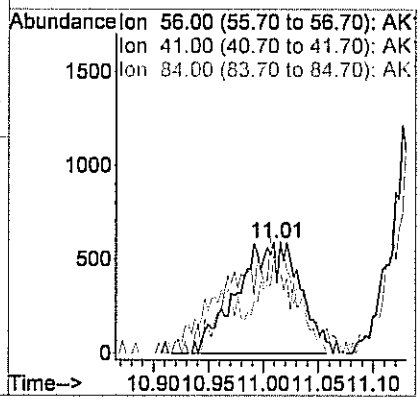


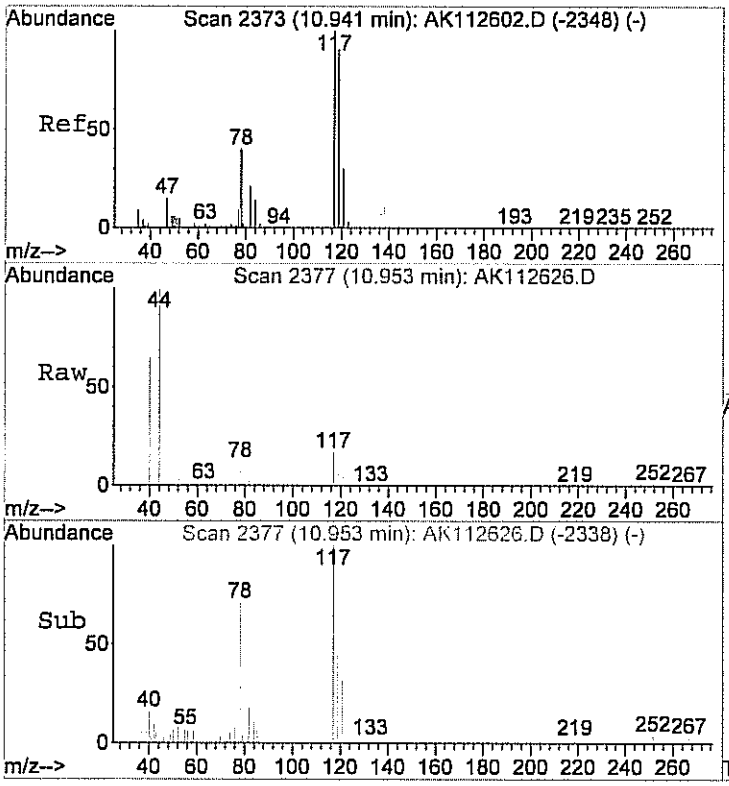


#36
Cyclohexane
Concen: 0.12 ppb
RT: 11.01 min Scan# 2396
Delta R.T. -0.04 min
Lab File: AK112626.D
Acq: 27 Nov 2013 1:30 am

Tgt Ion: 56 Resp: 2333

Ion	Ratio	Lower	Upper
56	100		
41	88.8	38.1	78.1#
84	92.6	97.4	137.4#

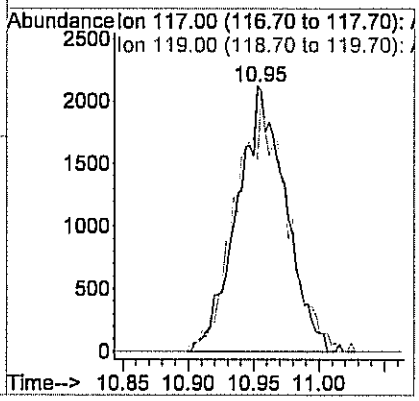


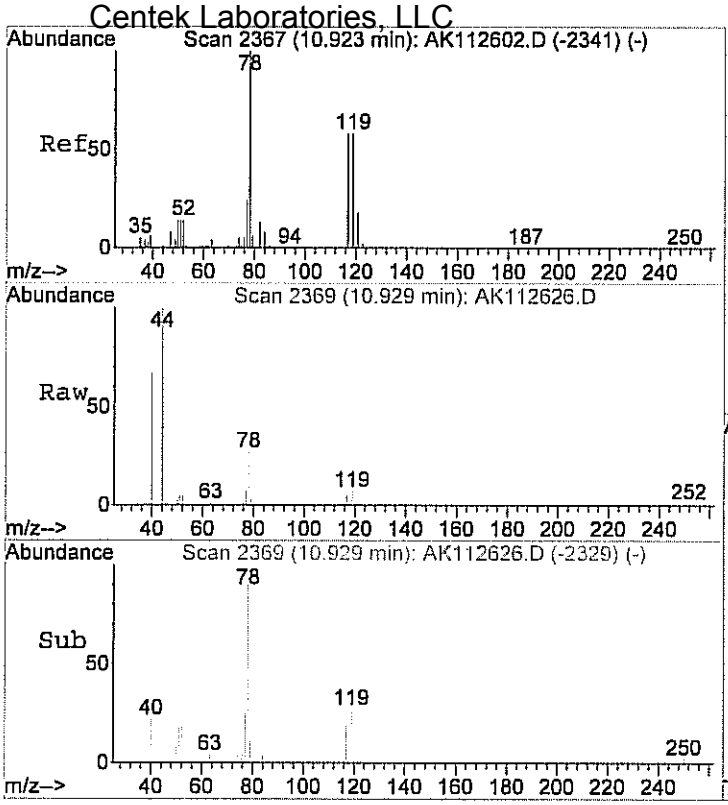


#37
Carbon tetrachloride
Concen: 0.11 ppb
RT: 10.95 min Scan# 2377
Delta R.T. -0.03 min
Lab File: AK112626.D
Acq: 27 Nov 2013 1:30 am

Tgt Ion:117 Resp: 5446

Ion	Ratio	Lower	Upper
117	100		
119	100.7	76.8	116.8

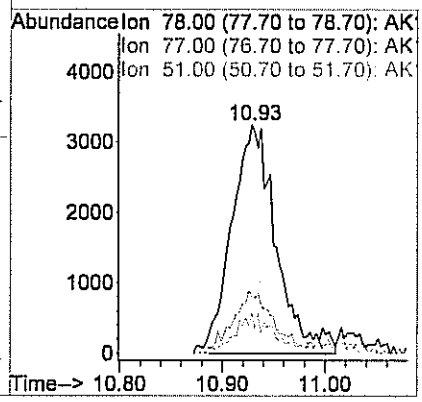


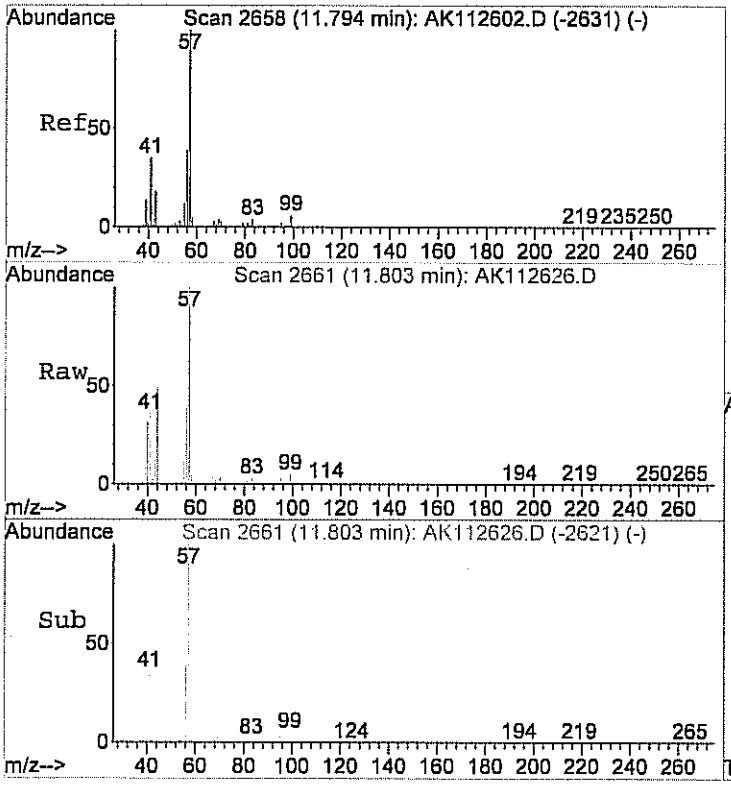


#38
Benzene
Concen: 0.18 ppb
RT: 10.93 min Scan# 2369
Delta R.T. -0.03 min
Lab File: AK112626.D
Acq: 27 Nov 2013 1:30 am

Tgt Ion: 78 Resp: 9789

Ion	Ratio	Lower	Upper
78	100		
77	29.8	6.7	46.7
51	14.5	0.0	37.6

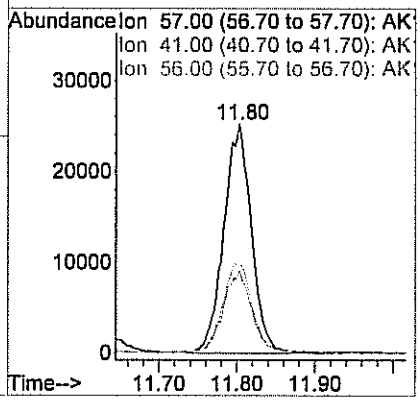


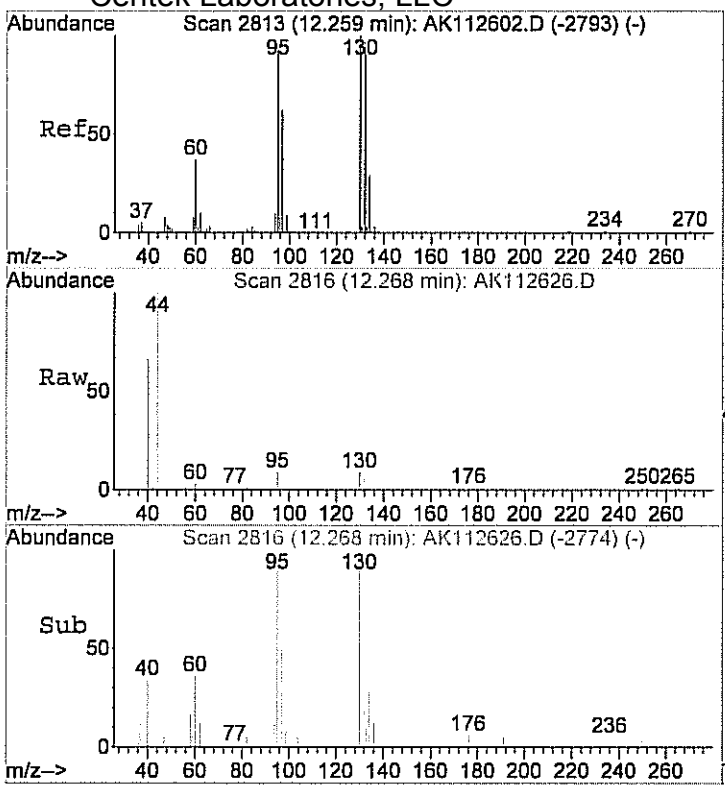


#41
2,2,4-trimethylpentane
Concen: 0.94 ppb
RT: 11.80 min Scan# 2661
Delta R.T. -0.03 min
Lab File: AK112626.D
Acq: 27 Nov 2013 1:30 am

Tgt Ion: 57 Resp: 62638

Ion	Ratio	Lower	Upper
57	100		
41	36.6	12.0	52.0
56	42.0	16.8	56.8

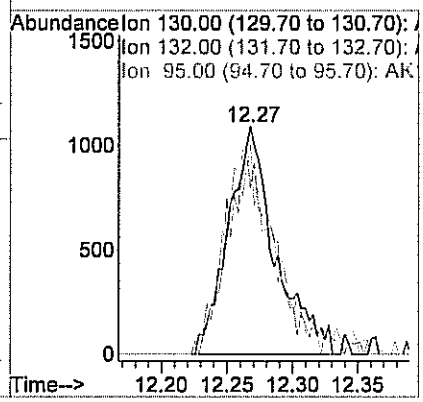


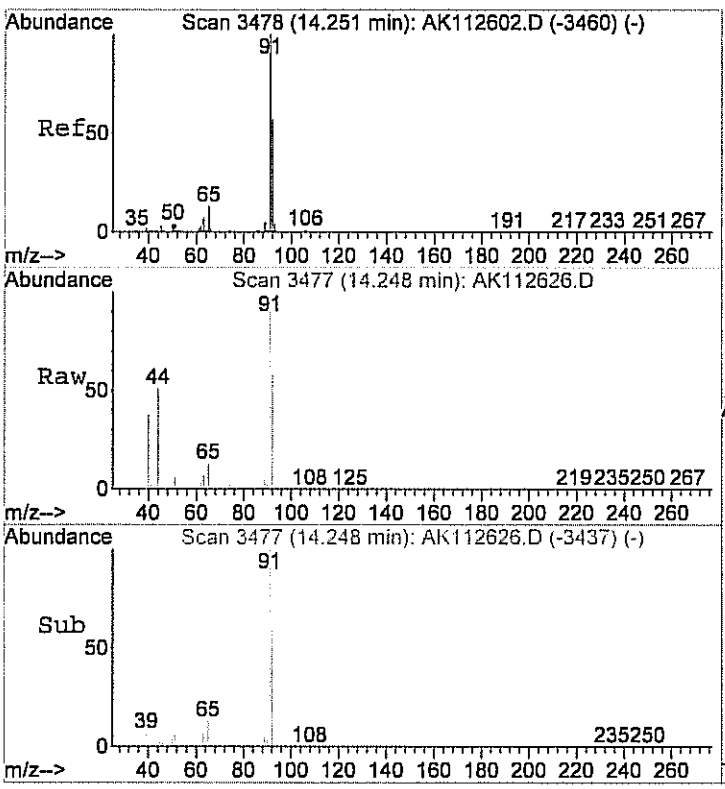


#43
Trichloroethene
Concen: 0.10 ppb
RT: 12.27 min Scan# 2816
Delta R.T. -0.02 min
Lab File: AK112626.D
Acq: 27 Nov 2013 1:30 am

Tgt Ion:130 Resp: 2701

Ion	Ratio	Lower	Upper
130	100		
132	93.7	77.0	117.0
95	92.3	76.9	116.9

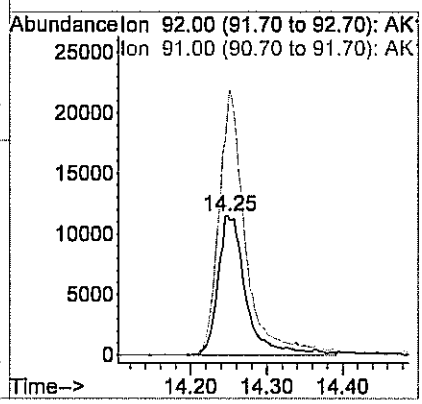


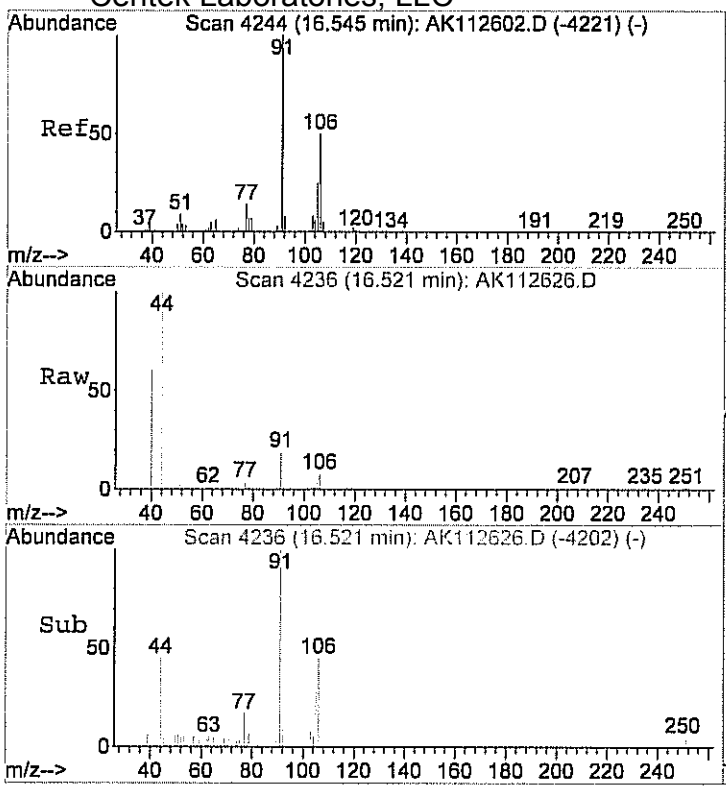


#50
Toluene
Concen: 0.97 ppb
RT: 14.25 min Scan# 3477
Delta R.T. -0.03 min
Lab File: AK112626.D
Acq: 27 Nov 2013 1:30 am

Tgt Ion: 92 Resp: 29391

Ion	Ratio	Lower	Upper
92	100		
91	179.3	156.6	196.6

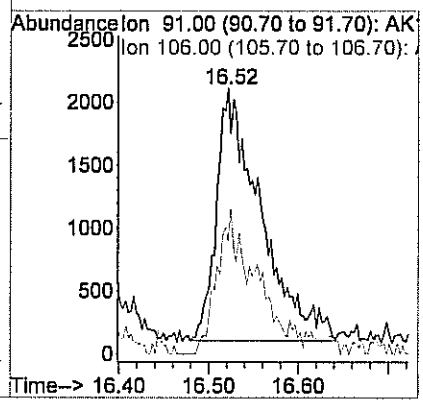




#58
m&p-xylene
Concen: 0.14 ppb
RT: 16.52 min Scan# 4236
Delta R.T. -0.05 min
Lab File: AK112626.D
Acq: 27 Nov 2013 1:30 am

Tgt Ion: 91 Resp: 6839

Ion	Ratio	Lower	Upper
91	100		
106	50.9	31.3	71.3



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK112718.D Vial: 18
Acq On : 27 Nov 2013 8:09 pm Operator: RJP
Sample : C1311058-003A 10X Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 29 10:56:09 2013 Quant Results File: AO15_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Oct 15 18:12:29 2013
Response via : Initial Calibration
DataAcq Meth : 1UG_T015

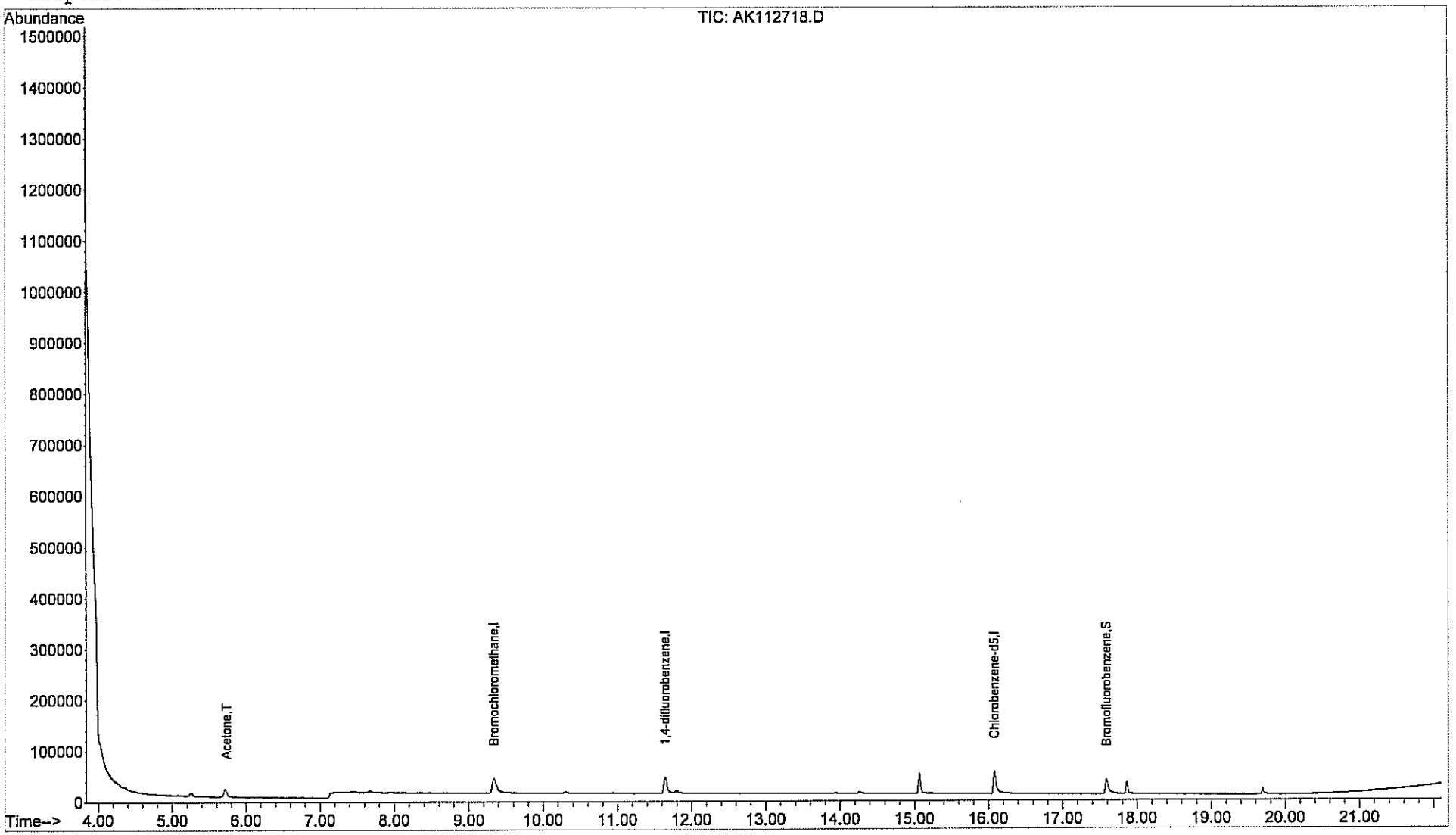
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.33	128	18936	1.00	ppb	-0.03
34) 1,4-difluorobenzene	11.65	114	42920	1.00	ppb	-0.02
49) Chlorobenzene-d5	16.08	117	42890	1.00	ppb	-0.02
System Monitoring Compounds						
62) Bromofluorobenzene	17.58	95	18514m	0.73	ppb	-0.02
Spiked Amount 1.000	Range 70 - 130		Recovery = 73.00%			
Target Compounds						Qvalue
15) Acetone	5.74	58	2047	0.39	ppb	# 15

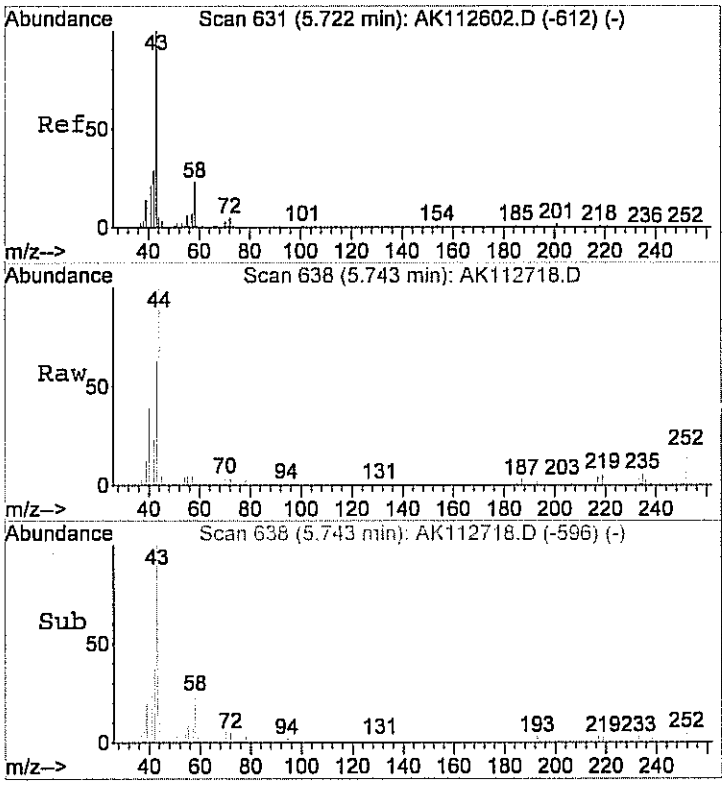
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK112718.D Vial: 18
Acq On : 27 Nov 2013 8:09 pm Operator: RJP
Sample : C1311058-003A 10X Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Dec 2 8:41 2013 Quant Results File: AO15_1UG.RES

Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Wed Dec 11 12:48:42 2013
Response via : Initial Calibration

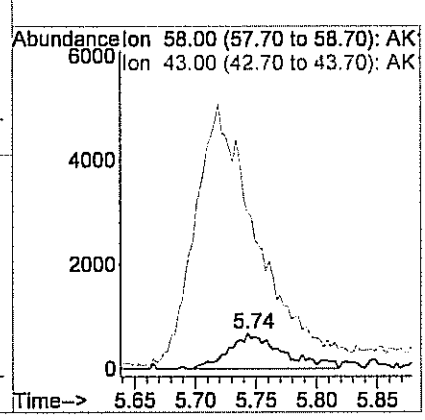




#15
Acetone
Concen: 0.39 ppb
RT: 5.74 min Scan# 638
Delta R.T. -0.02 min
Lab File: AK112718.D
Acq: 27 Nov 2013 8:09 pm

Tgt Ion: 58 Resp: 2047

Ion	Ratio	Lower	Upper
58	100		
43	969.1	650.3	710.3#



Centek Laboratories, LLC

Date: *11-Dec-13*

CLIENT:	HDR Engineering	**Client Sample ID:**	303- E-IA
Lab Order:	C1311058	**Tag Number:**	94,390
Project:	Aluminum Louvre	**Collection Date:**	11/18/2013
Lab ID:	C1311058-004A	**Matrix:**	

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS		FLD				Analyst:
Lab Vacuum In	-2			"Hg		11/20/2013
Lab Vacuum Out	-30			"Hg		11/20/2013
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		TO-15				Analyst: RJP
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	11/27/2013 2:07:00 AM
1,1,2,2-Tetrachloroethane	< 0.15	0.15		ppbV	1	11/27/2013 2:07:00 AM
1,1,2-Trichloroethane	< 0.15	0.15		ppbV	1	11/27/2013 2:07:00 AM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	11/27/2013 2:07:00 AM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	11/27/2013 2:07:00 AM
1,2,4-Trichlorobenzene	< 0.15	0.15		ppbV	1	11/27/2013 2:07:00 AM
1,2,4-Trimethylbenzene	7.7	1.5		ppbV	10	11/27/2013 8:44:00 PM
1,2-Dibromoethane	< 0.15	0.15		ppbV	1	11/27/2013 2:07:00 AM
1,2-Dichlorobenzene	< 0.15	0.15		ppbV	1	11/27/2013 2:07:00 AM
1,2-Dichloroethane	< 0.15	0.15		ppbV	1	11/27/2013 2:07:00 AM
1,2-Dichloropropane	< 0.15	0.15		ppbV	1	11/27/2013 2:07:00 AM
1,3,5-Trimethylbenzene	2.3	1.5		ppbV	10	11/27/2013 8:44:00 PM
1,3-butadiene	< 0.15	0.15		ppbV	1	11/27/2013 2:07:00 AM
1,3-Dichlorobenzene	< 0.15	0.15		ppbV	1	11/27/2013 2:07:00 AM
1,4-Dichlorobenzene	< 0.15	0.15		ppbV	1	11/27/2013 2:07:00 AM
1,4-Dioxane	< 0.30	0.30		ppbV	1	11/27/2013 2:07:00 AM
2,2,4-trimethylpentane	15	6.0		ppbV	40	11/27/2013 9:19:00 PM
4-ethyltoluene	2.4	1.5		ppbV	10	11/27/2013 8:44:00 PM
Acetone	49	12		ppbV	40	11/27/2013 9:19:00 PM
Allyl chloride	< 0.15	0.15		ppbV	1	11/27/2013 2:07:00 AM
Benzene	5.9	1.5		ppbV	10	11/27/2013 8:44:00 PM
Benzyl chloride	< 0.15	0.15		ppbV	1	11/27/2013 2:07:00 AM
Bromodichloromethane	< 0.15	0.15		ppbV	1	11/27/2013 2:07:00 AM
Bromoform	< 0.15	0.15		ppbV	1	11/27/2013 2:07:00 AM
Bromomethane	< 0.15	0.15		ppbV	1	11/27/2013 2:07:00 AM
Carbon disulfide	< 0.15	0.15		ppbV	1	11/27/2013 2:07:00 AM
Carbon tetrachloride	0.070	0.040		ppbV	1	11/27/2013 2:07:00 AM
Chlorobenzene	< 0.15	0.15		ppbV	1	11/27/2013 2:07:00 AM
Chloroethane	< 0.15	0.15		ppbV	1	11/27/2013 2:07:00 AM
Chloroform	< 0.15	0.15		ppbV	1	11/27/2013 2:07:00 AM
Chloromethane	0.41	0.15		ppbV	1	11/27/2013 2:07:00 AM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	11/27/2013 2:07:00 AM
cis-1,3-Dichloropropene	< 0.15	0.15		ppbV	1	11/27/2013 2:07:00 AM
Cyclohexane	13	6.0		ppbV	40	11/27/2013 9:19:00 PM
Dibromochloromethane	< 0.15	0.15		ppbV	1	11/27/2013 2:07:00 AM
Ethyl acetate	< 0.25	0.25		ppbV	1	11/27/2013 2:07:00 AM

Qualifiers:

**	Reporting Limit	.	Results reported are not blank corrected
B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: *11-Dec-13*

CLIENT:	HDR Engineering	**Client Sample ID:**	303- E-IA
Lab Order:	C1311058	**Tag Number:**	94,390
Project:	Aluminum Louvre	**Collection Date:**	11/18/2013
Lab ID:	C1311058-004A	**Matrix:**	

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		**TO-15**				Analyst: **RJP**
Ethylbenzene	8.2	1.5		ppbV	10	11/27/2013 8:44:00 PM
Freon 11	0.20	0.15		ppbV	1	11/27/2013 2:07:00 AM
Freon 113	< 0.15	0.15		ppbV	1	11/27/2013 2:07:00 AM
Freon 114	< 0.15	0.15		ppbV	1	11/27/2013 2:07:00 AM
Freon 12	0.46	0.15		ppbV	1	11/27/2013 2:07:00 AM
Heptane	14	1.5		ppbV	10	11/27/2013 8:44:00 PM
Hexachloro-1,3-butadiene	< 0.15	0.15		ppbV	1	11/27/2013 2:07:00 AM
Hexane	20	1.5		ppbV	10	11/27/2013 8:44:00 PM
Isopropyl alcohol	< 0.15	0.15		ppbV	1	11/27/2013 2:07:00 AM
m&p-Xylene	34	3.0		ppbV	10	11/27/2013 8:44:00 PM
Methyl Butyl Ketone	< 0.30	0.30		ppbV	1	11/27/2013 2:07:00 AM
Methyl Ethyl Ketone	2.3	0.30		ppbV	1	11/27/2013 2:07:00 AM
Methyl Isobutyl Ketone	< 0.30	0.30		ppbV	1	11/27/2013 2:07:00 AM
Methyl tert-butyl ether	< 0.15	0.15		ppbV	1	11/27/2013 2:07:00 AM
Methylene chloride	0.32	0.15		ppbV	1	11/27/2013 2:07:00 AM
o-Xylene	8.8	1.5		ppbV	10	11/27/2013 8:44:00 PM
Propylene	< 0.15	0.15		ppbV	1	11/27/2013 2:07:00 AM
Styrene	3.6	1.5		ppbV	10	11/27/2013 8:44:00 PM
Tetrachloroethylene	0.41	0.15		ppbV	1	11/27/2013 2:07:00 AM
Tetrahydrofuran	< 0.15	0.15		ppbV	1	11/27/2013 2:07:00 AM
Toluene	35	6.0		ppbV	40	11/27/2013 9:19:00 PM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	11/27/2013 2:07:00 AM
trans-1,3-Dichloropropene	< 0.15	0.15		ppbV	1	11/27/2013 2:07:00 AM
Trichloroethene	< 0.040	0.040		ppbV	1	11/27/2013 2:07:00 AM
Vinyl acetate	< 0.15	0.15		ppbV	1	11/27/2013 2:07:00 AM
Vinyl Bromide	< 0.15	0.15		ppbV	1	11/27/2013 2:07:00 AM
Vinyl chloride	< 0.040	0.040		ppbV	1	11/27/2013 2:07:00 AM
Surr: Bromofluorobenzene	106	70-130		%REC	1	11/27/2013 2:07:00 AM

Qualifiers:

**	Reporting Limit	.	Results reported are not blank corrected
B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: *11-Dec-13*

CLIENT:	HDR Engineering	**Client Sample ID:**	303- E-IA
Lab Order:	C1311058	**Tag Number:**	94,390
Project:	Aluminum Louvre	**Collection Date:**	11/18/2013
Lab ID:	C1311058-004A	**Matrix:**	

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		**TO-15**				Analyst: **RJP**
1,1,1-Trichloroethane	< 0.83	0.83		ug/m3	1	11/27/2013 2:07:00 AM
1,1,2,2-Tetrachloroethane	< 1.0	1.0		ug/m3	1	11/27/2013 2:07:00 AM
1,1,2-Trichloroethane	< 0.83	0.83		ug/m3	1	11/27/2013 2:07:00 AM
1,1-Dichloroethane	< 0.62	0.62		ug/m3	1	11/27/2013 2:07:00 AM
1,1-Dichloroethene	< 0.60	0.60		ug/m3	1	11/27/2013 2:07:00 AM
1,2,4-Trichlorobenzene	< 1.1	1.1		ug/m3	1	11/27/2013 2:07:00 AM
1,2,4-Trimethylbenzene	38	7.5		ug/m3	10	11/27/2013 8:44:00 PM
1,2-Dibromoethane	< 1.2	1.2		ug/m3	1	11/27/2013 2:07:00 AM
1,2-Dichlorobenzene	< 0.92	0.92		ug/m3	1	11/27/2013 2:07:00 AM
1,2-Dichloroethane	< 0.62	0.62		ug/m3	1	11/27/2013 2:07:00 AM
1,2-Dichloropropane	< 0.70	0.70		ug/m3	1	11/27/2013 2:07:00 AM
1,3,5-Trimethylbenzene	11	7.5		ug/m3	10	11/27/2013 8:44:00 PM
1,3-butadiene	< 0.34	0.34		ug/m3	1	11/27/2013 2:07:00 AM
1,3-Dichlorobenzene	< 0.92	0.92		ug/m3	1	11/27/2013 2:07:00 AM
1,4-Dichlorobenzene	< 0.92	0.92		ug/m3	1	11/27/2013 2:07:00 AM
1,4-Dioxane	< 1.1	1.1		ug/m3	1	11/27/2013 2:07:00 AM
2,2,4-trimethylpentane	72	28		ug/m3	40	11/27/2013 9:19:00 PM
4-ethyltoluene	12	7.5		ug/m3	10	11/27/2013 8:44:00 PM
Acetone	120	29		ug/m3	40	11/27/2013 9:19:00 PM
Allyl chloride	< 0.48	0.48		ug/m3	1	11/27/2013 2:07:00 AM
Benzene	19	4.9		ug/m3	10	11/27/2013 8:44:00 PM
Benzyl chloride	< 0.88	0.88		ug/m3	1	11/27/2013 2:07:00 AM
Bromodichloromethane	< 1.0	1.0		ug/m3	1	11/27/2013 2:07:00 AM
Bromoform	< 1.6	1.6		ug/m3	1	11/27/2013 2:07:00 AM
Bromomethane	< 0.59	0.59		ug/m3	1	11/27/2013 2:07:00 AM
Carbon disulfide	< 0.47	0.47		ug/m3	1	11/27/2013 2:07:00 AM
Carbon tetrachloride	0.45	0.26		ug/m3	1	11/27/2013 2:07:00 AM
Chlorobenzene	< 0.70	0.70		ug/m3	1	11/27/2013 2:07:00 AM
Chloroethane	< 0.40	0.40		ug/m3	1	11/27/2013 2:07:00 AM
Chloroform	< 0.74	0.74		ug/m3	1	11/27/2013 2:07:00 AM
Chloromethane	0.86	0.31		ug/m3	1	11/27/2013 2:07:00 AM
cis-1,2-Dichloroethene	< 0.60	0.60		ug/m3	1	11/27/2013 2:07:00 AM
cis-1,3-Dichloropropene	< 0.69	0.69		ug/m3	1	11/27/2013 2:07:00 AM
Cyclohexane	45	21		ug/m3	40	11/27/2013 9:19:00 PM
Dibromochloromethane	< 1.3	1.3		ug/m3	1	11/27/2013 2:07:00 AM
Ethyl acetate	< 0.92	0.92		ug/m3	1	11/27/2013 2:07:00 AM
Ethylbenzene	36	6.6		ug/m3	10	11/27/2013 8:44:00 PM
Freon 11	1.1	0.86		ug/m3	1	11/27/2013 2:07:00 AM
Freon 113	< 1.2	1.2		ug/m3	1	11/27/2013 2:07:00 AM
Freon 114	< 1.1	1.1		ug/m3	1	11/27/2013 2:07:00 AM

Qualifiers:

**	Reporting Limit	.	Results reported are not blank corrected
B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: *11-Dec-13*

CLIENT:	HDR Engineering	**Client Sample ID:**	303- E-IA
Lab Order:	C1311058	**Tag Number:**	94,390
Project:	Aluminum Louvre	**Collection Date:**	11/18/2013
Lab ID:	C1311058-004A	**Matrix:**	

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		**TO-15**				Analyst: **RJP**
Freon 12	2.3	0.75		ug/m3	1	11/27/2013 2:07:00 AM
Heptane	60	6.2		ug/m3	10	11/27/2013 8:44:00 PM
Hexachloro-1,3-butadiene	< 1.6	1.6		ug/m3	1	11/27/2013 2:07:00 AM
Hexane	71	5.4		ug/m3	10	11/27/2013 8:44:00 PM
Isopropyl alcohol	< 0.37	0.37		ug/m3	1	11/27/2013 2:07:00 AM
m&p-Xylene	150	13		ug/m3	10	11/27/2013 8:44:00 PM
Methyl Butyl Ketone	< 1.2	1.2		ug/m3	1	11/27/2013 2:07:00 AM
Methyl Ethyl Ketone	6.9	0.90		ug/m3	1	11/27/2013 2:07:00 AM
Methyl Isobutyl Ketone	< 1.2	1.2		ug/m3	1	11/27/2013 2:07:00 AM
Methyl tert-butyl ether	< 0.55	0.55		ug/m3	1	11/27/2013 2:07:00 AM
Methylene chloride	1.1	0.53		ug/m3	1	11/27/2013 2:07:00 AM
o-Xylene	39	6.6		ug/m3	10	11/27/2013 8:44:00 PM
Propylene	< 0.26	0.26		ug/m3	1	11/27/2013 2:07:00 AM
Styrene	16	6.5		ug/m3	10	11/27/2013 8:44:00 PM
Tetrachloroethylene	2.8	1.0		ug/m3	1	11/27/2013 2:07:00 AM
Tetrahydrofuran	< 0.45	0.45		ug/m3	1	11/27/2013 2:07:00 AM
Toluene	130	23		ug/m3	40	11/27/2013 9:19:00 PM
trans-1,2-Dichloroethene	< 0.60	0.60		ug/m3	1	11/27/2013 2:07:00 AM
trans-1,3-Dichloropropene	< 0.69	0.69		ug/m3	1	11/27/2013 2:07:00 AM
Trichloroethene	< 0.22	0.22		ug/m3	1	11/27/2013 2:07:00 AM
Vinyl acetate	< 0.54	0.54		ug/m3	1	11/27/2013 2:07:00 AM
Vinyl Bromide	< 0.67	0.67		ug/m3	1	11/27/2013 2:07:00 AM
Vinyl chloride	< 0.10	0.10		ug/m3	1	11/27/2013 2:07:00 AM

Qualifiers:

**	Reporting Limit	.	Results reported are not blank corrected
B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK112627.D Vial: 46
Acq On : 27 Nov 2013 2:07 am Operator: RJP
Sample : C1311058-004A Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 27 07:39:43 2013 Quant Results File: AO15_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Oct 15 18:12:29 2013
Response via : Initial Calibration
DataAcq Meth : 1UG_T015

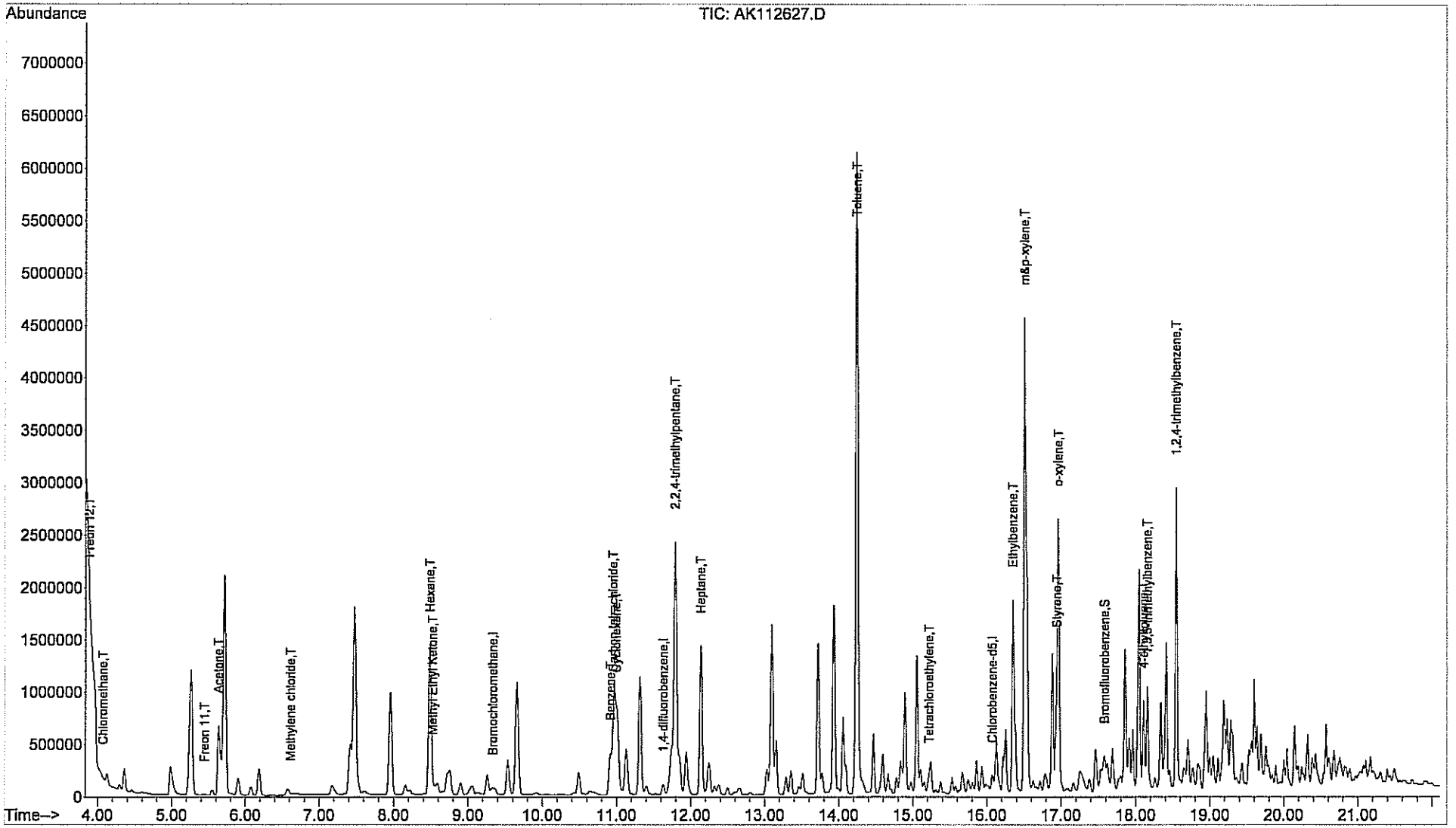
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane	9.33	128	25493	1.00	ppb		-0.03
34) 1,4-difluorobenzene	11.63	114	81331	1.00	ppb		-0.04
49) Chlorobenzene-d5	16.07	117	110679	1.00	ppb		-0.03
System Monitoring Compounds							
62) Bromofluorobenzene	17.58	95	68910	1.06	ppb		-0.03
Spiked Amount 1.000	Range 70 - 130		Recovery = 106.00%				
Target Compounds							Qvalue
4) Freon 12	3.90	85	39242	0.46	ppb		97
5) Chloromethane	4.08	50	8358	0.41	ppb		87
14) Freon 11	5.44	101	12954	0.20	ppb		98
15) Acetone	5.63	58	355161	50.49	ppb	#	1
20) Methylene chloride	6.62	84	5272	0.32	ppb	#	78
27) Methyl Ethyl Ketone	8.53	72	22163m	2.31	ppb		
29) Hexane	8.49	57	953242	31.74	ppb		83
36) Cyclohexane	11.00	56	901096	29.33	ppb	#	51
37) Carbon tetrachloride	10.95	117	5982	0.07	ppb		94
38) Benzene	10.92	78	533906	6.15	ppb		98
41) 2,2,4-trimethylpentane	11.79	57	3052295	29.17	ppb		95
42) Heptane	12.14	43	658895	20.78	ppb		97
50) Toluene	14.24	92	3249221	52.34	ppb		96
55) Tetrachloroethylene	15.21	164	26648	0.41	ppb		97
57) Ethylbenzene	16.35	91	1463289	12.63	ppb		99
58) m&p-xylene	16.51	91	4123646	41.08	ppb		99
59) Styrene	16.93	104	449888	5.68	ppb		85
61) o-xylene	16.96	91	1638032	10.88	ppb		88
65) 4-ethyltoluene	18.10	105	540637m	4.27	ppb		
66) 1,3,5-trimethylbenzene	18.16	105	481852	3.26	ppb		92
67) 1,2,4-trimethylbenzene	18.54	105	1681183	16.60	ppb		98

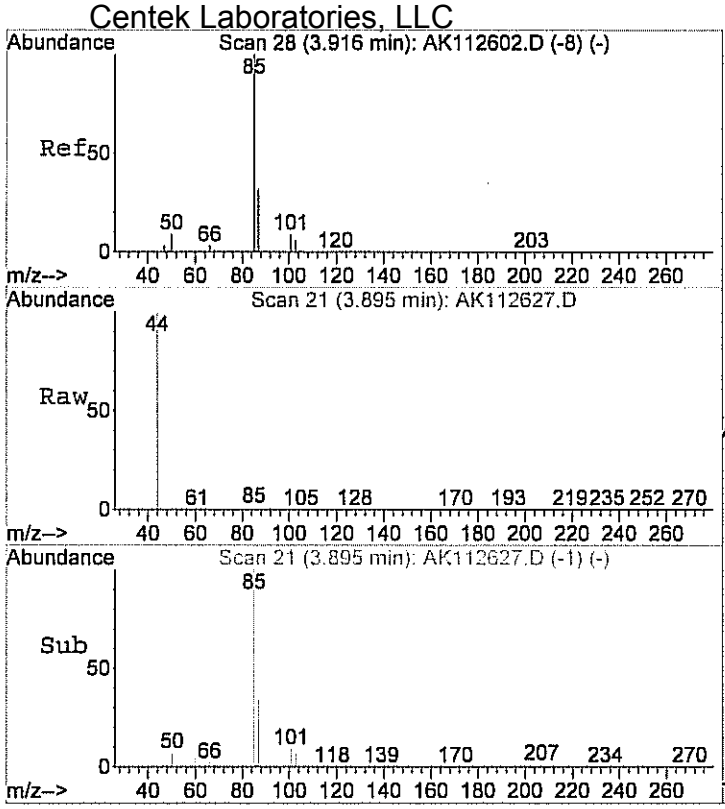
(#) = qualifier out of range (m) = manual integration (+) = signals summed
AK112627.D AO15_1UG.M Wed Dec 11 12:52:16 2013 MSD1 Page 1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK112627.D Vial: 46
Acq On : 27 Nov 2013 2:07 am Operator: RJP
Sample : C1311058-004A Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 29 11:01 2013 Quant Results File: AO15_1UG.RES

Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Wed Dec 11 12:48:42 2013
Response via : Initial Calibration

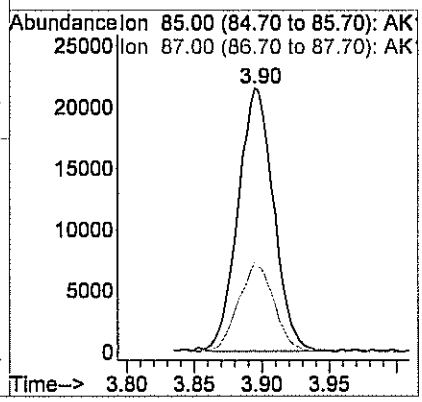


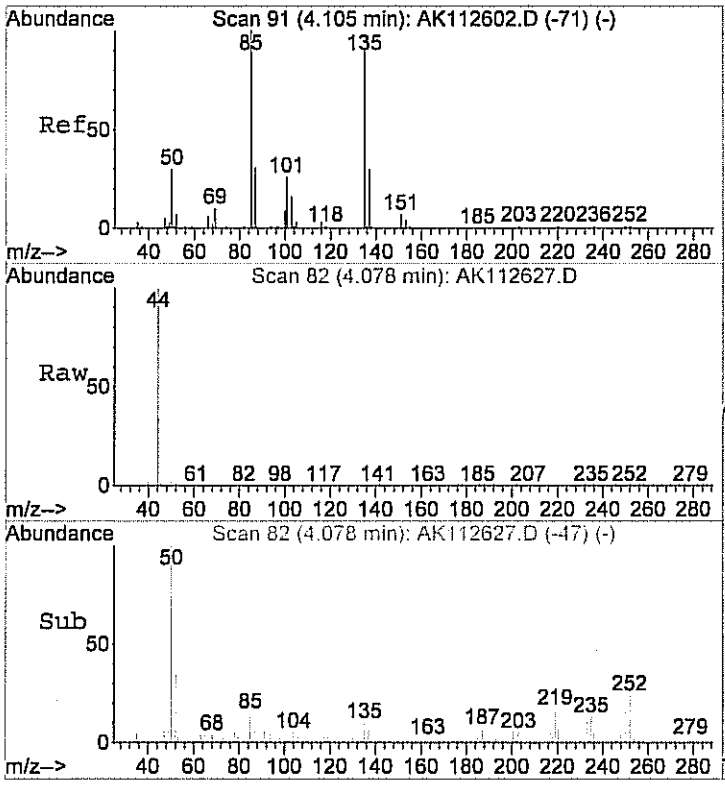


#4
Freon 12
Concen: 0.46 ppb
RT: 3.90 min Scan# 21
Delta R.T. -0.04 min
Lab File: AK112627.D
Acq: 27 Nov 2013 2:07 am

Tgt Ion: 85 Resp: 39242

Ion	Ratio	Lower	Upper
85	100		
87	34.4	12.8	52.8

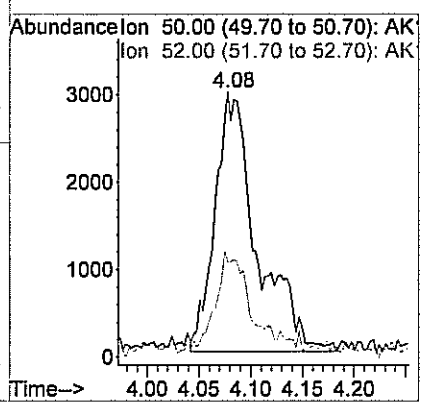


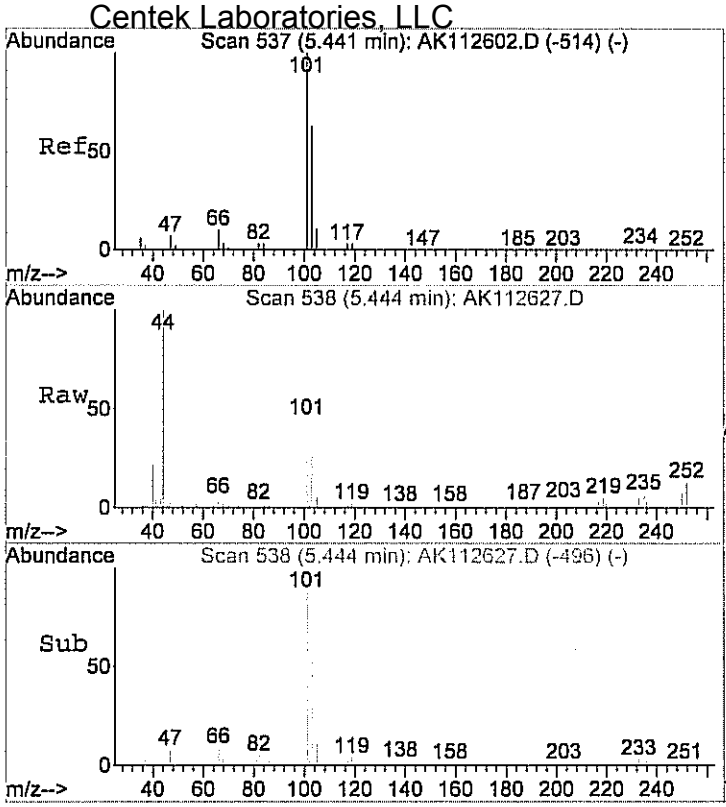


#5
Chloromethane
Concen: 0.41 ppb
RT: 4.08 min Scan# 82
Delta R.T. -0.05 min
Lab File: AK112627.D
Acq: 27 Nov 2013 2:07 am

Tgt Ion: 50 Resp: 8358

Ion	Ratio	Lower	Upper
50	100		
52	36.5	9.4	49.4

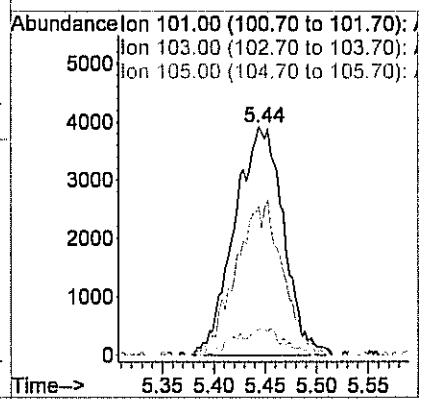


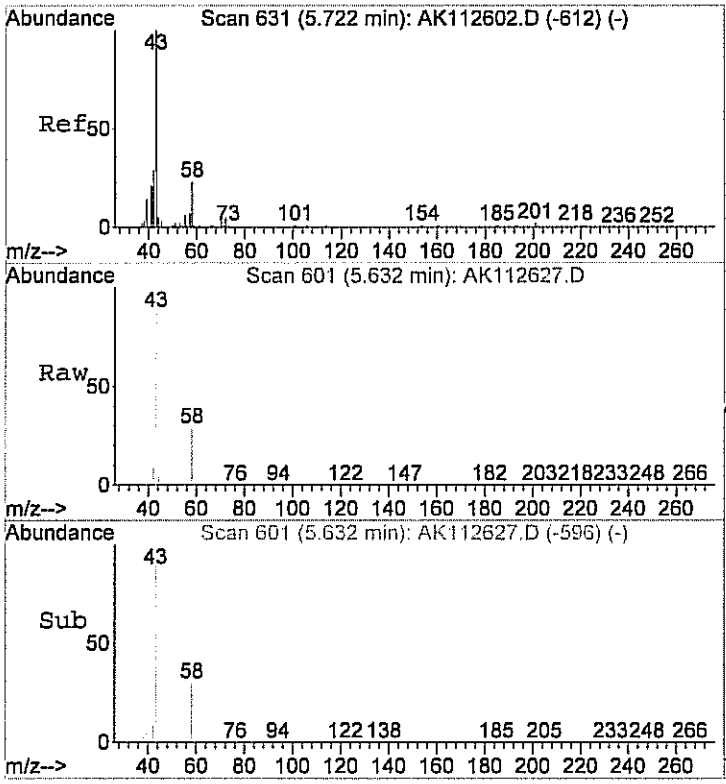


#14
Freon 11
Concen: 0.20 ppb
RT: 5.44 min Scan# 538
Delta R.T. -0.02 min
Lab File: AK112627.D
Acq: 27 Nov 2013 2:07 am

Tgt Ion:101 Resp: 12954

Ion	Ratio	Lower	Upper
101	100		
103	64.4	46.0	86.0
105	11.3	0.0	31.7

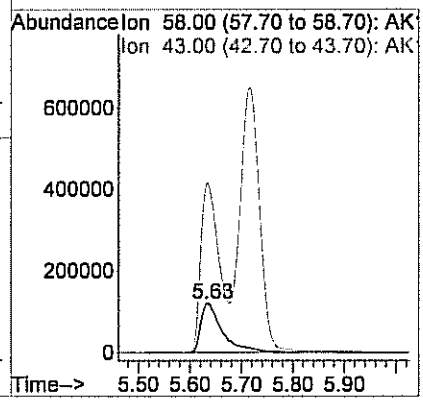


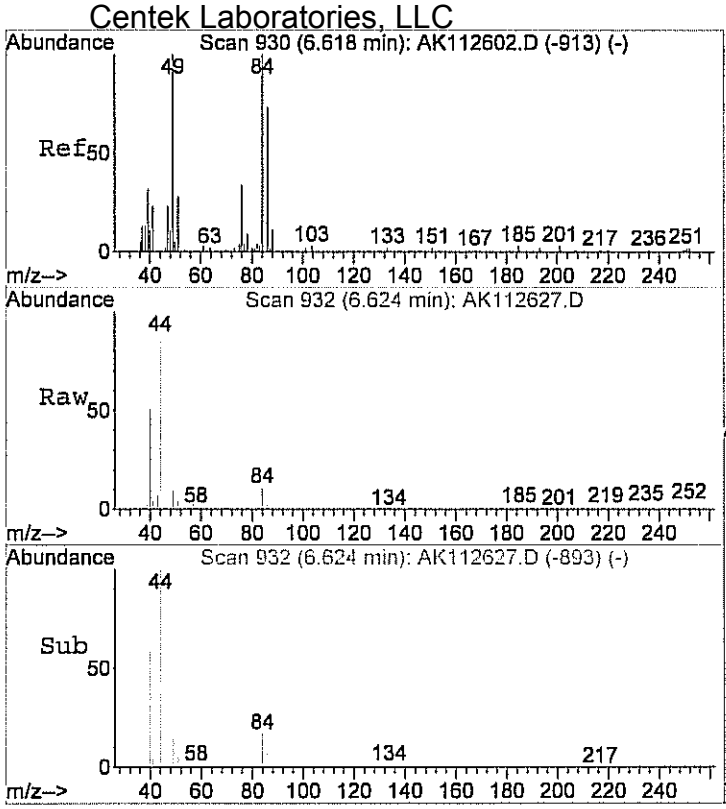


#15
Acetone
Concen: 50.49 ppb
RT: 5.63 min Scan# 601
Delta R.T. -0.14 min
Lab File: AK112627.D
Acq: 27 Nov 2013 2:07 am

Tgt Ion: 58 Resp: 355161

Ion	Ratio	Lower	Upper
58	100		
43	0.0	650.3	710.3#

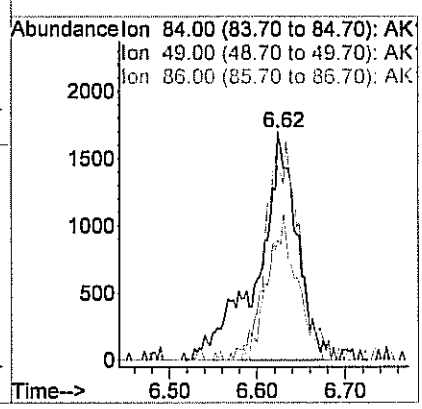


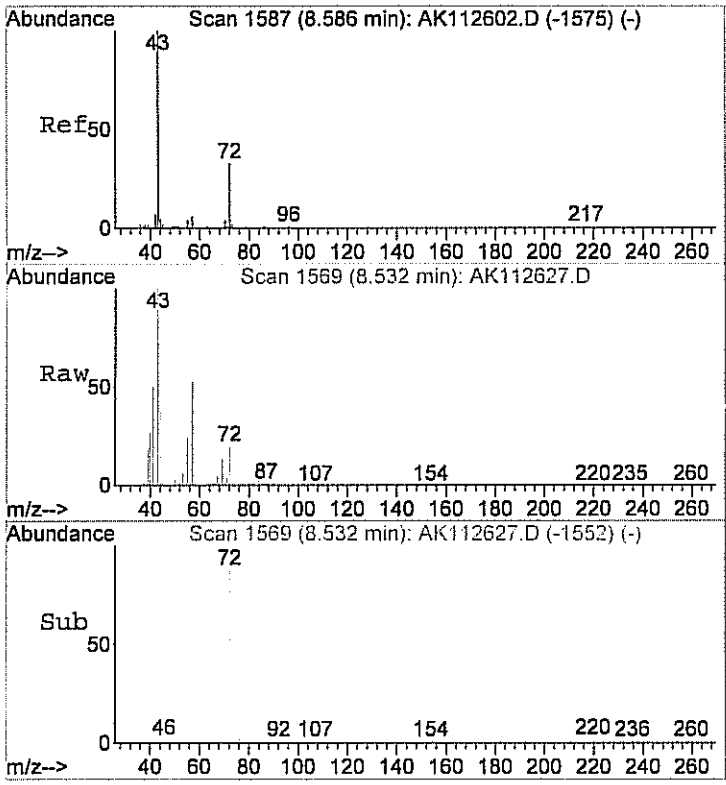


#20
Methylene chloride
Concen: 0.32 ppb
RT: 6.62 min Scan# 932
Delta R.T. -0.03 min
Lab File: AK112627.D
Acq: 27 Nov 2013 2:07 am

Tgt Ion: 84 Resp: 5272

Ion	Ratio	Lower	Upper
84	100		
49	80.6	82.2	122.2#
86	46.5	45.4	85.4

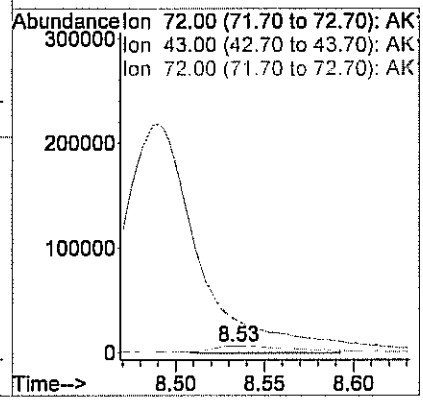


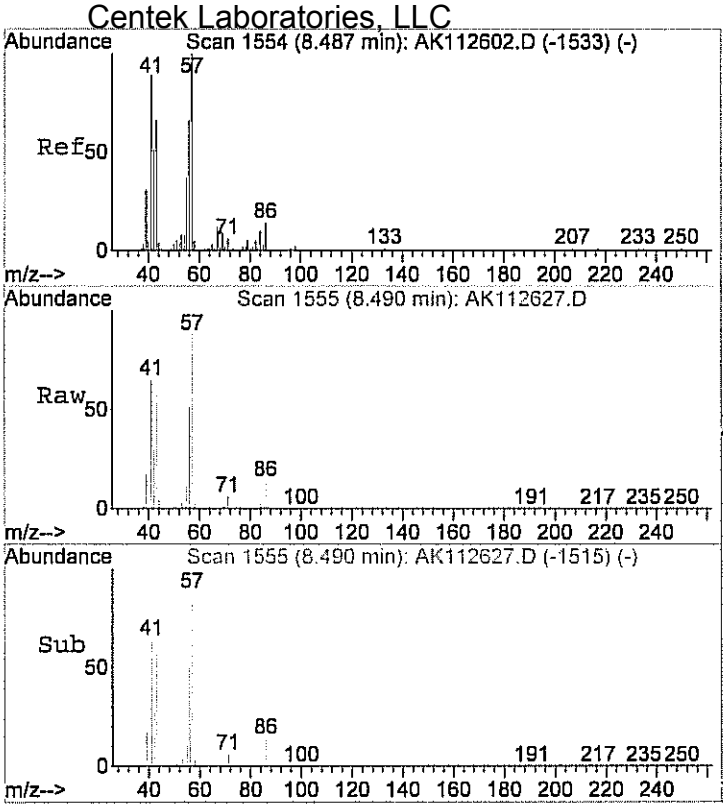


#27
Methyl Ethyl Ketone
Concen: 2.31 ppb m
RT: 8.53 min Scan# 1569
Delta R.T. -0.10 min
Lab File: AK112627.D
Acq: 27 Nov 2013 2:07 am

Tgt Ion: 72 Resp: 22163

Ion	Ratio	Lower	Upper
72	100		
43	0.0	0.0	20.0
72	108.3	80.0	120.0

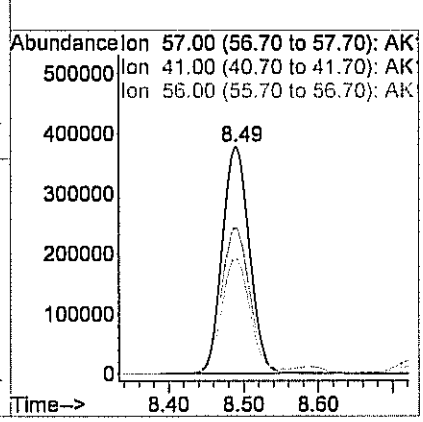


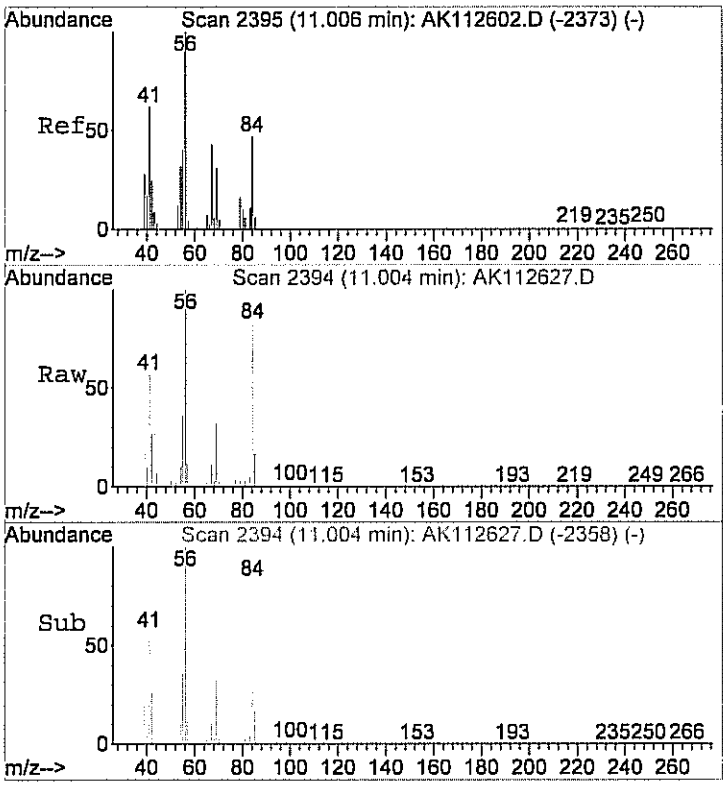


#29
Hexane
Concen: 31.74 ppb
RT: 8.49 min Scan# 1555
Delta R.T. -0.03 min
Lab File: AK112627.D
Acq: 27 Nov 2013 2:07 am

Tgt Ion: 57 Resp: 953242

Ion	Ratio	Lower	Upper
57	100		
41	69.1	68.6	108.6
56	54.5	43.7	83.7

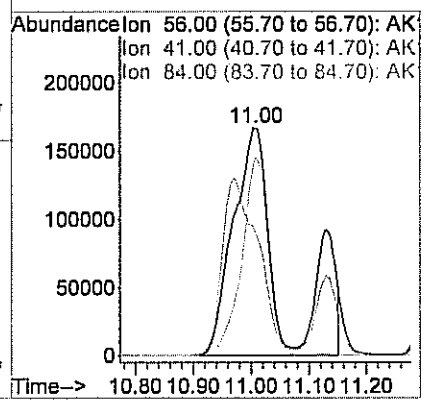


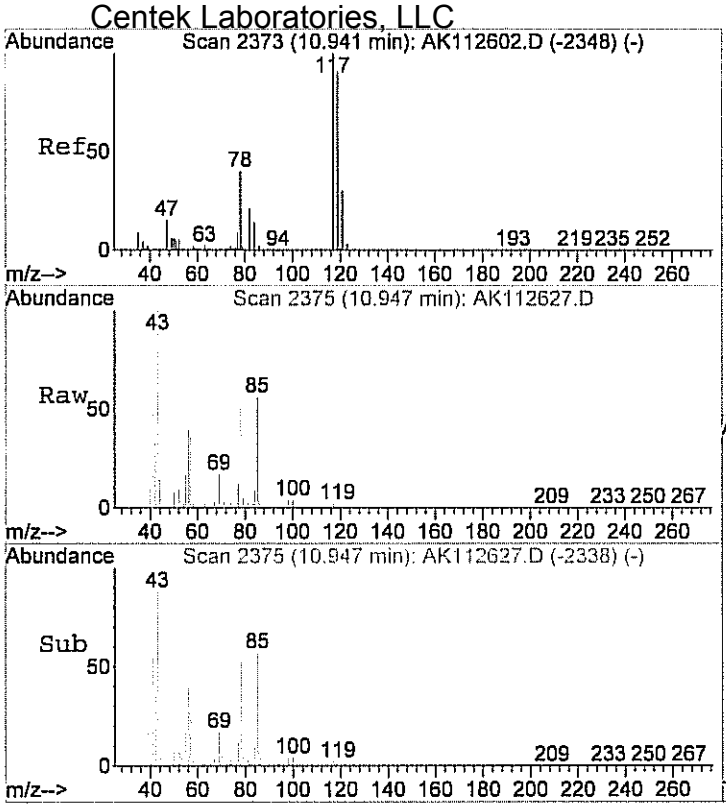


#36
Cyclohexane
Concen: 29.33 ppb
RT: 11.00 min Scan# 2394
Delta R.T. -0.04 min
Lab File: AK112627.D
Acq: 27 Nov 2013 2:07 am

Tgt Ion: 56 Resp: 901096

Ion	Ratio	Lower	Upper
56	100		
41	77.5	38.1	78.1
84	50.9	97.4	137.4#

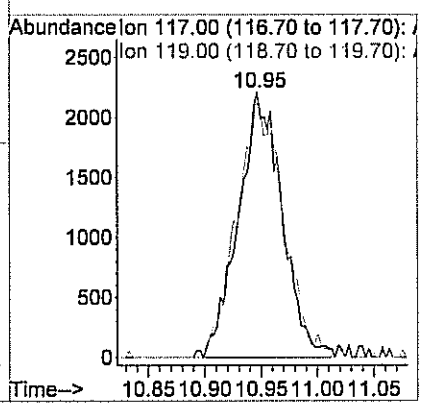


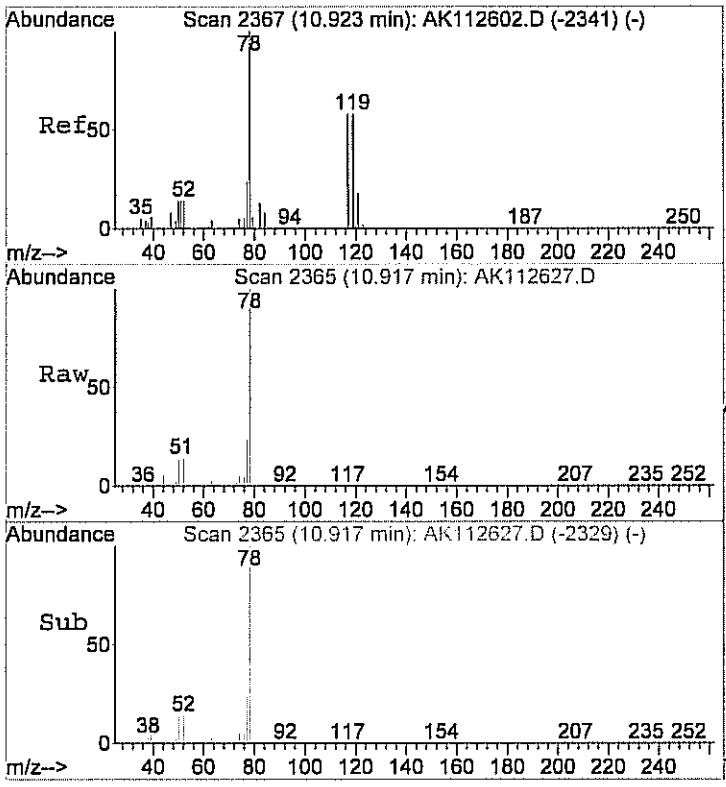


#37
Carbon tetrachloride
Concen: 0.07 ppb
RT: 10.95 min Scan# 2375
Delta R.T. -0.04 min
Lab File: AK112627.D
Acq: 27 Nov 2013 2:07 am

Tgt Ion:117 Resp: 5982

Ion	Ratio	Lower	Upper
117	100		
119	102.4	76.8	116.8

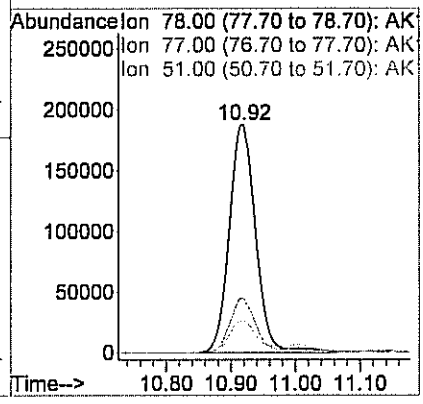


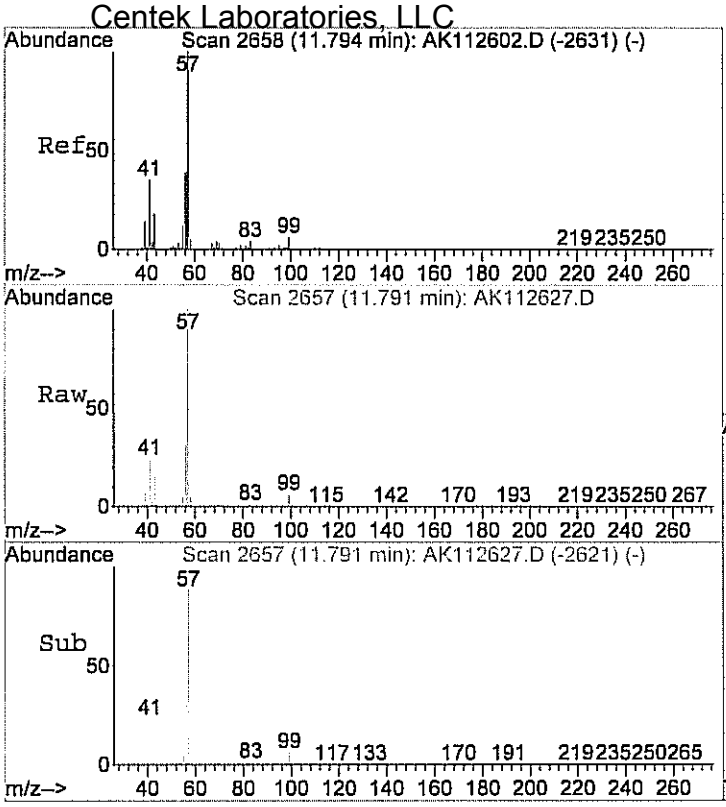


#38
Benzene
Concen: 6.15 ppb
RT: 10.92 min Scan# 2365
Delta R.T. -0.04 min
Lab File: AK112627.D
Acq: 27 Nov 2013 2:07 am

Tgt Ion: 78 Resp: 533906

Ion	Ratio	Lower	Upper
78	100		
77	26.4	6.7	46.7
51	19.6	0.0	37.6

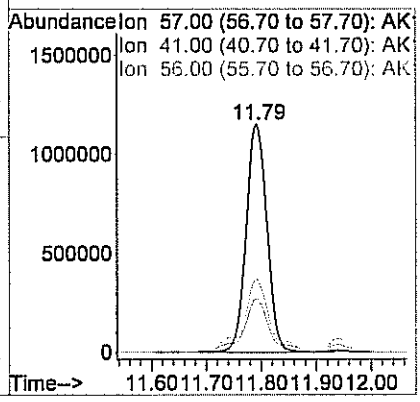


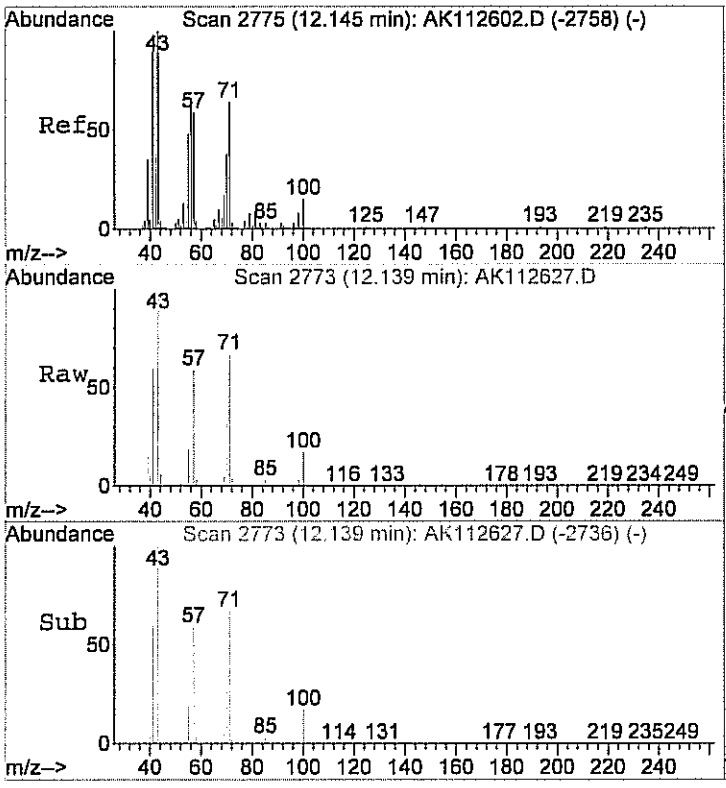


#41
2,2,4-trimethylpentane
Concen: 29.17 ppb
RT: 11.79 min Scan# 2657
Delta R.T. -0.04 min
Lab File: AK112627.D
Acq: 27 Nov 2013 2:07 am

Tgt Ion: 57 Resp: 3052295

Ion	Ratio	Lower	Upper
57	100		
41	31.0	12.0	52.0
56	41.3	16.8	56.8

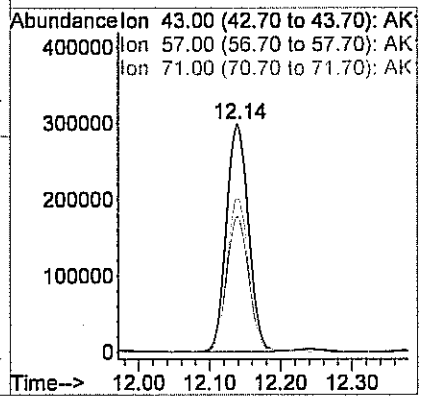


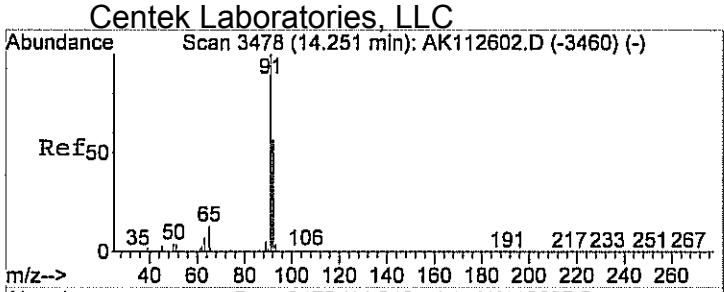


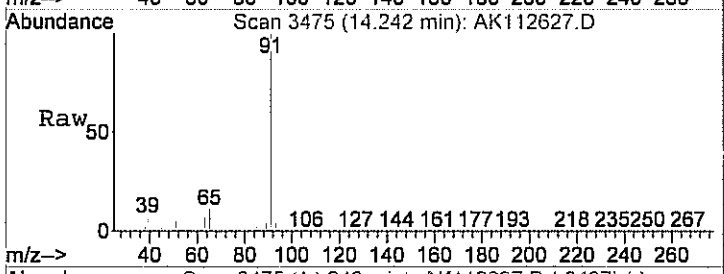
#42
Heptane
Concen: 20.78 ppb
RT: 12.14 min Scan# 2773
Delta R.T. -0.04 min
Lab File: AK112627.D
Acq: 27 Nov 2013 2:07 am

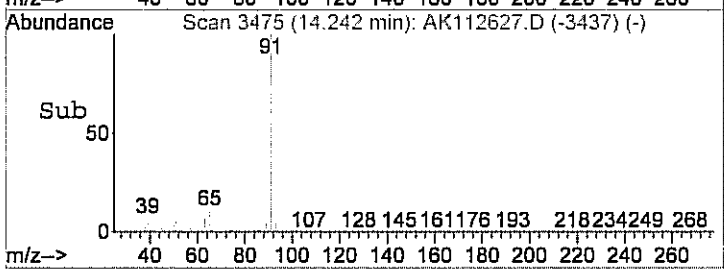
Tgt Ion: 43 Resp: 658895

Ion	Ratio	Lower	Upper
43	100		
57	60.0	40.9	80.9
71	65.7	41.8	81.8





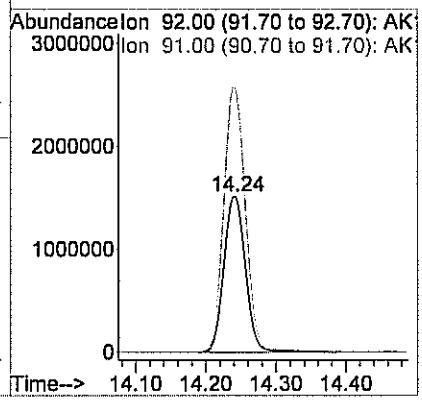


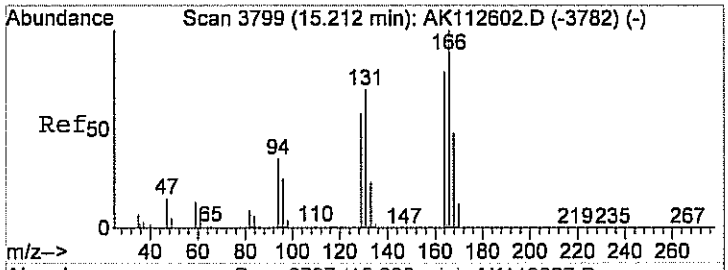


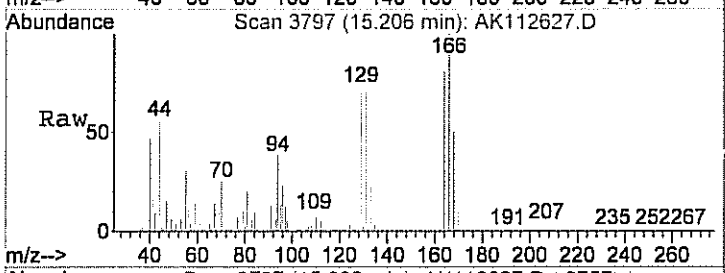
#50
Toluene
Concen: 52.34 ppb
RT: 14.24 min Scan# 3475
Delta R.T. -0.04 min
Lab File: AK112627.D
Acq: 27 Nov 2013 2:07 am

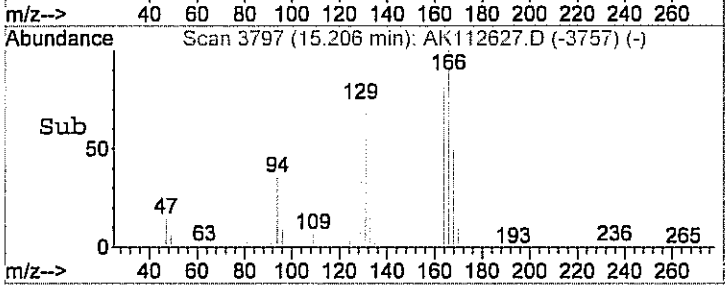
Tgt Ion: 92 Resp: 3249221

Ion	Ratio	Lower	Upper
92	100		
91	170.5	156.6	196.6





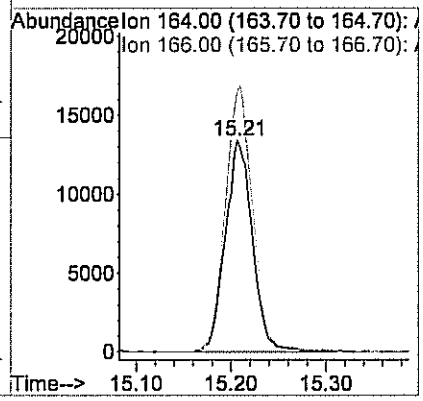


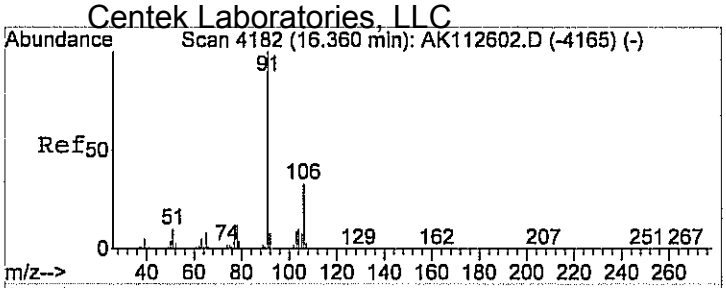


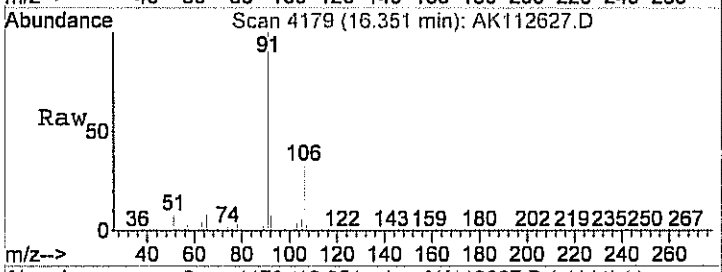
#55
Tetrachloroethylene
Concen: 0.41 ppb
RT: 15.21 min Scan# 3797
Delta R.T. -0.03 min
Lab File: AK112627.D
Acq: 27 Nov 2013 2:07 am

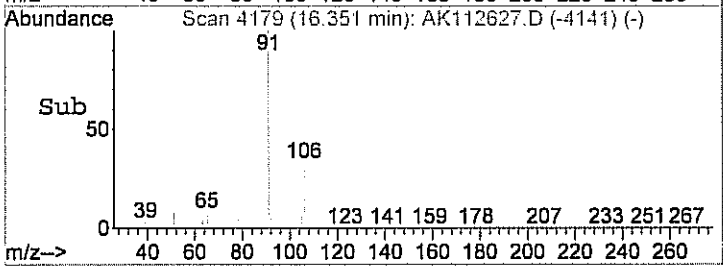
Tgt Ion:164 Resp: 26648

Ion	Ratio	Lower	Upper
164	100		
166	125.3	108.8	148.8





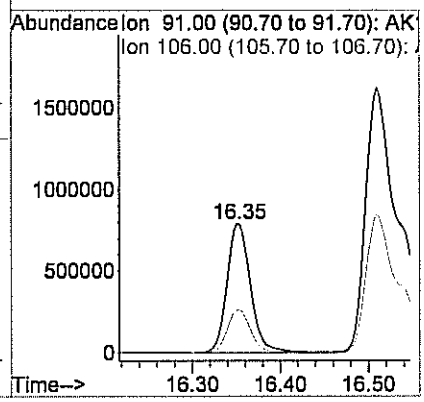


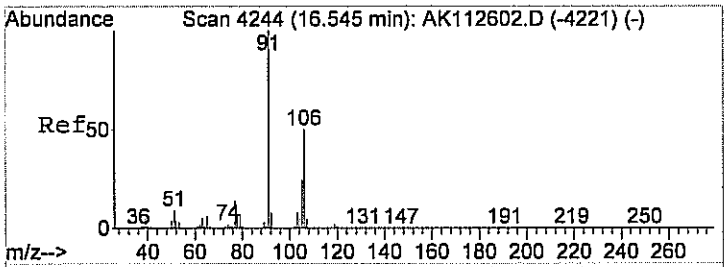


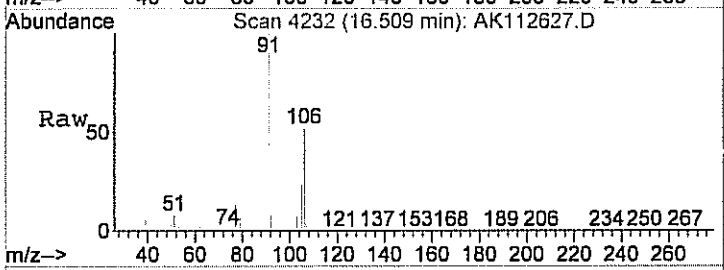
#57
Ethylbenzene
Concen: 12.63 ppb
RT: 16.35 min Scan# 4179
Delta R.T. -0.04 min
Lab File: AK112627.D
Acq: 27 Nov 2013 2:07 am

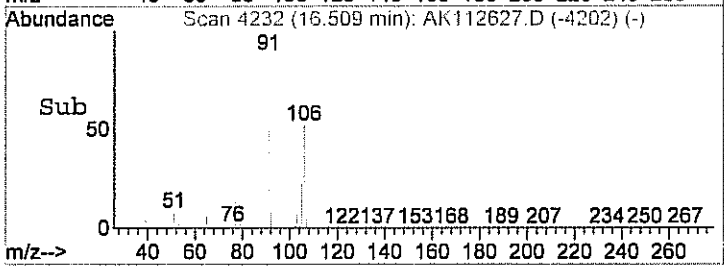
Tgt Ion: 91 Resp: 1463289

Ion	Ratio	Lower	Upper
91	100		
106	33.1	12.8	52.8





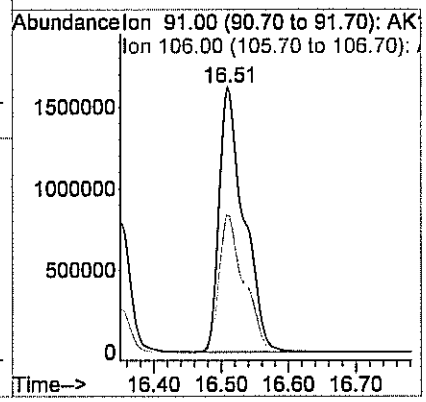


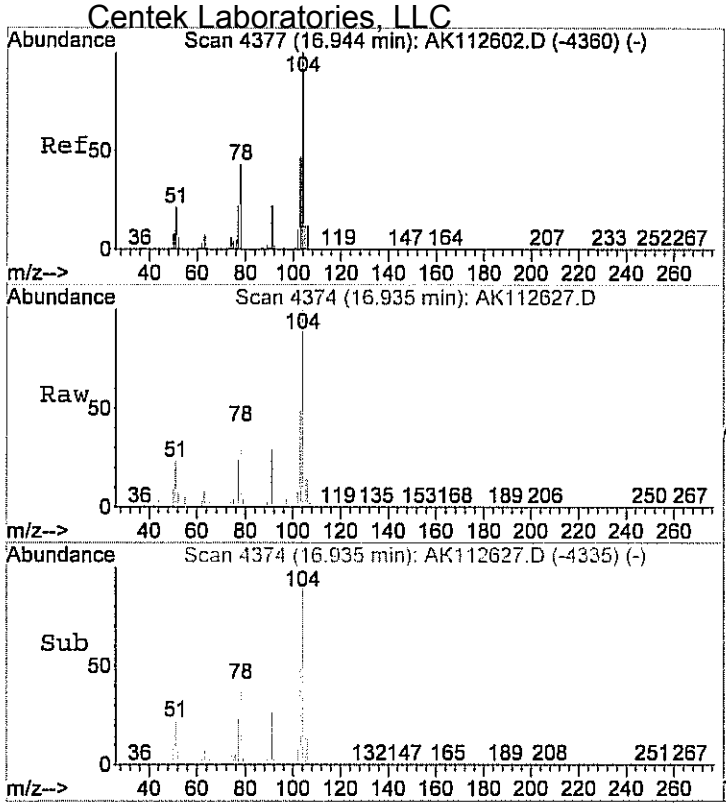


#58
m&p-xylene
Concen: 41.08 ppb
RT: 16.51 min Scan# 4232
Delta R.T. -0.06 min
Lab File: AK112627.D
Acq: 27 Nov 2013 2:07 am

Tgt Ion: 91 Resp: 4123646

Ion	Ratio	Lower	Upper
91	100		
106	52.2	31.3	71.3

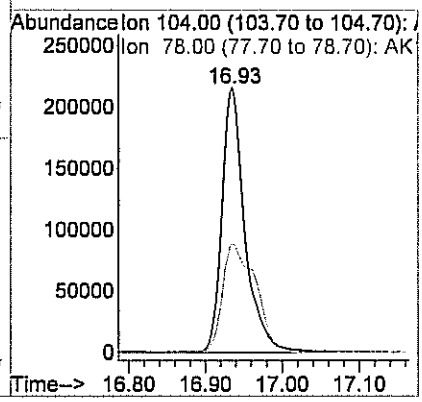


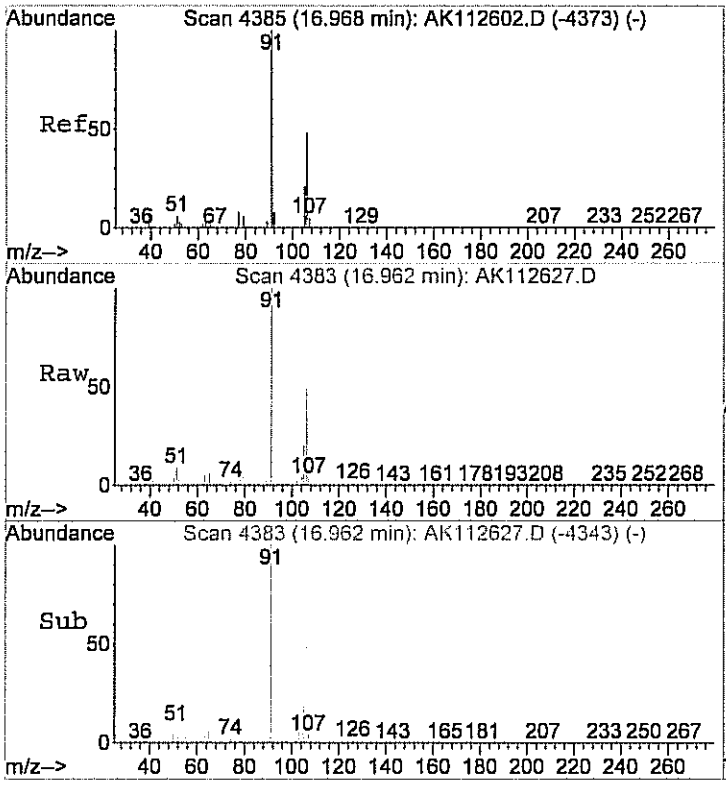


#59
Styrene
Concen: 5.68 ppb
RT: 16.93 min Scan# 4374
Delta R.T. -0.03 min
Lab File: AK112627.D
Acq: 27 Nov 2013 2:07 am

Tgt Ion:104 Resp: 449888

Ion	Ratio	Lower	Upper
104	100		
78	57.9	28.0	68.0

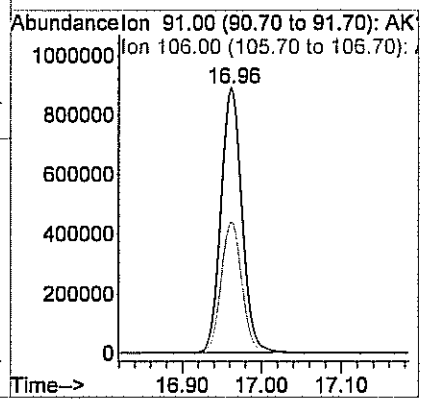


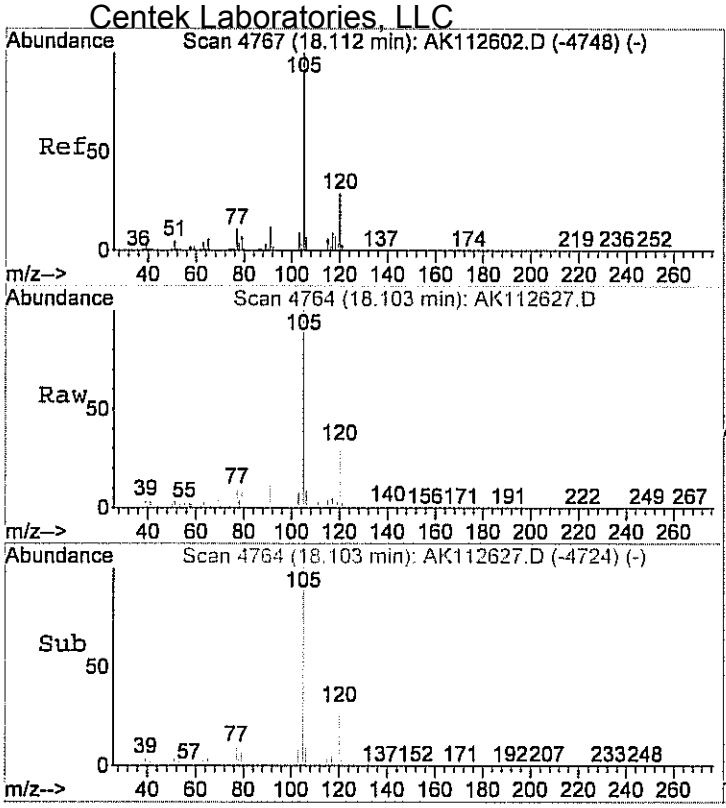


#61
o-xylene
Concen: 10.88 ppb
RT: 16.96 min Scan# 4383
Delta R.T. -0.03 min
Lab File: AK112627.D
Acq: 27 Nov 2013 2:07 am

Tgt Ion: 91 Resp: 1638032

Ion	Ratio	Lower	Upper
91	100		
106	49.7	22.3	62.3

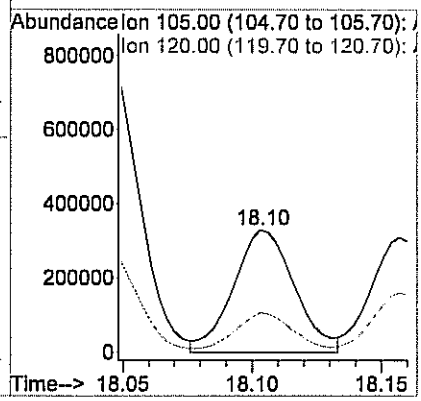


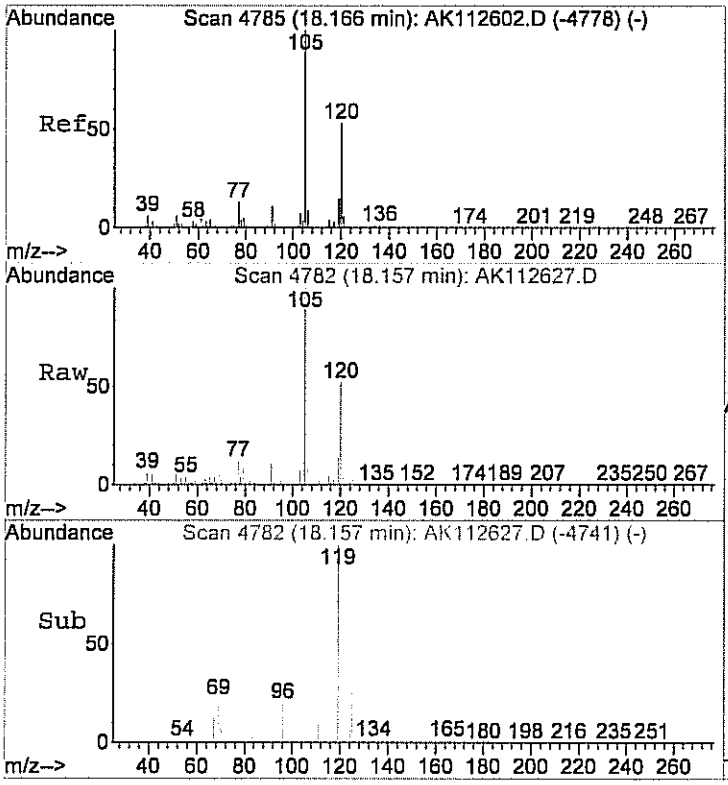


#65
4-ethyltoluene
Concen: 4.27 ppb m
RT: 18.10 min Scan# 4764
Delta R.T. -0.03 min
Lab File: AK112627.D
Acq: 27 Nov 2013 2:07 am

Tgt Ion:105 Resp: 540637

Ion	Ratio	Lower	Upper
105	100		
120	45.6	35.6	75.6

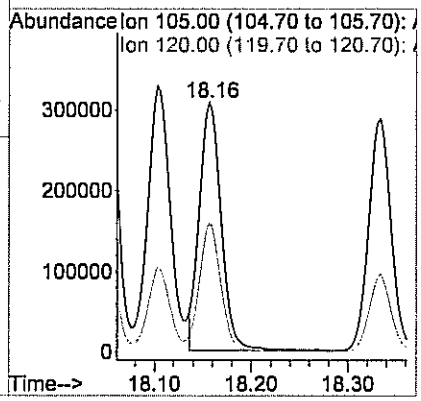


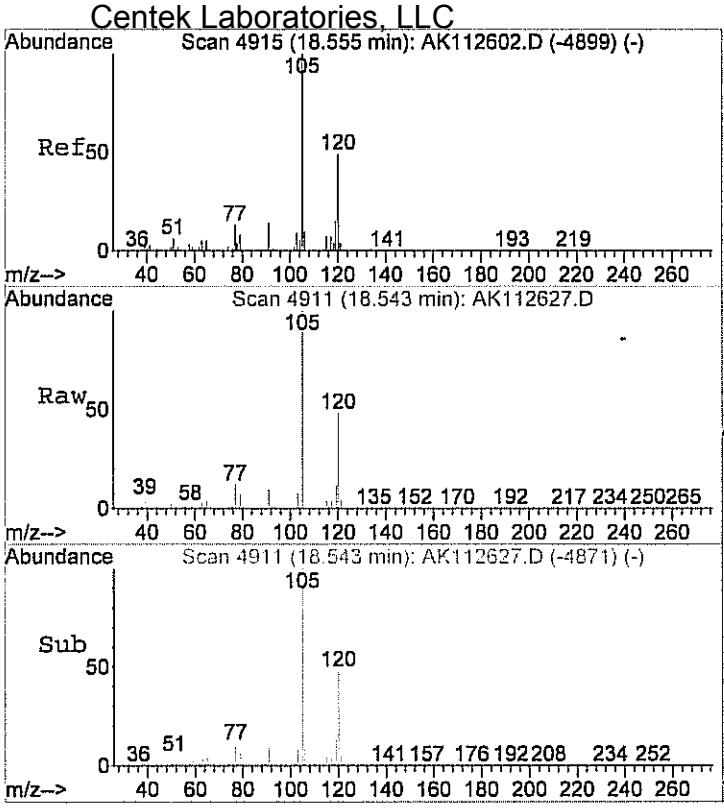


#66
1,3,5-trimethylbenzene
Concen: 3.26 ppb
RT: 18.16 min Scan# 4782
Delta R.T. -0.03 min
Lab File: AK112627.D
Acq: 27 Nov 2013 2:07 am

Tgt Ion:105 Resp: 481852

Ion	Ratio	Lower	Upper
105	100		
120	51.6	26.4	66.4

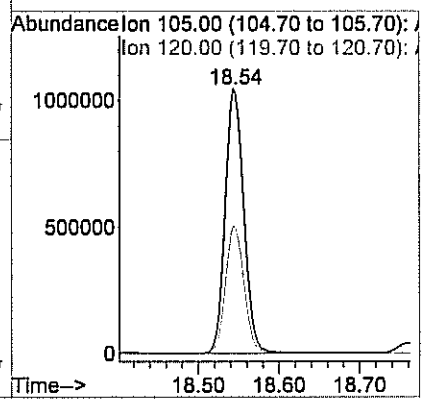




#67
1,2,4-trimethylbenzene
Concen: 16.60 ppb
RT: 18.54 min Scan# 4911
Delta R.T. -0.03 min
Lab File: AK112627.D
Acq: 27 Nov 2013 2:07 am

Tgt Ion:105 Resp: 1681183

Ion	Ratio	Lower	Upper
105	100		
120	48.3	26.8	66.8



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK112719.D Vial: 19
Acq On : 27 Nov 2013 8:44 pm Operator: RJP
Sample : C1311058-004A 10X Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 29 10:56:10 2013 Quant Results File: AO15_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Oct 15 18:12:29 2013
Response via : Initial Calibration
DataAcq Meth : 1UG_T015

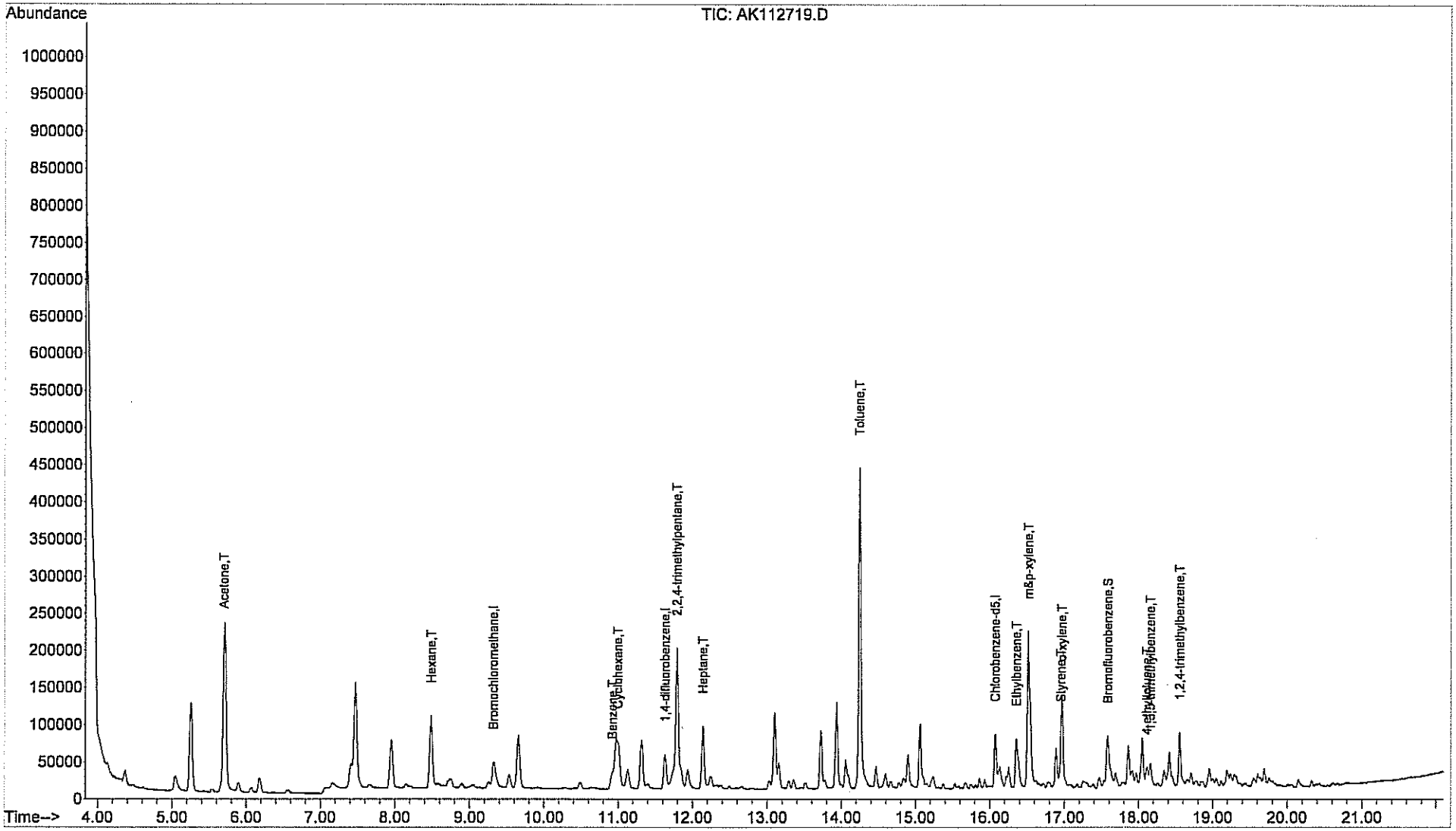
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane	9.33	128	19792	1.00	ppb		-0.04
34) 1,4-difluorobenzene	11.63	114	52528	1.00	ppb		-0.03
49) Chlorobenzene-d5	16.07	117	60994	1.00	ppb		-0.03
System Monitoring Compounds							
62) Bromofluorobenzene	17.58	95	32642	0.91	ppb		-0.02
Spiked Amount 1.000	Range 70 - 130		Recovery = 91.00%				
Target Compounds							Qvalue
15) Acetone	5.69	58	28610	5.24	ppb	#	56
29) Hexane	8.49	57	46194	1.98	ppb		95
36) Cyclohexane	11.00	56	49921	2.52	ppb	#	43
38) Benzene	10.92	78	33189	0.59	ppb		84
41) 2,2,4-trimethylpentane	11.79	57	175665	2.60	ppb		87
42) Heptane	12.14	43	29209	1.43	ppb		96
50) Toluene	14.25	92	203469	5.95	ppb		99
57) Ethylbenzene	16.36	91	52526	0.82	ppb		99
58) m&p-xylene	16.52	91	190816	3.45	ppb		98
59) Styrene	16.94	104	15513	0.36	ppb		77
61) o-xylene	16.96	91	73349	0.88	ppb		92
65) 4-ethyltoluene	18.11	105	16811m	0.24	ppb		
66) 1,3,5-trimethylbenzene	18.16	105	18943m	0.23	ppb		
67) 1,2,4-trimethylbenzene	18.55	105	42728	0.77	ppb		98

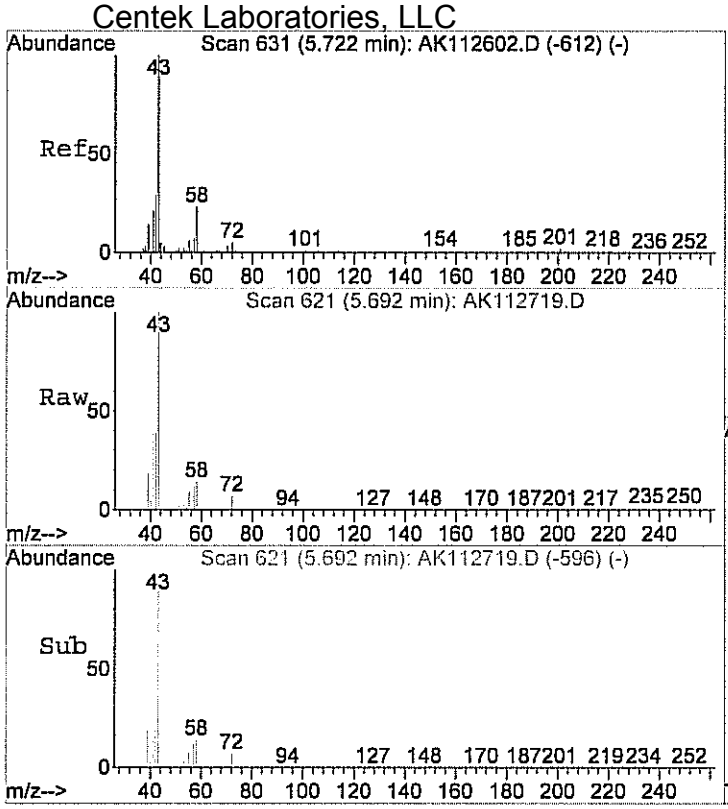
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK112719.D Vial: 19
Acq On : 27 Nov 2013 8:44 pm Operator: RJP
Sample : C1311058-004A 10X Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Dec 2 8:44 2013 Quant Results File: AO15_1UG.RES

Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Wed Dec 11 12:48:42 2013
Response via : Initial Calibration

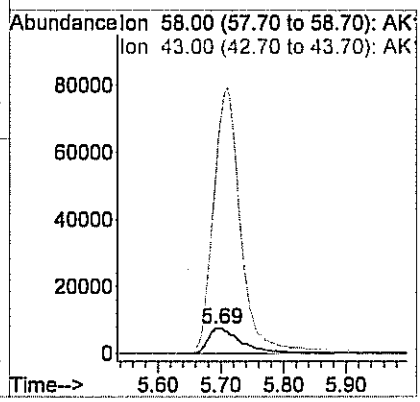


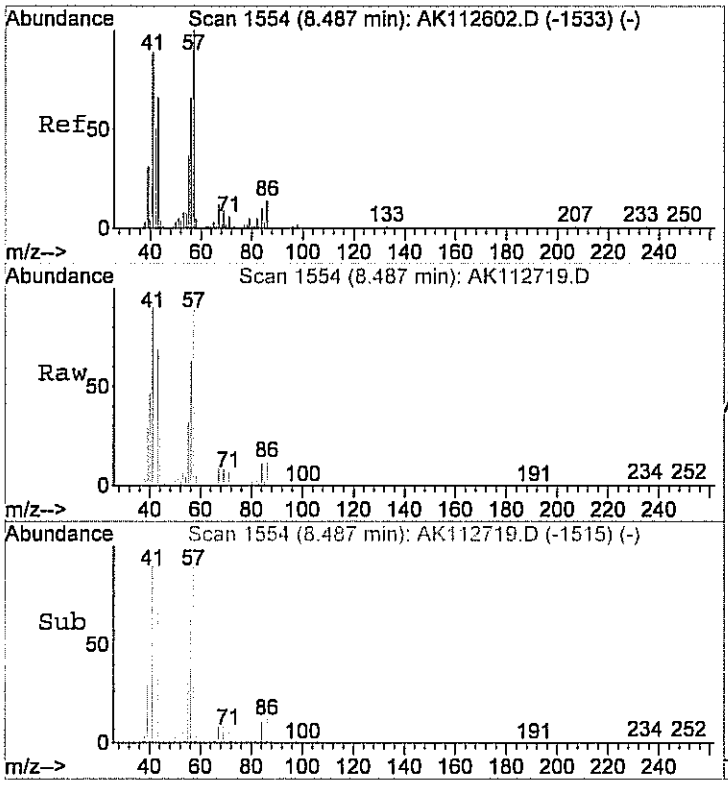


#15
Acetone
Concen: 5.24 ppb
RT: 5.69 min Scan# 621
Delta R.T. -0.08 min
Lab File: AK112719.D
Acq: 27 Nov 2013 8:44 pm

Tgt Ion: 58 Resp: 28610

Ion	Ratio	Lower	Upper
58	100		
43	828.6	650.3	710.3#

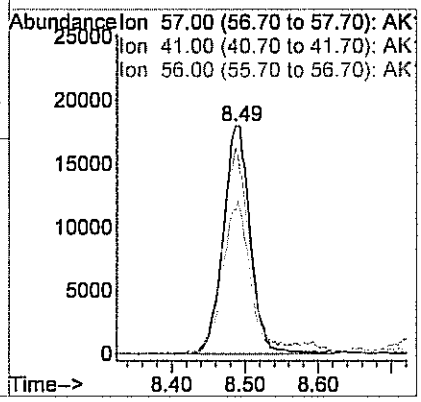


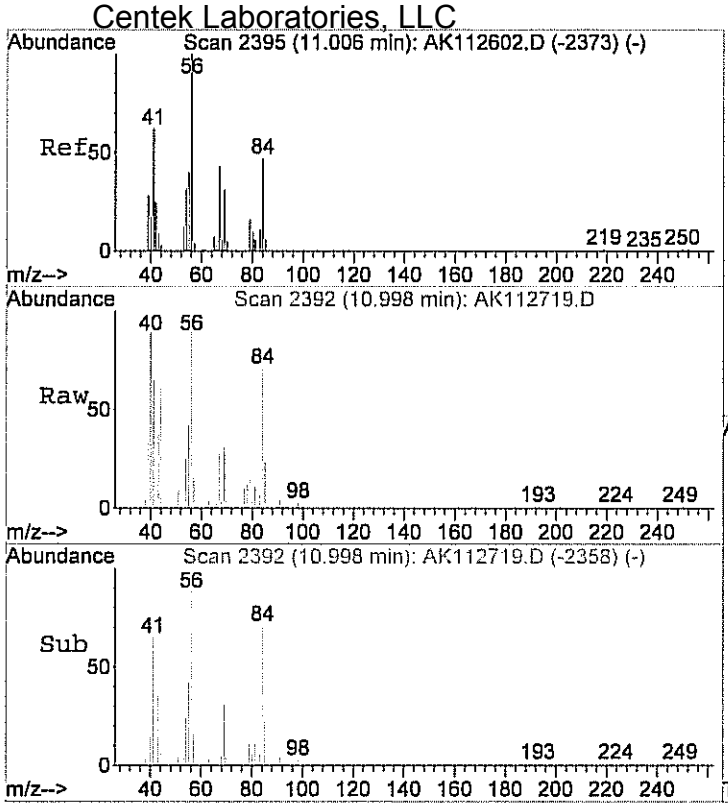


#29
Hexane
Concen: 1.98 ppb
RT: 8.49 min Scan# 1554
Delta R.T. -0.03 min
Lab File: AK112719.D
Acq: 27 Nov 2013 8:44 pm

Tgt Ion: 57 Resp: 46194

Ion	Ratio	Lower	Upper
57	100		
41	91.0	68.6	108.6
56	69.5	43.7	83.7

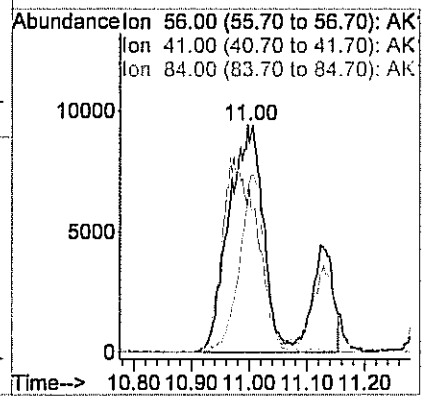


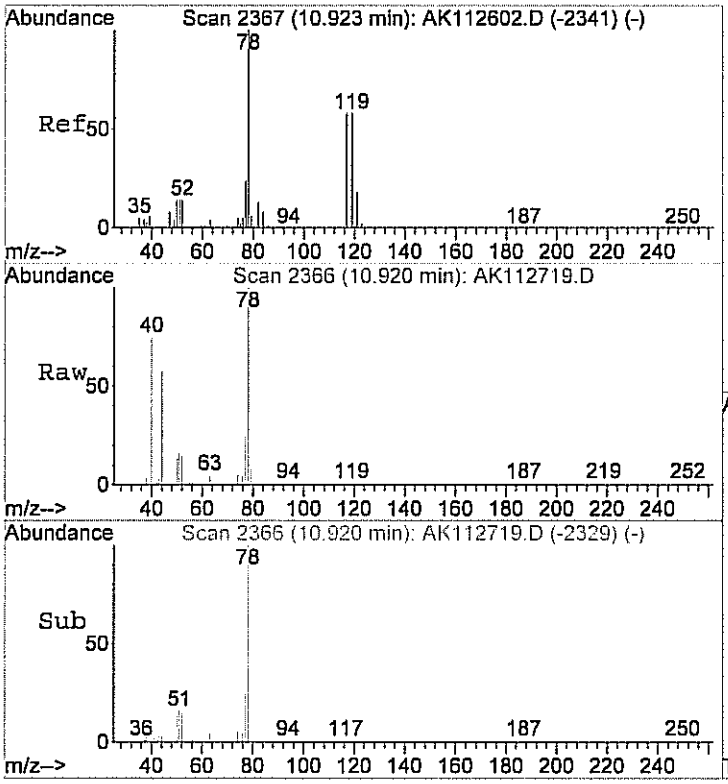


#36
Cyclohexane
Concen: 2.52 ppb
RT: 11.00 min Scan# 2392
Delta R.T. -0.05 min
Lab File: AK112719.D
Acq: 27 Nov 2013 8:44 pm

Tgt Ion: 56 Resp: 49921

Ion	Ratio	Lower	Upper
56	100		
41	86.6	38.1	78.1#
84	44.2	97.4	137.4#

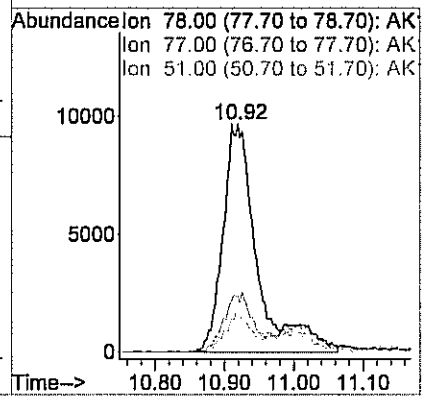


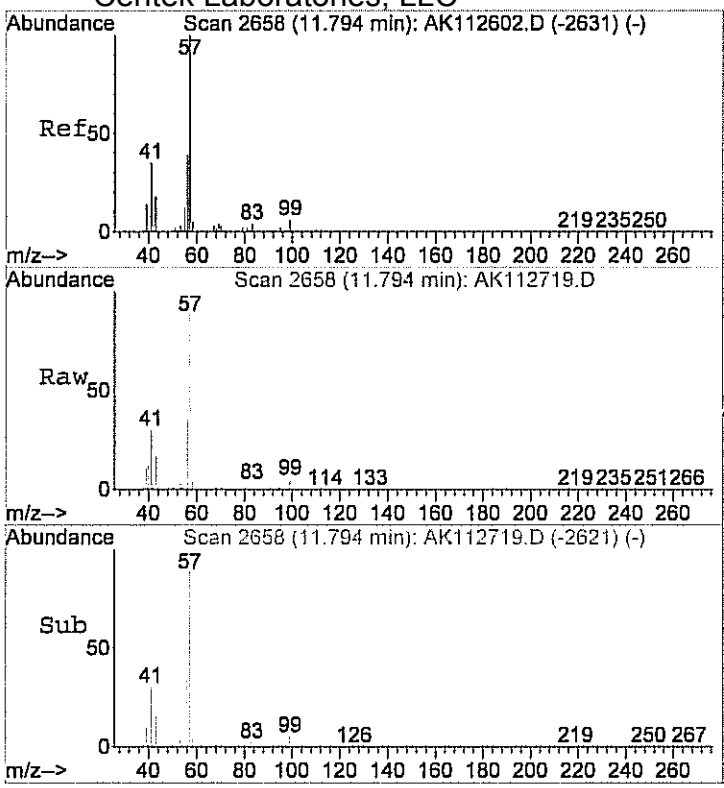


#38
Benzene
Concen: 0.59 ppb
RT: 10.92 min Scan# 2366
Delta R.T. -0.04 min
Lab File: AK112719.D
Acq: 27 Nov 2013 8:44 pm

Tgt Ion: 78 Resp: 33189

Ion	Ratio	Lower	Upper
78	100		
77	35.1	6.7	46.7
51	24.6	0.0	37.6

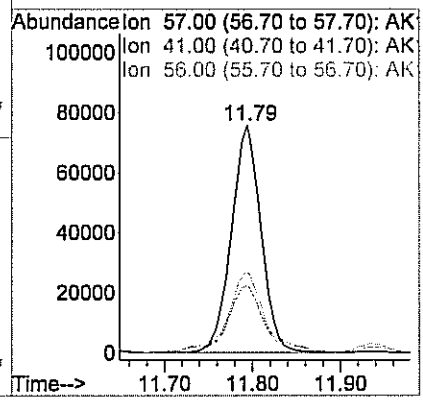


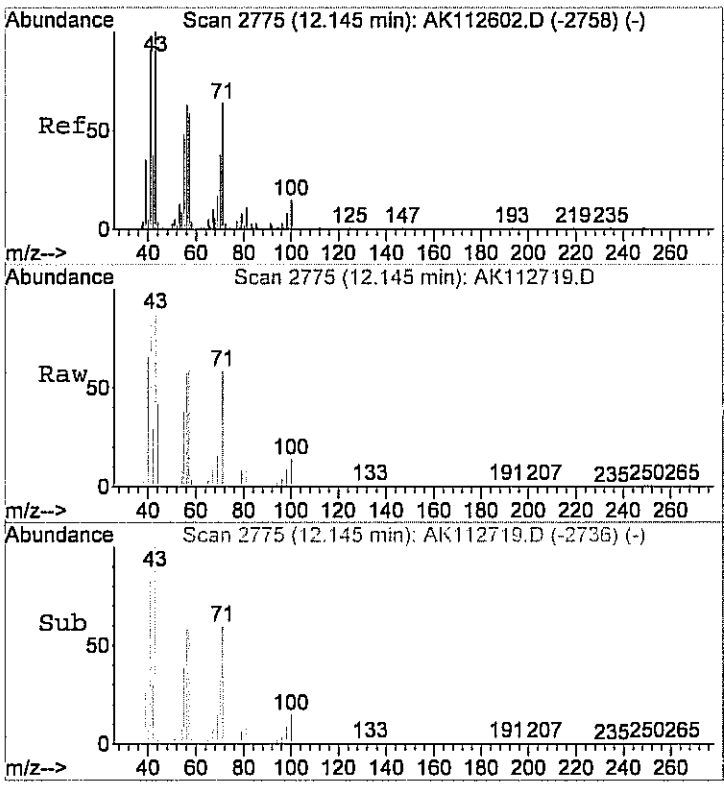


#41
2,2,4-trimethylpentane
Concen: 2.60 ppb
RT: 11.79 min Scan# 2658
Delta R.T. -0.04 min
Lab File: AK112719.D
Acq: 27 Nov 2013 8:44 pm

Tgt Ion: 57 Resp: 175665

Ion	Ratio	Lower	Upper
57	100		
41	39.5	12.0	52.0
56	43.8	16.8	56.8

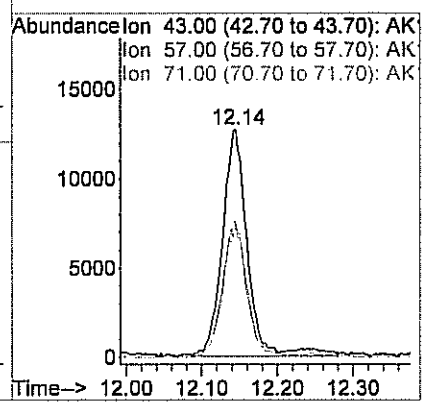


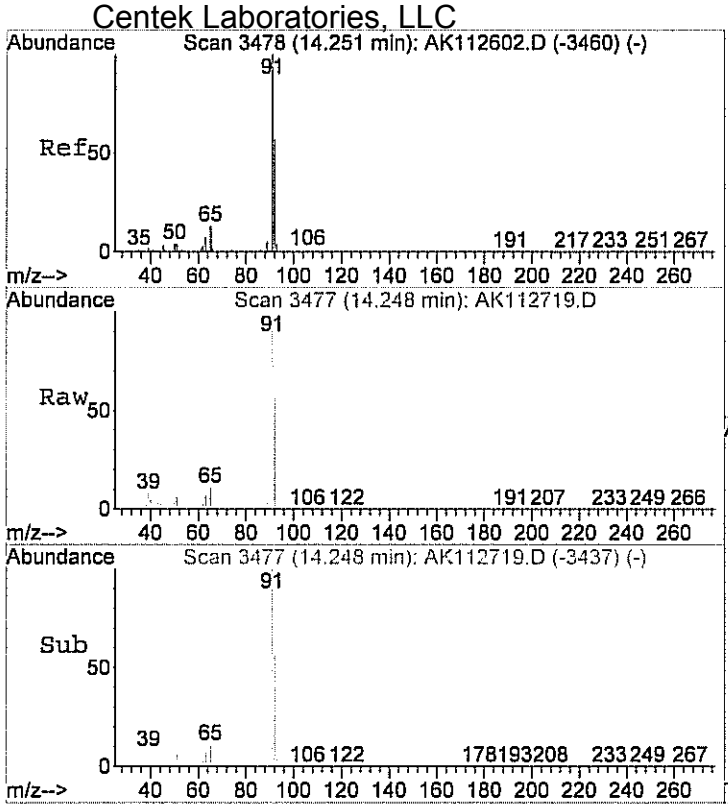


#42
Heptane
Concen: 1.43 ppb
RT: 12.14 min Scan# 2775
Delta R.T. -0.03 min
Lab File: AK112719.D
Acq: 27 Nov 2013 8:44 pm

Tgt Ion: 43 Resp: 29209

Ion	Ratio	Lower	Upper
43	100		
57	60.0	40.9	80.9
71	57.2	41.8	81.8

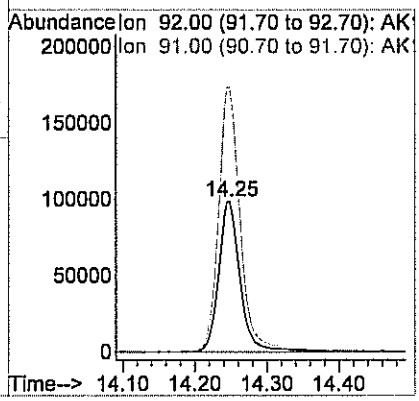


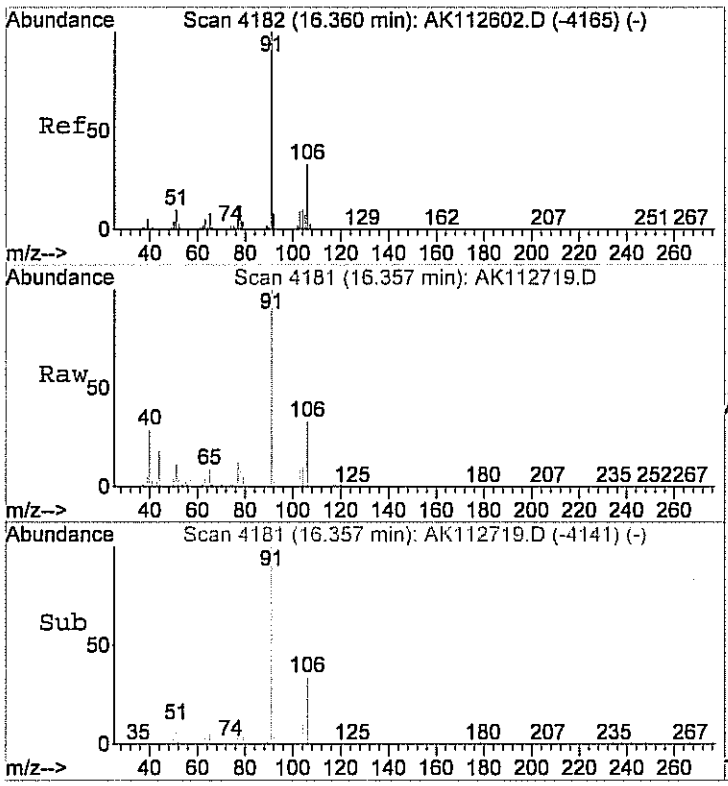


#50
Toluene
Concen: 5.95 ppb
RT: 14.25 min Scan# 3477
Delta R.T. -0.03 min
Lab File: AK112719.D
Acq: 27 Nov 2013 8:44 pm

Tgt Ion: 92 Resp: 203469

Ion	Ratio	Lower	Upper
92	100		
91	177.5	156.6	196.6

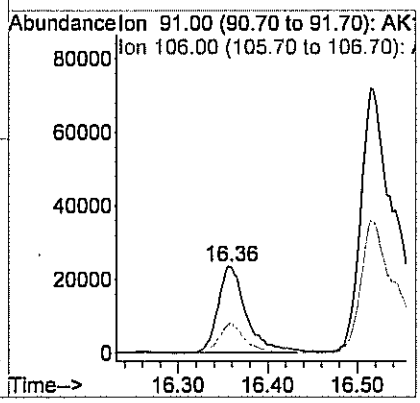


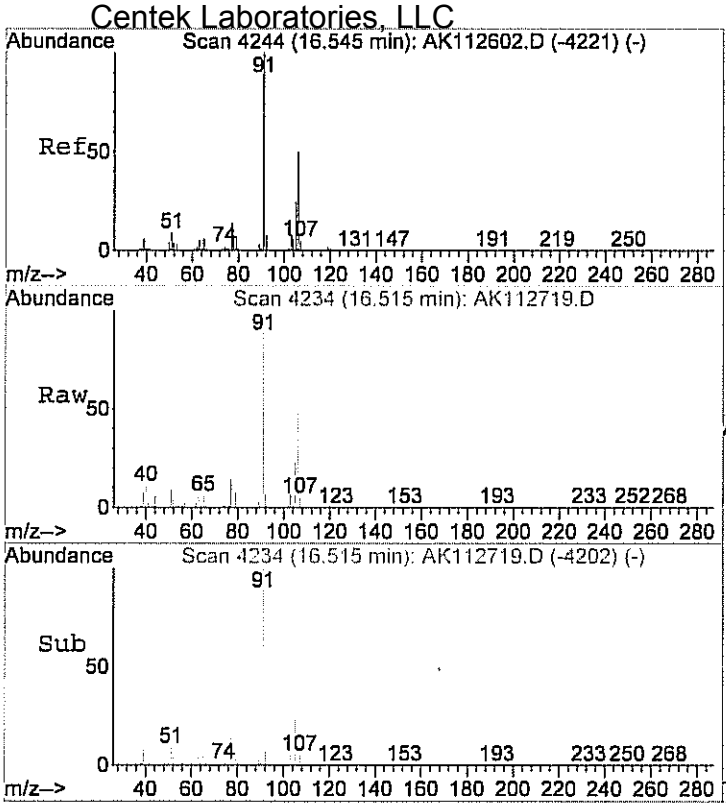


#57
Ethylbenzene
Concen: 0.82 ppb
RT: 16.36 min Scan# 4181
Delta R.T. -0.03 min
Lab File: AK112719.D
Acq: 27 Nov 2013 8:44 pm

Tgt Ion: 91 Resp: 52526

Ion	Ratio	Lower	Upper
91	100		
106	33.2	12.8	52.8

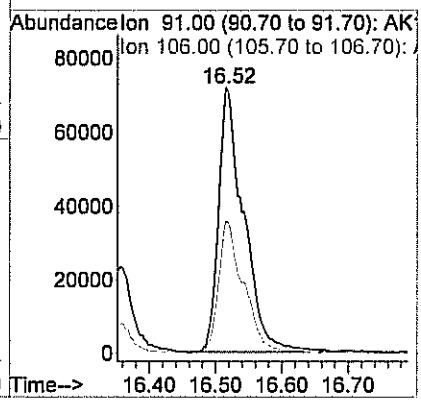


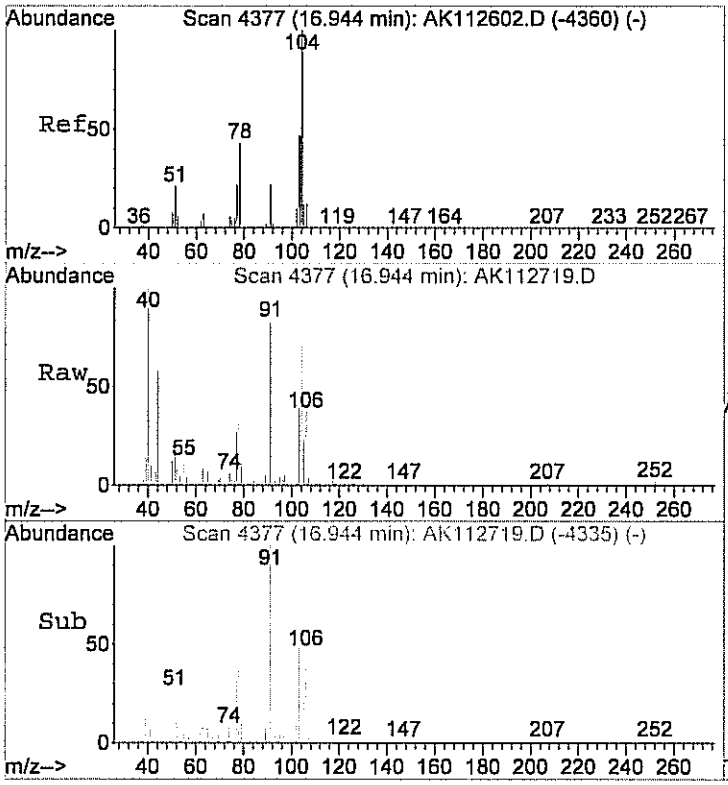


#58
m&p-xylene
Concen: 3.45 ppb
RT: 16.52 min Scan# 4234
Delta R.T. -0.05 min
Lab File: AK112719.D
Acq: 27 Nov 2013 8:44 pm

Tgt Ion: 91 Resp: 190816

Ion	Ratio	Lower	Upper
91	100		
106	50.1	31.3	71.3

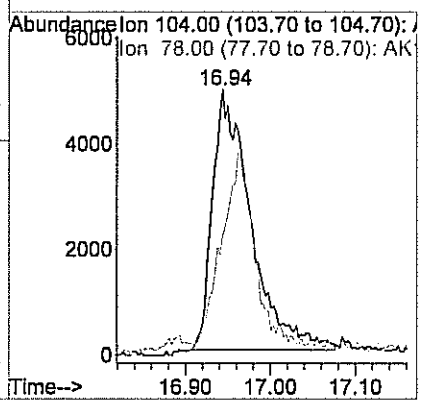


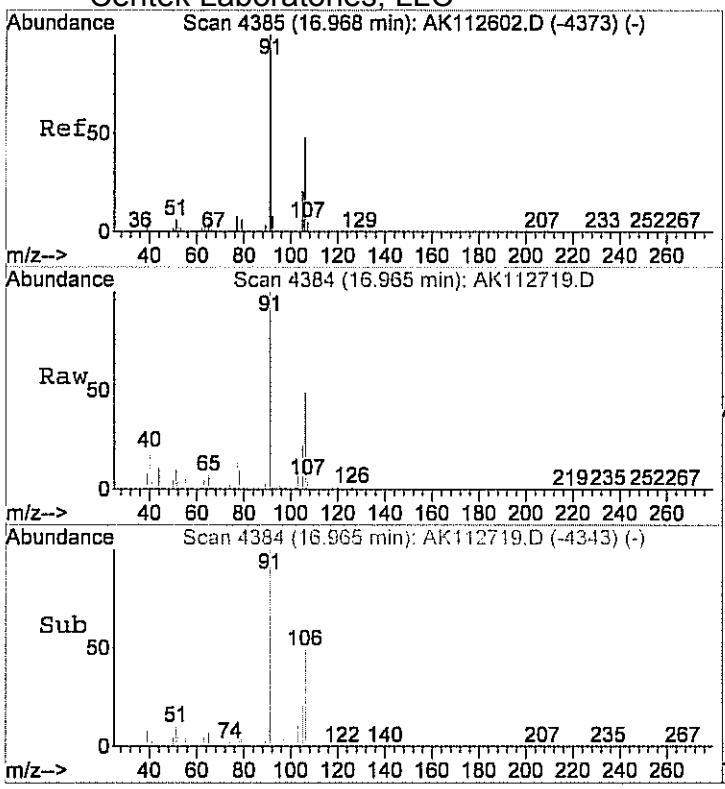


#59
Styrene
Concen: 0.36 ppb
RT: 16.94 min Scan# 4377
Delta R.T. -0.02 min
Lab File: AK112719.D
Acq: 27 Nov 2013 8:44 pm

Tgt Ion:104 Resp: 15513

Ion	Ratio	Lower	Upper
104	100		
78	63.6	28.0	68.0

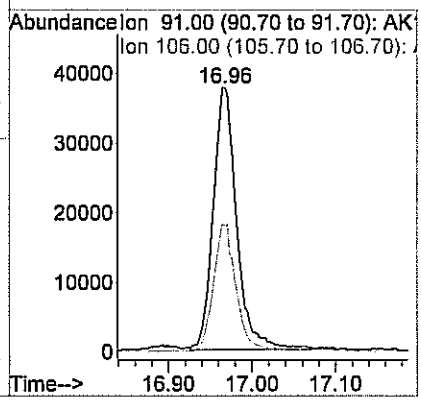


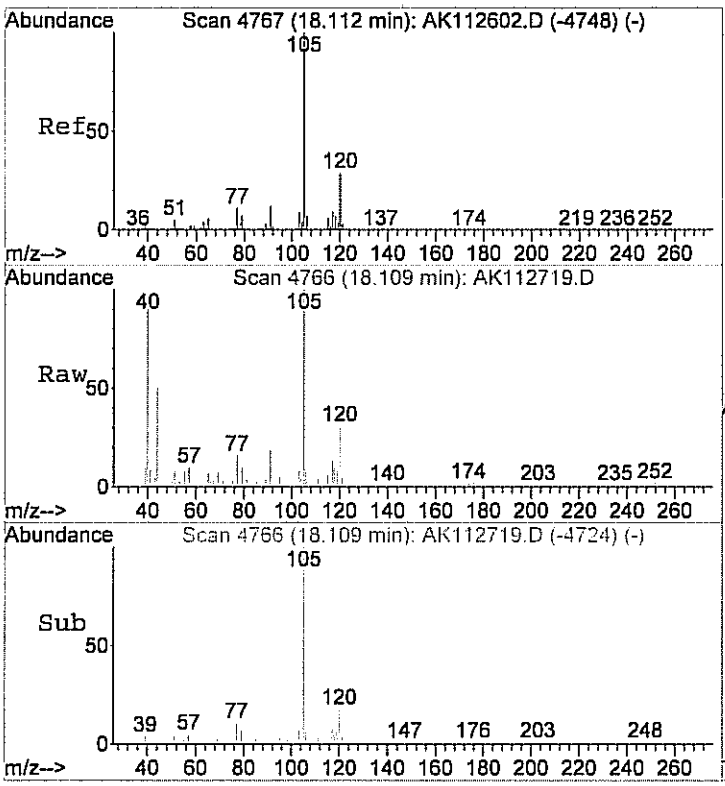


#61
o-xylene
Concen: 0.88 ppb
RT: 16.96 min Scan# 4384
Delta R.T. -0.03 min
Lab File: AK112719.D
Acq: 27 Nov 2013 8:44 pm

Tgt Ion: 91 Resp: 73349

Ion	Ratio	Lower	Upper
91	100		
106	47.1	22.3	62.3

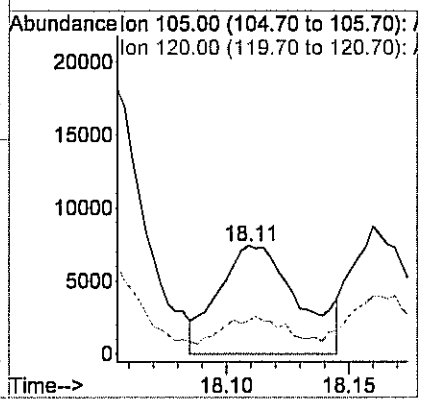


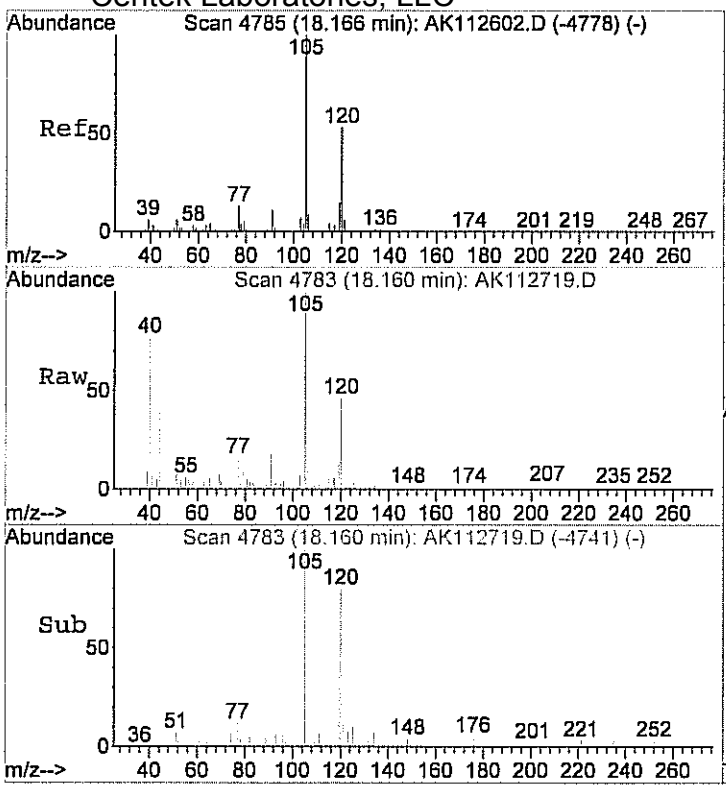


#65
4-ethyltoluene
Concen: 0.24 ppb m
RT: 18.11 min Scan# 4766
Delta R.T. -0.02 min
Lab File: AK112719.D
Acq: 27 Nov 2013 8:44 pm

Tgt Ion:105 Resp: 16811

Ion	Ratio	Lower	Upper
105	100		
120	68.2	35.6	75.6

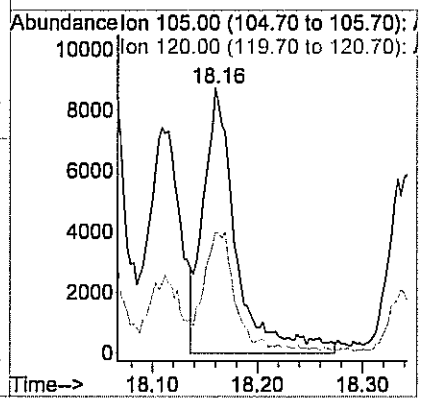


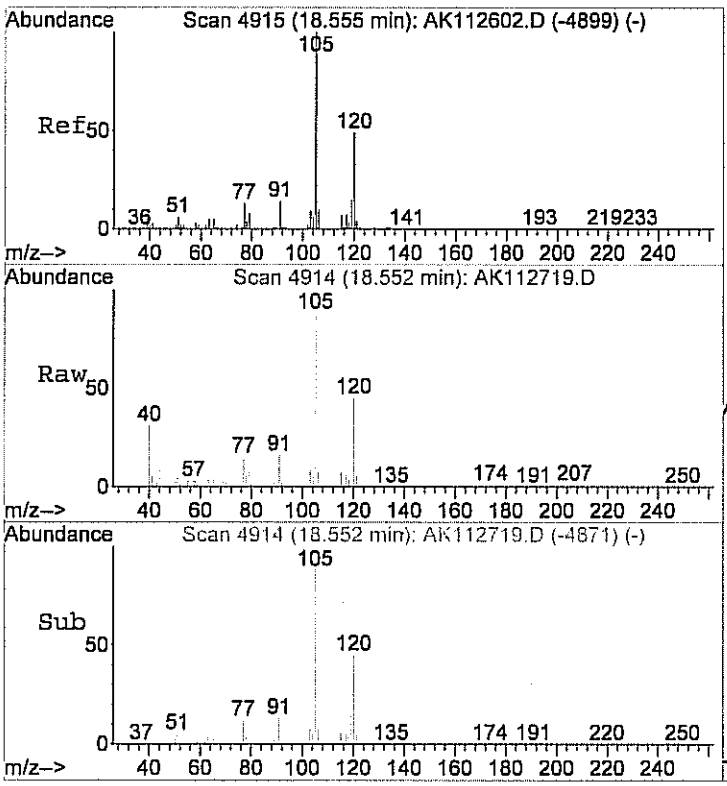


#66
1,3,5-trimethylbenzene
Concen: 0.23 ppb m
RT: 18.16 min Scan# 4783
Delta R.T. -0.02 min
Lab File: AK112719.D
Acq: 27 Nov 2013 8:44 pm

Tgt Ion:105 Resp: 18943

Ion	Ratio	Lower	Upper
105	100		
120	59.8	26.4	66.4

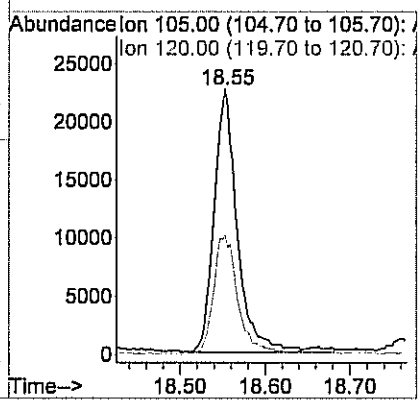




#67
1,2,4-trimethylbenzene
Concen: 0.77 ppb
RT: 18.55 min Scan# 4914
Delta R.T. -0.02 min
Lab File: AK112719.D
Acq: 27 Nov 2013 8:44 pm

Tgt Ion:105 Resp: 42728

Ion	Ratio	Lower	Upper
105	100		
120	48.2	26.8	66.8



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK112720.D Vial: 20
Acq On : 27 Nov 2013 9:19 pm Operator: RJP
Sample : C1311058-004A 40X Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 29 10:56:11 2013 Quant Results File: AO15_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Oct 15 18:12:29 2013
Response via : Initial Calibration
DataAcq Meth : 1UG_T015

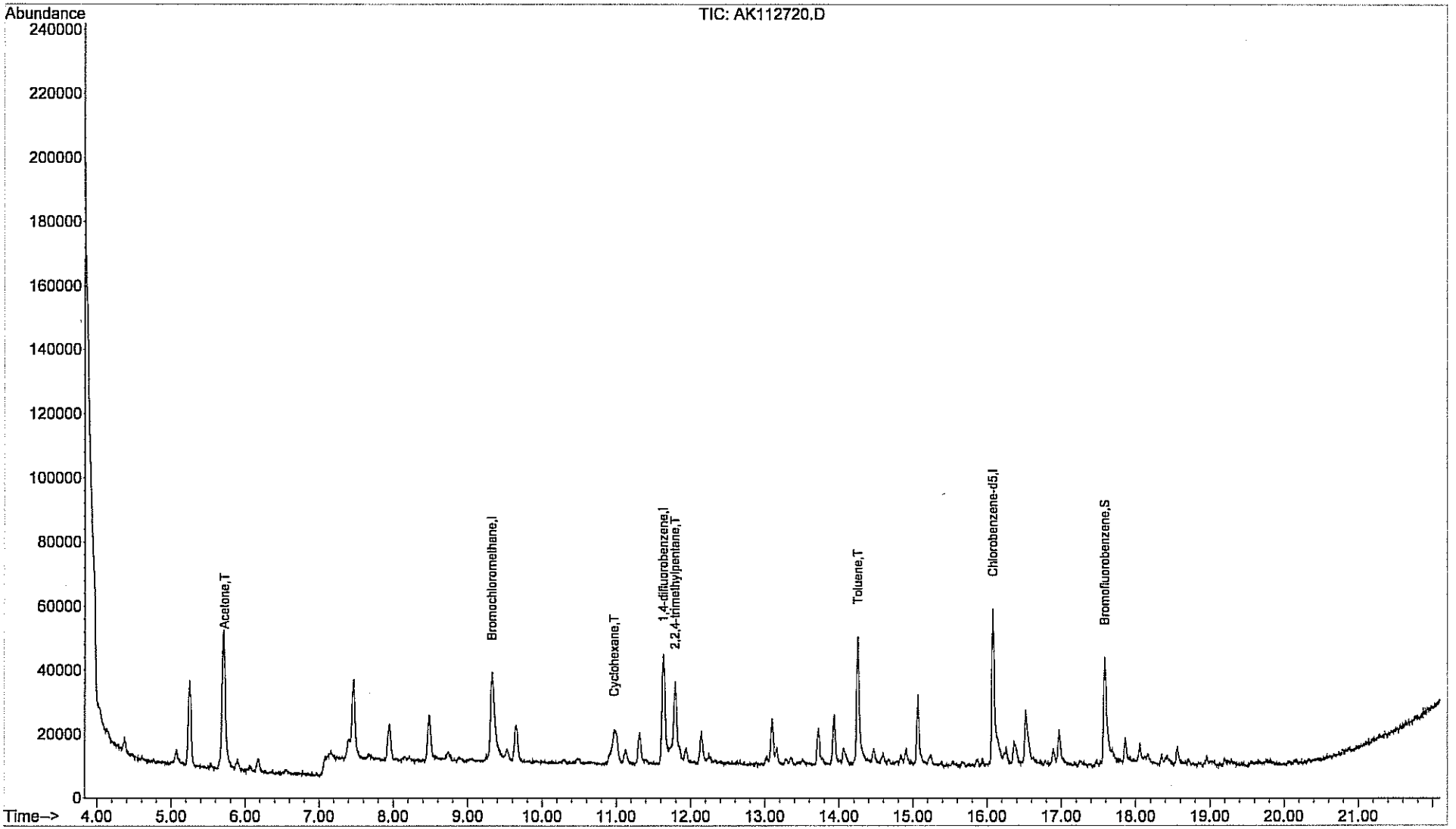
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.33	128	18626	1.00	ppb	-0.03
34) 1,4-difluorobenzene	11.63	114	44937	1.00	ppb	-0.04
49) Chlorobenzene-d5	16.08	117	45092	1.00	ppb	-0.02
System Monitoring Compounds						
62) Bromofluorobenzene	17.58	95	19744	0.75	ppb	-0.02
Spiked Amount 1.000	Range 70 - 130		Recovery = 75.00%			
Target Compounds						Qvalue
15) Acetone	5.73	58	6325m	1.23	ppb	
36) Cyclohexane	10.98	56	5430	0.32	ppb	# 41
41) 2,2,4-trimethylpentane	11.79	57	22173	0.38	ppb	72
50) Toluene	14.26	92	21897	0.87	ppb	95

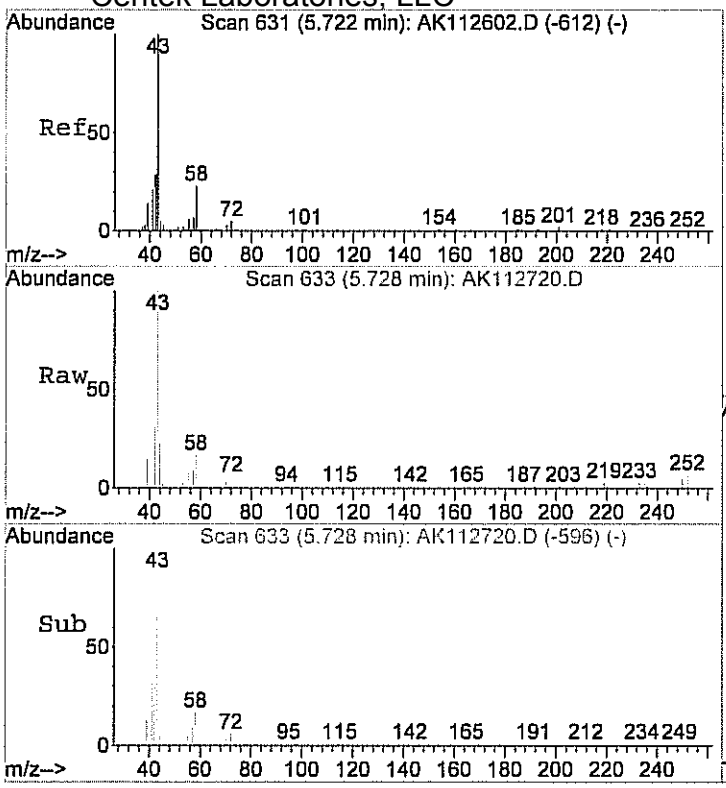
(#) = qualifier out of range (m) = manual integration (+) = signals summed
AK112720.D AO15_1UG.M Wed Dec 11 12:53:20 2013 MSD1 Page 1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK112720.D Vial: 20
Acq On : 27 Nov 2013 9:19 pm Operator: RJP
Sample : C1311058-004A 40X Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Dec 2 15:31 2013 Quant Results File: AO15_1UG.RES

Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Wed Dec 11 12:48:42 2013
Response via : Initial Calibration

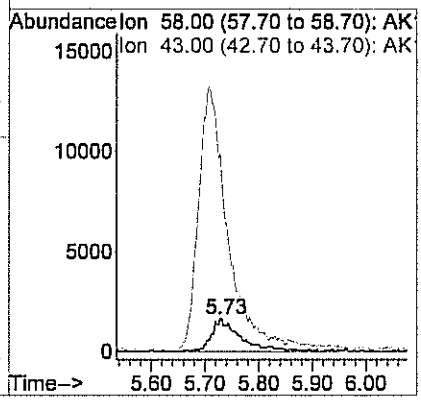


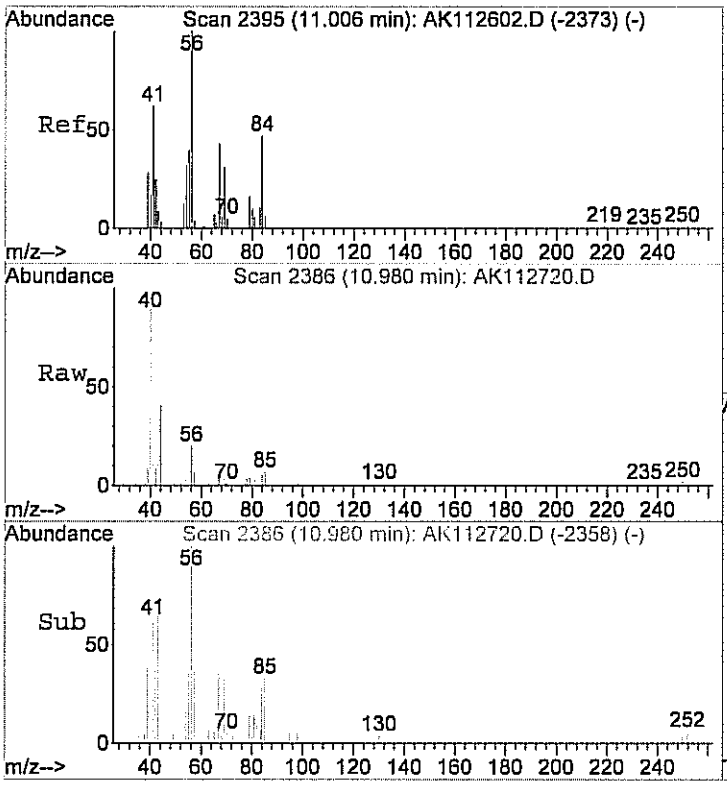


#15
Acetone
Concen: 1.23 ppb m
RT: 5.73 min Scan# 633
Delta R.T. -0.04 min
Lab File: AK112720.D
Acq: 27 Nov 2013 9:19 pm

Tgt Ion: 58 Resp: 6325

Ion	Ratio	Lower	Upper
58	100		
43	0.0	650.3	710.3#

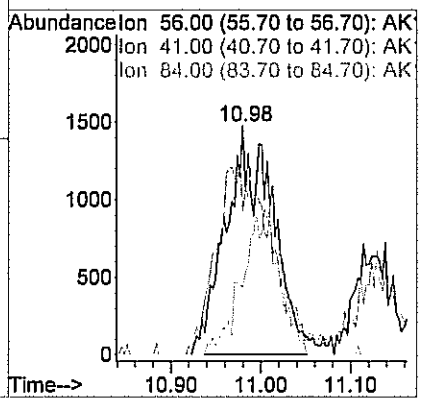


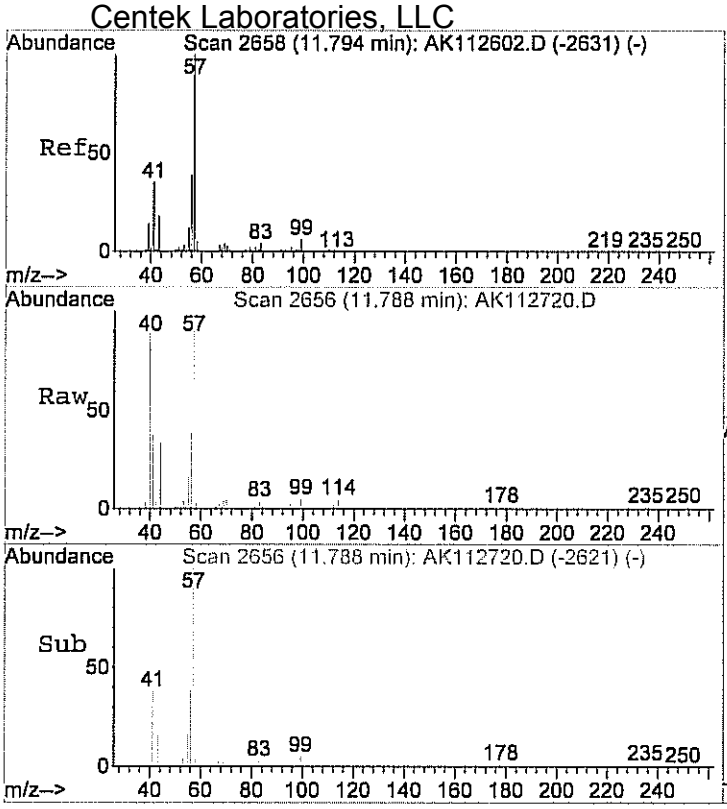


#36
Cyclohexane
Concen: 0.32 ppb
RT: 10.98 min Scan# 2386
Delta R.T. -0.07 min
Lab File: AK112720.D
Acq: 27 Nov 2013 9:19 pm

Tgt Ion: 56 Resp: 5430

Ion	Ratio	Lower	Upper
56	100		
41	97.0	38.1	78.1#
84	49.4	97.4	137.4#

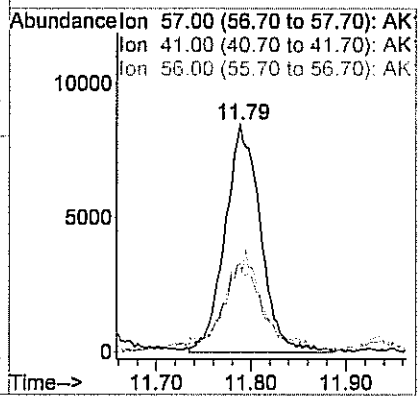


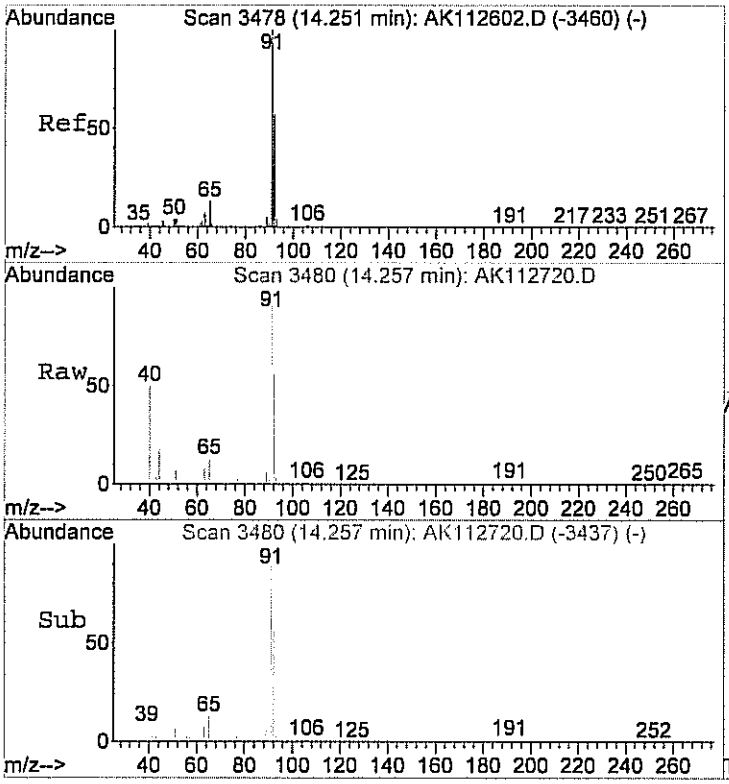


#41
2,2,4-trimethylpentane
Concen: 0.38 ppb
RT: 11.79 min Scan# 2656
Delta R.T. -0.05 min
Lab File: AK112720.D
Acq: 27 Nov 2013 9:19 pm

Tgt Ion: 57 Resp: 22173

Ion	Ratio	Lower	Upper
57	100		
41	51.9	12.0	52.0
56	49.9	16.8	56.8

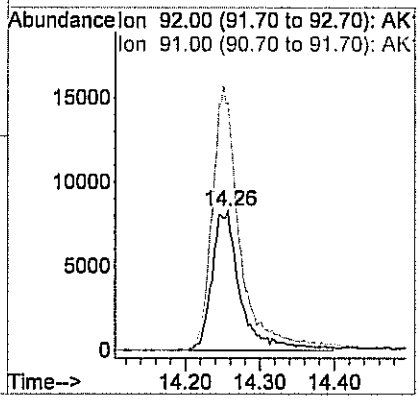




#50
Toluene
Concen: 0.87 ppb
RT: 14.26 min Scan# 3480
Delta R.T. -0.02 min
Lab File: AK112720.D
Acq: 27 Nov 2013 9:19 pm

Tgt Ion: 92 Resp: 21897

Ion	Ratio	Lower	Upper
92	100		
91	183.4	156.6	196.6



Centek Laboratories, LLC

Date: *11-Dec-13*

CLIENT:	HDR Engineering	**Client Sample ID:**	303-E-SS
Lab Order:	C1311058	**Tag Number:**	365,436
Project:	Aluminum Louvre	**Collection Date:**	11/18/2013
Lab ID:	C1311058-005A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS		FLD				Analyst:
Lab Vacuum In	-1			"Hg		11/20/2013
Lab Vacuum Out	-30			"Hg		11/20/2013
1UG/M3 BY METHOD TO15		TO-15				Analyst: RJP
1,1,1-Trichloroethane	0.25	0.15		ppbV	1	11/27/2013 5:24:00 AM
1,1,2,2-Tetrachloroethane	< 0.15	0.15		ppbV	1	11/27/2013 5:24:00 AM
1,1,2-Trichloroethane	< 0.15	0.15		ppbV	1	11/27/2013 5:24:00 AM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	11/27/2013 5:24:00 AM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	11/27/2013 5:24:00 AM
1,2,4-Trichlorobenzene	< 0.15	0.15		ppbV	1	11/27/2013 5:24:00 AM
1,2,4-Trimethylbenzene	1.7	1.5		ppbV	10	11/28/2013 1:35:00 AM
1,2-Dibromoethane	< 0.15	0.15		ppbV	1	11/27/2013 5:24:00 AM
1,2-Dichlorobenzene	< 0.15	0.15		ppbV	1	11/27/2013 5:24:00 AM
1,2-Dichloroethane	< 0.15	0.15		ppbV	1	11/27/2013 5:24:00 AM
1,2-Dichloropropane	< 0.15	0.15		ppbV	1	11/27/2013 5:24:00 AM
1,3,5-Trimethylbenzene	0.57	0.15		ppbV	1	11/27/2013 5:24:00 AM
1,3-butadiene	< 0.15	0.15		ppbV	1	11/27/2013 5:24:00 AM
1,3-Dichlorobenzene	< 0.15	0.15		ppbV	1	11/27/2013 5:24:00 AM
1,4-Dichlorobenzene	< 0.15	0.15		ppbV	1	11/27/2013 5:24:00 AM
1,4-Dioxane	< 0.30	0.30		ppbV	1	11/27/2013 5:24:00 AM
2,2,4-trimethylpentane	3.0	1.5		ppbV	10	11/28/2013 1:35:00 AM
4-ethyltoluene	0.74	0.15		ppbV	1	11/27/2013 5:24:00 AM
Acetone	80	12		ppbV	40	11/28/2013 2:09:00 AM
Allyl chloride	< 0.15	0.15		ppbV	1	11/27/2013 5:24:00 AM
Benzene	1.4	0.15		ppbV	1	11/27/2013 5:24:00 AM
Benzyl chloride	< 0.15	0.15		ppbV	1	11/27/2013 5:24:00 AM
Bromodichloromethane	< 0.15	0.15		ppbV	1	11/27/2013 5:24:00 AM
Bromoform	< 0.15	0.15		ppbV	1	11/27/2013 5:24:00 AM
Bromomethane	< 0.15	0.15		ppbV	1	11/27/2013 5:24:00 AM
Carbon disulfide	< 0.15	0.15		ppbV	1	11/27/2013 5:24:00 AM
Carbon tetrachloride	< 0.15	0.15		ppbV	1	11/27/2013 5:24:00 AM
Chlorobenzene	< 0.15	0.15		ppbV	1	11/27/2013 5:24:00 AM
Chloroethane	< 0.15	0.15		ppbV	1	11/27/2013 5:24:00 AM
Chloroform	< 0.15	0.15		ppbV	1	11/27/2013 5:24:00 AM
Chloromethane	0.38	0.15		ppbV	1	11/27/2013 5:24:00 AM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	11/27/2013 5:24:00 AM
cis-1,3-Dichloropropene	< 0.15	0.15		ppbV	1	11/27/2013 5:24:00 AM
Cyclohexane	2.9	1.5		ppbV	10	11/28/2013 1:35:00 AM
Dibromochloromethane	< 0.15	0.15		ppbV	1	11/27/2013 5:24:00 AM
Ethyl acetate	< 0.25	0.25		ppbV	1	11/27/2013 5:24:00 AM

Qualifiers:

**	Reporting Limit	.	Results reported are not blank corrected
B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: *11-Dec-13*

CLIENT:	HDR Engineering	**Client Sample ID:**	303-E-SS
Lab Order:	C1311058	**Tag Number:**	365,436
Project:	Aluminum Louvre	**Collection Date:**	11/18/2013
Lab ID:	C1311058-005A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15		**TO-15**				Analyst: RJP
Ethylbenzene	3.5	1.5		ppbV	10	11/28/2013 1:35:00 AM
Freon 11	0.28	0.15		ppbV	1	11/27/2013 5:24:00 AM
Freon 113	< 0.15	0.15		ppbV	1	11/27/2013 5:24:00 AM
Freon 114	< 0.15	0.15		ppbV	1	11/27/2013 5:24:00 AM
Freon 12	0.53	0.15		ppbV	1	11/27/2013 5:24:00 AM
Heptane	2.3	1.5		ppbV	10	11/28/2013 1:35:00 AM
Hexachloro-1,3-butadiene	< 0.15	0.15		ppbV	1	11/27/2013 5:24:00 AM
Hexane	2.8	1.5		ppbV	10	11/28/2013 1:35:00 AM
Isopropyl alcohol	< 0.15	0.15		ppbV	1	11/27/2013 5:24:00 AM
m&p-Xylene	13	3.0		ppbV	10	11/28/2013 1:35:00 AM
Methyl Butyl Ketone	< 0.30	0.30		ppbV	1	11/27/2013 5:24:00 AM
Methyl Ethyl Ketone	0.83	0.30		ppbV	1	11/27/2013 5:24:00 AM
Methyl Isobutyl Ketone	< 0.30	0.30		ppbV	1	11/27/2013 5:24:00 AM
Methyl tert-butyl ether	< 0.15	0.15		ppbV	1	11/27/2013 5:24:00 AM
Methylene chloride	0.25	0.15		ppbV	1	11/27/2013 5:24:00 AM
o-Xylene	2.9	1.5		ppbV	10	11/28/2013 1:35:00 AM
Propylene	< 0.15	0.15		ppbV	1	11/27/2013 5:24:00 AM
Styrene	< 0.15	0.15		ppbV	1	11/27/2013 5:24:00 AM
Tetrachloroethylene	1.9	0.15		ppbV	1	11/27/2013 5:24:00 AM
Tetrahydrofuran	< 0.15	0.15		ppbV	1	11/27/2013 5:24:00 AM
Toluene	28	6.0		ppbV	40	11/28/2013 2:09:00 AM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	11/27/2013 5:24:00 AM
trans-1,3-Dichloropropene	< 0.15	0.15		ppbV	1	11/27/2013 5:24:00 AM
Trichloroethene	3.9	1.5		ppbV	10	11/28/2013 1:35:00 AM
Vinyl acetate	< 0.15	0.15		ppbV	1	11/27/2013 5:24:00 AM
Vinyl Bromide	< 0.15	0.15		ppbV	1	11/27/2013 5:24:00 AM
Vinyl chloride	< 0.15	0.15		ppbV	1	11/27/2013 5:24:00 AM
Surr: Bromofluorobenzene	106	70-130		%REC	1	11/27/2013 5:24:00 AM

Qualifiers:

**	Reporting Limit	.	Results reported are not blank corrected
B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: *11-Dec-13*

CLIENT:	HDR Engineering	**Client Sample ID:**	303-E-SS
Lab Order:	C1311058	**Tag Number:**	365,436
Project:	Aluminum Louvre	**Collection Date:**	11/18/2013
Lab ID:	C1311058-005A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15		TO-15				Analyst: RJP
1,1,1-Trichloroethane	1.4	0.83		ug/m3	1	11/27/2013 5:24:00 AM
1,1,2,2-Tetrachloroethane	< 1.0	1.0		ug/m3	1	11/27/2013 5:24:00 AM
1,1,2-Trichloroethane	< 0.83	0.83		ug/m3	1	11/27/2013 5:24:00 AM
1,1-Dichloroethane	< 0.62	0.62		ug/m3	1	11/27/2013 5:24:00 AM
1,1-Dichloroethene	< 0.60	0.60		ug/m3	1	11/27/2013 5:24:00 AM
1,2,4-Trichlorobenzene	< 1.1	1.1		ug/m3	1	11/27/2013 5:24:00 AM
1,2,4-Trimethylbenzene	8.5	7.5		ug/m3	10	11/28/2013 1:35:00 AM
1,2-Dibromoethane	< 1.2	1.2		ug/m3	1	11/27/2013 5:24:00 AM
1,2-Dichlorobenzene	< 0.92	0.92		ug/m3	1	11/27/2013 5:24:00 AM
1,2-Dichloroethane	< 0.62	0.62		ug/m3	1	11/27/2013 5:24:00 AM
1,2-Dichloropropane	< 0.70	0.70		ug/m3	1	11/27/2013 5:24:00 AM
1,3,5-Trimethylbenzene	2.8	0.75		ug/m3	1	11/27/2013 5:24:00 AM
1,3-butadiene	< 0.34	0.34		ug/m3	1	11/27/2013 5:24:00 AM
1,3-Dichlorobenzene	< 0.92	0.92		ug/m3	1	11/27/2013 5:24:00 AM
1,4-Dichlorobenzene	< 0.92	0.92		ug/m3	1	11/27/2013 5:24:00 AM
1,4-Dioxane	< 1.1	1.1		ug/m3	1	11/27/2013 5:24:00 AM
2,2,4-trimethylpentane	14	7.1		ug/m3	10	11/28/2013 1:35:00 AM
4-ethyltoluene	3.7	0.75		ug/m3	1	11/27/2013 5:24:00 AM
Acetone	190	29		ug/m3	40	11/28/2013 2:09:00 AM
Allyl chloride	< 0.48	0.48		ug/m3	1	11/27/2013 5:24:00 AM
Benzene	4.7	0.49		ug/m3	1	11/27/2013 5:24:00 AM
Benzyl chloride	< 0.88	0.88		ug/m3	1	11/27/2013 5:24:00 AM
Bromodichloromethane	< 1.0	1.0		ug/m3	1	11/27/2013 5:24:00 AM
Bromoform	< 1.6	1.6		ug/m3	1	11/27/2013 5:24:00 AM
Bromomethane	< 0.59	0.59		ug/m3	1	11/27/2013 5:24:00 AM
Carbon disulfide	< 0.47	0.47		ug/m3	1	11/27/2013 5:24:00 AM
Carbon tetrachloride	< 0.96	0.96		ug/m3	1	11/27/2013 5:24:00 AM
Chlorobenzene	< 0.70	0.70		ug/m3	1	11/27/2013 5:24:00 AM
Chloroethane	< 0.40	0.40		ug/m3	1	11/27/2013 5:24:00 AM
Chloroform	< 0.74	0.74		ug/m3	1	11/27/2013 5:24:00 AM
Chloromethane	0.80	0.31		ug/m3	1	11/27/2013 5:24:00 AM
cis-1,2-Dichloroethene	< 0.60	0.60		ug/m3	1	11/27/2013 5:24:00 AM
cis-1,3-Dichloropropene	< 0.69	0.69		ug/m3	1	11/27/2013 5:24:00 AM
Cyclohexane	10	5.2		ug/m3	10	11/28/2013 1:35:00 AM
Dibromochloromethane	< 1.3	1.3		ug/m3	1	11/27/2013 5:24:00 AM
Ethyl acetate	< 0.92	0.92		ug/m3	1	11/27/2013 5:24:00 AM
Ethylbenzene	15	6.6		ug/m3	10	11/28/2013 1:35:00 AM
Freon 11	1.6	0.86		ug/m3	1	11/27/2013 5:24:00 AM
Freon 113	< 1.2	1.2		ug/m3	1	11/27/2013 5:24:00 AM
Freon 114	< 1.1	1.1		ug/m3	1	11/27/2013 5:24:00 AM

Qualifiers:

**	Reporting Limit	.	Results reported are not blank corrected
B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: *11-Dec-13*

CLIENT:	HDR Engineering	**Client Sample ID:**	303-E-SS
Lab Order:	C1311058	**Tag Number:**	365,436
Project:	Aluminum Louvre	**Collection Date:**	11/18/2013
Lab ID:	C1311058-005A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15		**TO-15**				Analyst: **RJP**
Freon 12	2.7	0.75		ug/m3	1	11/27/2013 5:24:00 AM
Heptane	9.6	6.2		ug/m3	10	11/28/2013 1:35:00 AM
Hexachloro-1,3-butadiene	< 1.6	1.6		ug/m3	1	11/27/2013 5:24:00 AM
Hexane	10	5.4		ug/m3	10	11/28/2013 1:35:00 AM
Isopropyl alcohol	< 0.37	0.37		ug/m3	1	11/27/2013 5:24:00 AM
m&p-Xylene	58	13		ug/m3	10	11/28/2013 1:35:00 AM
Methyl Butyl Ketone	< 1.2	1.2		ug/m3	1	11/27/2013 5:24:00 AM
Methyl Ethyl Ketone	2.5	0.90		ug/m3	1	11/27/2013 5:24:00 AM
Methyl Isobutyl Ketone	< 1.2	1.2		ug/m3	1	11/27/2013 5:24:00 AM
Methyl tert-butyl ether	< 0.55	0.55		ug/m3	1	11/27/2013 5:24:00 AM
Methylene chloride	0.88	0.53		ug/m3	1	11/27/2013 5:24:00 AM
o-Xylene	13	6.6		ug/m3	10	11/28/2013 1:35:00 AM
Propylene	< 0.26	0.26		ug/m3	1	11/27/2013 5:24:00 AM
Styrene	< 0.65	0.65		ug/m3	1	11/27/2013 5:24:00 AM
Tetrachloroethylene	13	1.0		ug/m3	1	11/27/2013 5:24:00 AM
Tetrahydrofuran	< 0.45	0.45		ug/m3	1	11/27/2013 5:24:00 AM
Toluene	110	23		ug/m3	40	11/28/2013 2:09:00 AM
trans-1,2-Dichloroethene	< 0.60	0.60		ug/m3	1	11/27/2013 5:24:00 AM
trans-1,3-Dichloropropene	< 0.69	0.69		ug/m3	1	11/27/2013 5:24:00 AM
Trichloroethene	21	8.2		ug/m3	10	11/28/2013 1:35:00 AM
Vinyl acetate	< 0.54	0.54		ug/m3	1	11/27/2013 5:24:00 AM
Vinyl Bromide	< 0.67	0.67		ug/m3	1	11/27/2013 5:24:00 AM
Vinyl chloride	< 0.39	0.39		ug/m3	1	11/27/2013 5:24:00 AM

Qualifiers:

**	Reporting Limit	.	Results reported are not blank corrected
B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK112632.D Vial: 49
Acq On : 27 Nov 2013 5:24 am Operator: RJP
Sample : C1311058-005A Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 27 07:39:48 2013 Quant Results File: AO15_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Oct 15 18:12:29 2013
Response via : Initial Calibration
DataAcq Meth : 1UG_T015

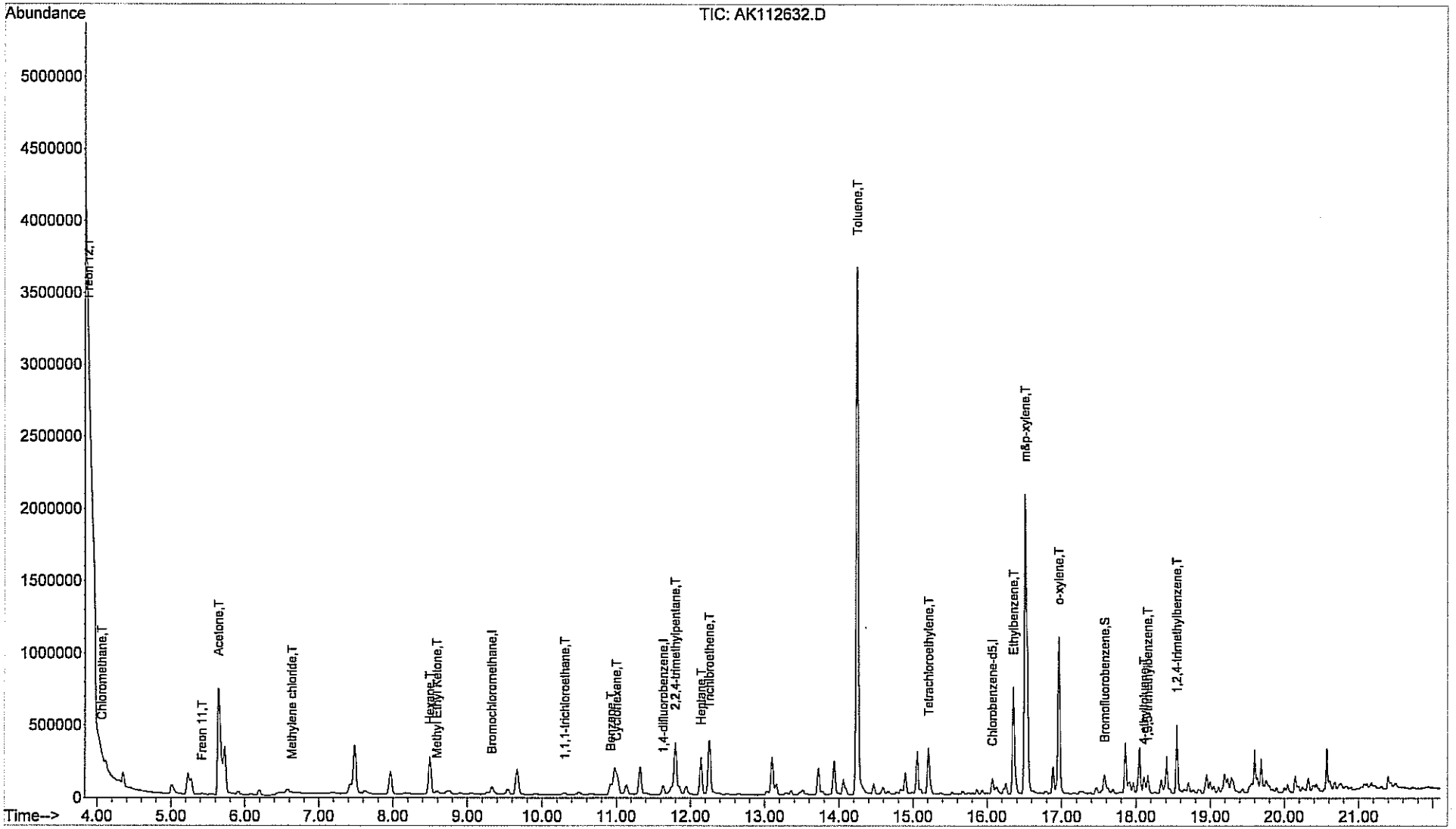
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane	9.33	128	23487	1.00	ppb		-0.03
34) 1,4-difluorobenzene	11.63	114	64932	1.00	ppb		-0.03
49) Chlorobenzene-d5	16.07	117	82979	1.00	ppb		-0.03
System Monitoring Compounds							
62) Bromofluorobenzene	17.57	95	51856	1.06	ppb		-0.03
Spiked Amount 1.000	Range 70 - 130		Recovery = 106.00%				
Target Compounds							Qvalue
4) Freon 12	3.89	85	41989	0.53	ppb		100
5) Chloromethane	4.07	50	7115	0.38	ppb		78
14) Freon 11	5.42	101	16804	0.28	ppb		100
15) Acetone	5.64	58	409355	63.16	ppb	#	17
20) Methylene chloride	6.64	84	3748	0.25	ppb		95
27) Methyl Ethyl Ketone	8.59	72	7326	0.83	ppb	#	100
29) Hexane	8.50	57	134992	4.88	ppb		91
35) 1,1,1-trichloroethane	10.31	97	13166	0.25	ppb		99
36) Cyclohexane	11.01	56	101025m	4.12	ppb		
38) Benzene	10.92	78	99920	1.44	ppb		94
41) 2,2,4-trimethylpentane	11.80	57	376517	4.51	ppb		92
42) Heptane	12.14	43	94731	3.74	ppb		99
43) Trichloroethene	12.26	130	158707	4.90	ppb		99
50) Toluene	14.24	92	1891985	40.65	ppb		97
55) Tetrachloroethylene	15.21	164	89647	1.86	ppb		97
57) Ethylbenzene	16.35	91	561260	6.46	ppb		100
58) m&p-xylene	16.51	91	1852337	24.61	ppb		100
61) o-xylene	16.96	91	676769	6.00	ppb		90
65) 4-ethyltoluene	18.11	105	70490m	0.74	ppb		
66) 1,3,5-trimethylbenzene	18.16	105	63356	0.57	ppb		93
67) 1,2,4-trimethylbenzene	18.55	105	248999	3.28	ppb		99

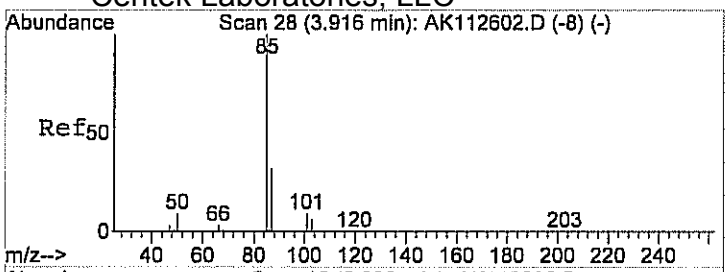
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK112632.D Vial: 49
Acq On : 27 Nov 2013 5:24 am Operator: RJP
Sample : C1311058-005A Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 29 11:03 2013 Quant Results File: AO15_1UG.RES

Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Wed Dec 11 12:48:42 2013
Response via : Initial Calibration

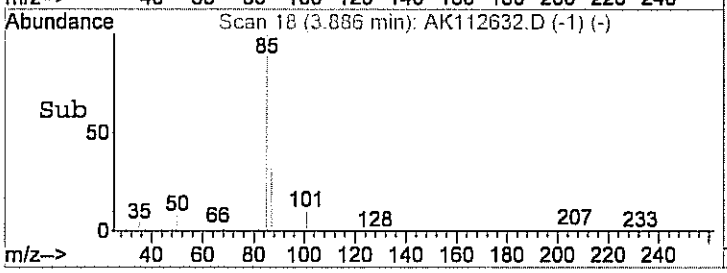


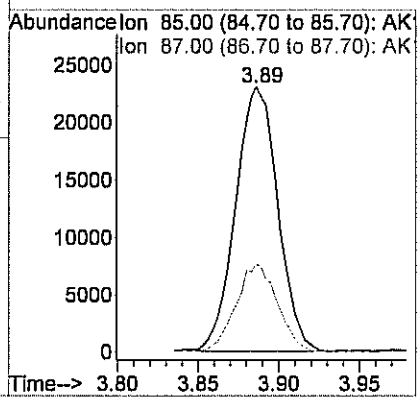


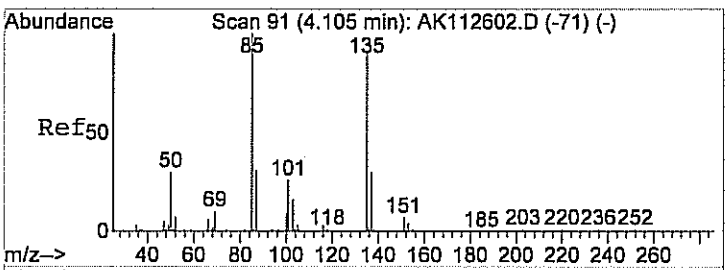
#4
Freon 12
Concen: 0.53 ppb
RT: 3.89 min Scan# 18
Delta R.T. -0.05 min
Lab File: AK112632.D
Acq: 27 Nov 2013 5:24 am

Tgt Ion: 85 Resp: 41989

Ion	Ratio	Lower	Upper
85	100		
87	33.0	12.8	52.8



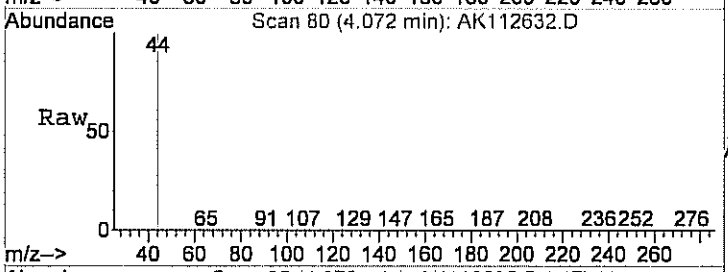


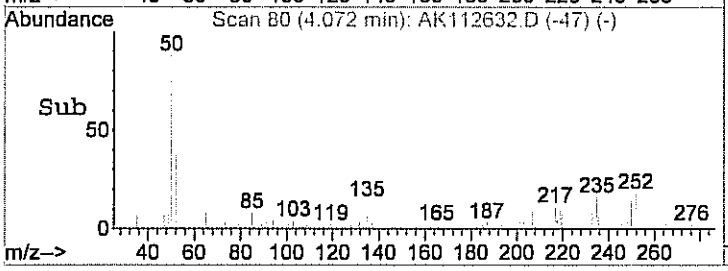


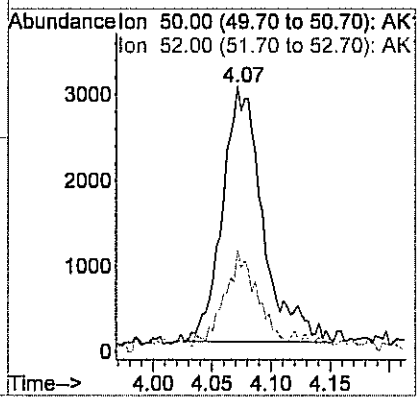
#5
Chloromethane
Concen: 0.38 ppb
RT: 4.07 min Scan# 80
Delta R.T. -0.05 min
Lab File: AK112632.D
Acq: 27 Nov 2013 5:24 am

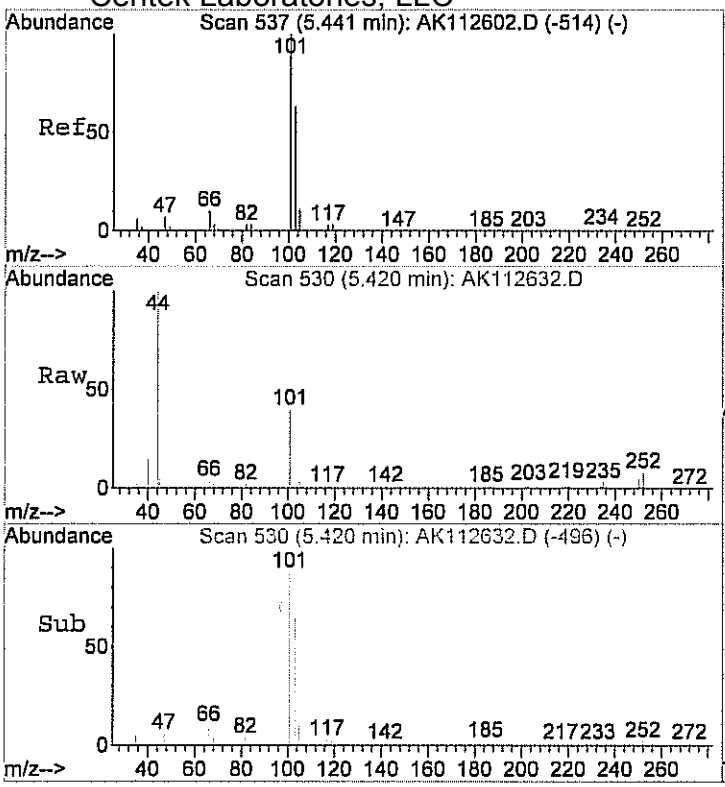
Tgt Ion: 50 Resp: 7115

Ion	Ratio	Lower	Upper
50	100		
52	41.0	9.4	49.4





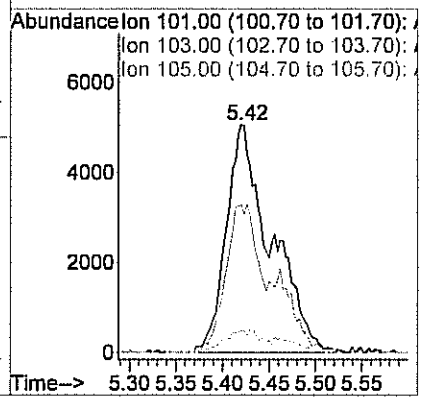


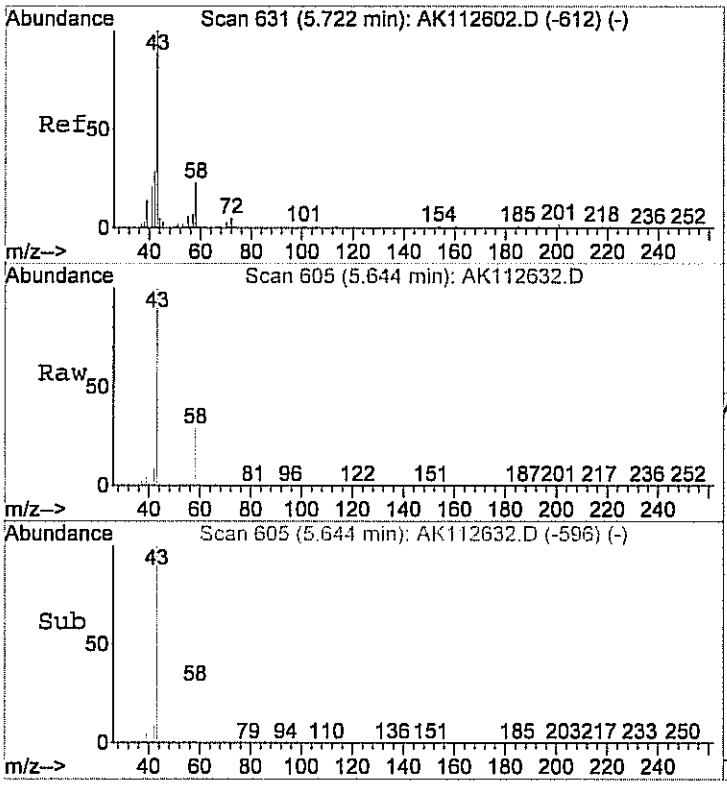


#14
Freon 11
Concen: 0.28 ppb
RT: 5.42 min Scan# 530
Delta R.T. -0.05 min
Lab File: AK112632.D
Acq: 27 Nov 2013 5:24 am

Tgt Ion:101 Resp: 16804

Ion	Ratio	Lower	Upper
101	100		
103	66.2	46.0	86.0
105	11.4	0.0	31.7

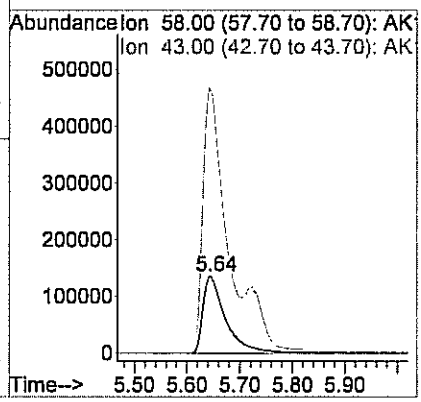


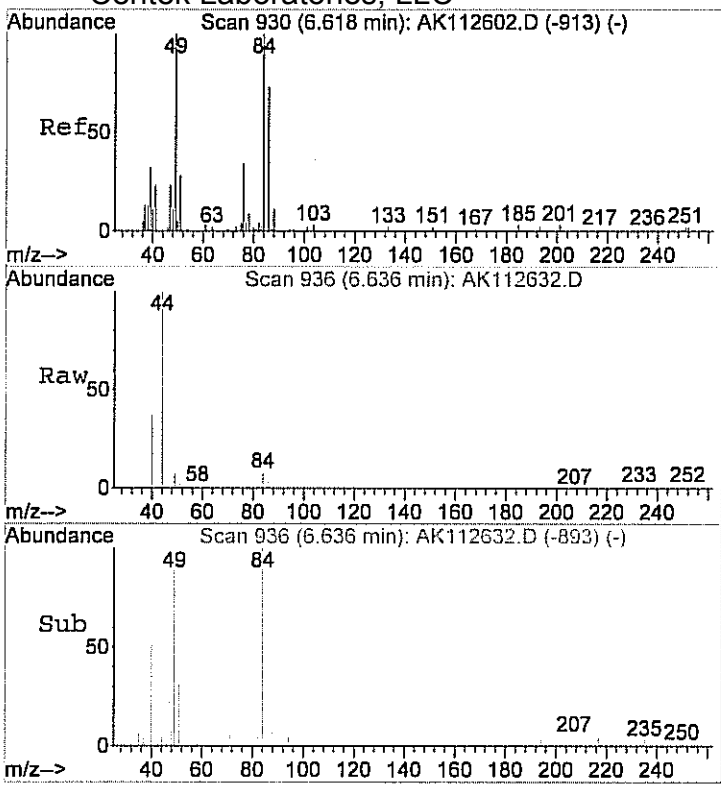


#15
Acetone
Concen: 63.16 ppb
RT: 5.64 min Scan# 605
Delta R.T. -0.12 min
Lab File: AK112632.D
Acq: 27 Nov 2013 5:24 am

Tgt Ion: 58 Resp: 409355

Ion	Ratio	Lower	Upper
58	100		
43	397.4	650.3	710.3#

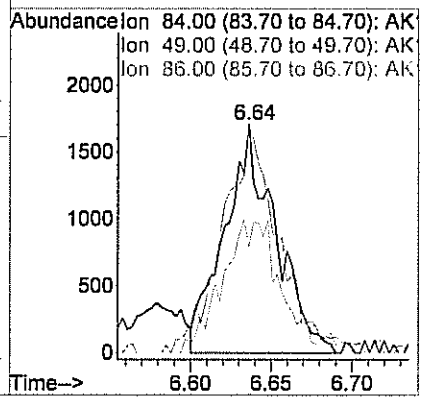


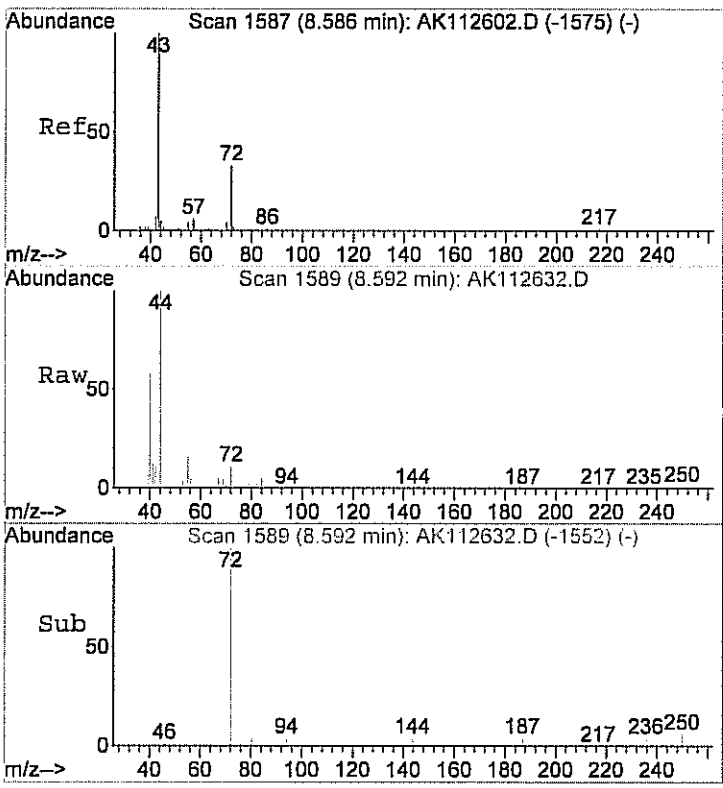


#20
Methylene chloride
Concen: 0.25 ppb
RT: 6.64 min Scan# 936
Delta R.T. -0.02 min
Lab File: AK112632.D
Acq: 27 Nov 2013 5:24 am

Tgt Ion: 84 Resp: 3748

Ion	Ratio	Lower	Upper
84	100		
49	109.1	82.2	122.2
86	66.9	45.4	85.4

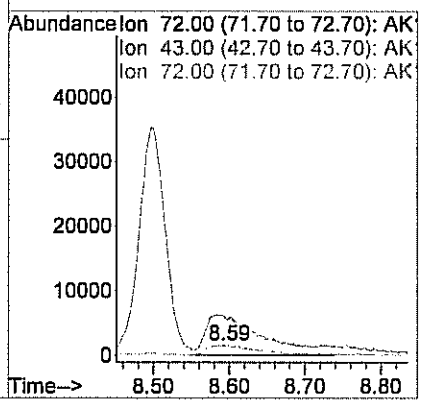


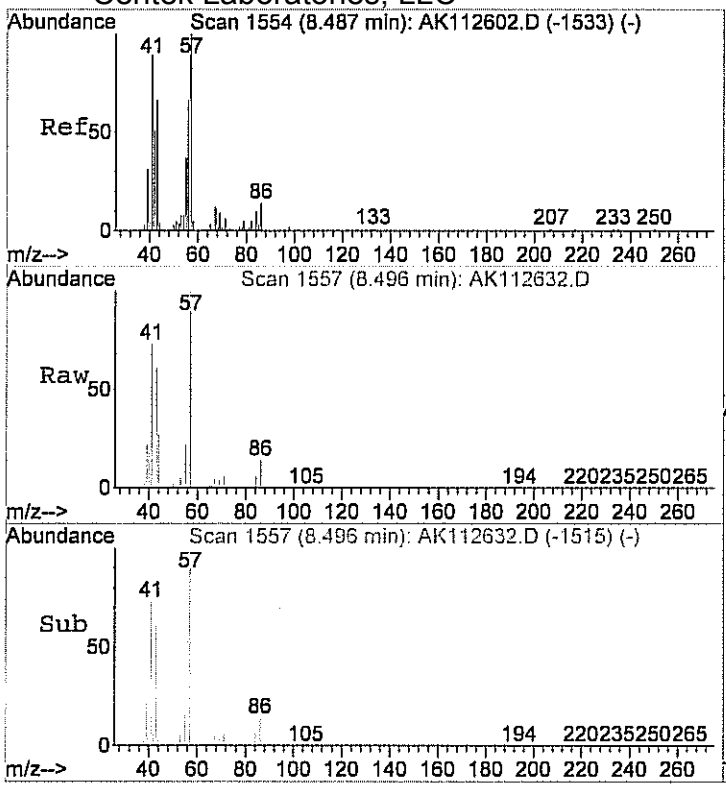


#27
Methyl Ethyl Ketone
Concen: 0.83 ppb
RT: 8.59 min Scan# 1589
Delta R.T. -0.04 min
Lab File: AK112632.D
Acq: 27 Nov 2013 5:24 am

Tgt Ion: 72 Resp: 7326

Ion	Ratio	Lower	Upper
72	100		
43	0.0	0.0	20.0
72	100.0	80.0	120.0

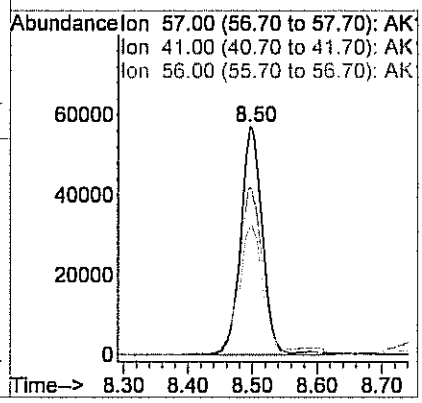


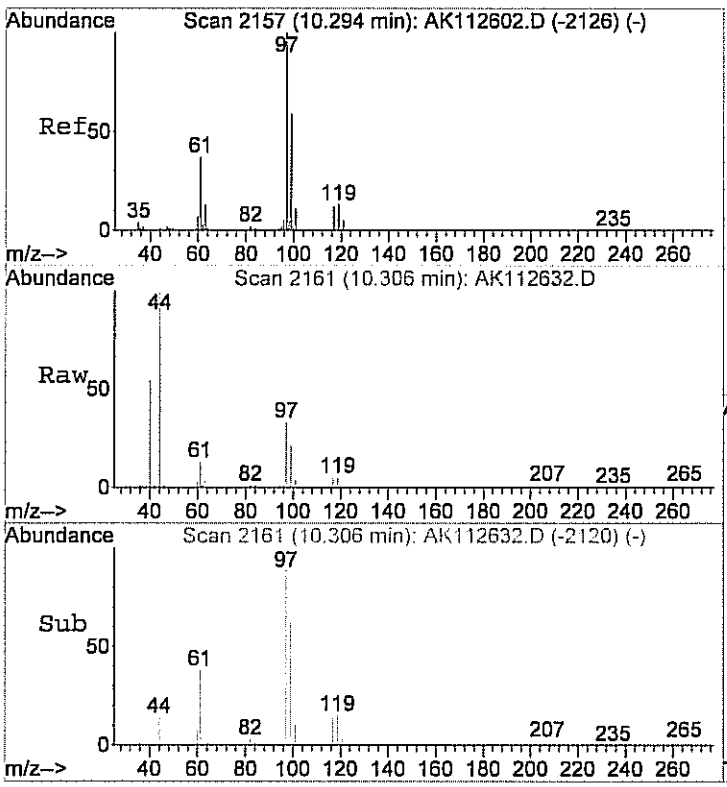


#29
Hexane
Concen: 4.88 ppb
RT: 8.50 min Scan# 1557
Delta R.T. -0.02 min
Lab File: AK112632.D
Acq: 27 Nov 2013 5:24 am

Tgt Ion: 57 Resp: 134992

Ion	Ratio	Lower	Upper
57	100		
41	77.0	68.6	108.6
56	61.1	43.7	83.7

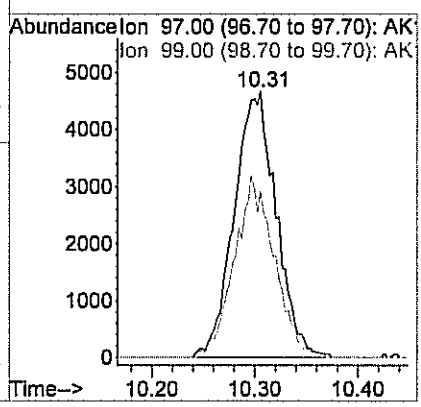


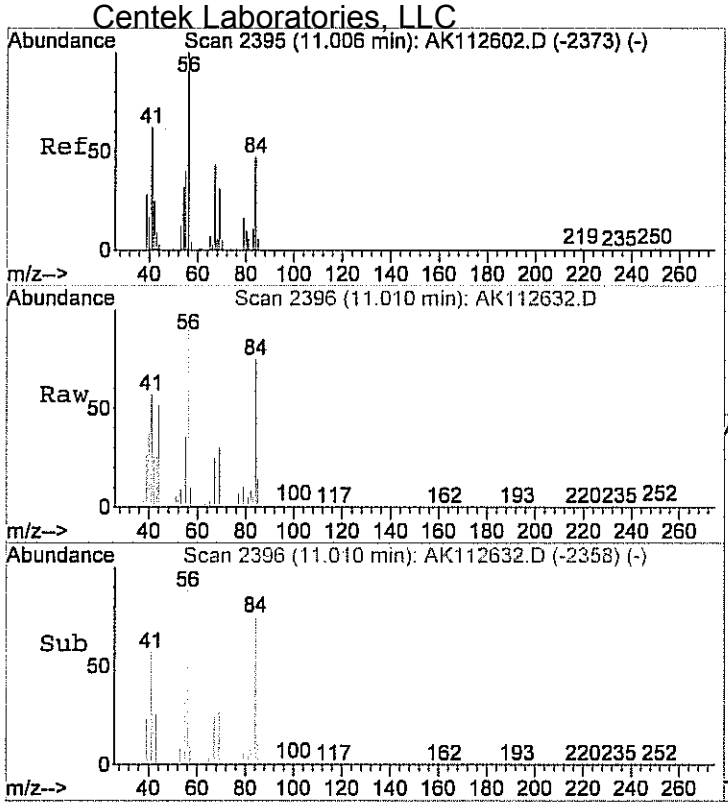


#35
1,1,1-trichloroethane
Concen: 0.25 ppb
RT: 10.31 min Scan# 2161
Delta R.T. -0.03 min
Lab File: AK112632.D
Acq: 27 Nov 2013 5:24 am

Tgt Ion: 97 Resp: 13166

Ion	Ratio	Lower	Upper
97	100		
99	64.4	45.3	85.3

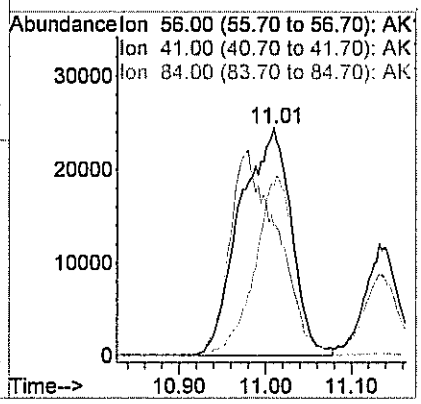


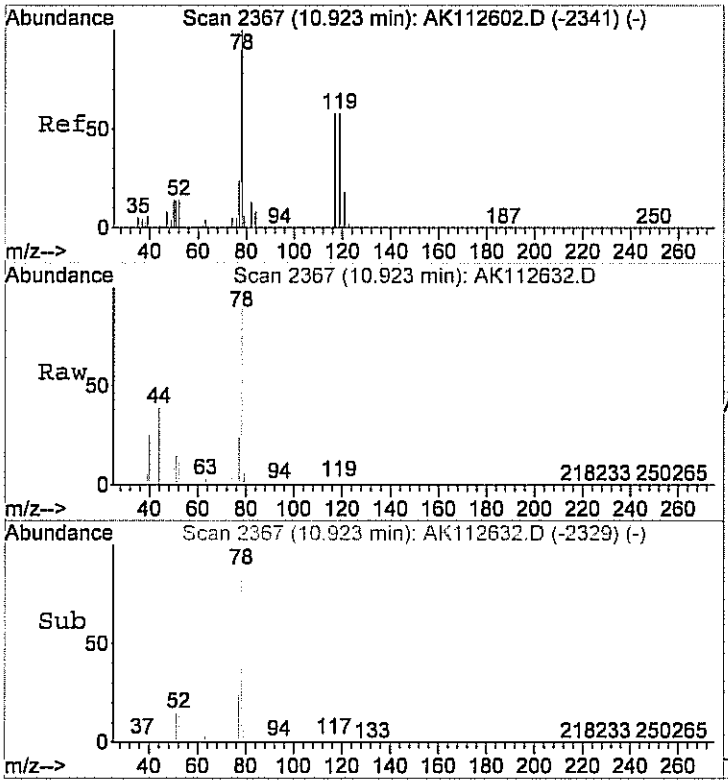


#36
Cyclohexane
Concen: 4.12 ppb m
RT: 11.01 min Scan# 2396
Delta R.T. -0.04 min
Lab File: AK112632.D
Acq: 27 Nov 2013 5:24 am

Tgt Ion: 56 Resp: 101025

Ion	Ratio	Lower	Upper
56	100		
41	104.6	38.1	78.1#
84	59.7	97.4	137.4#

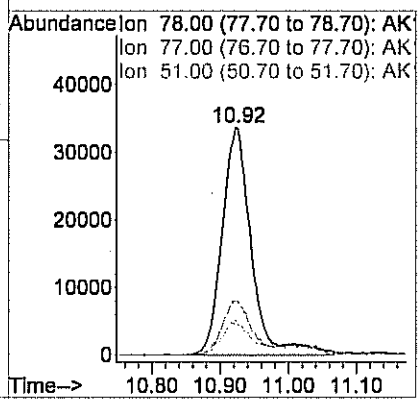


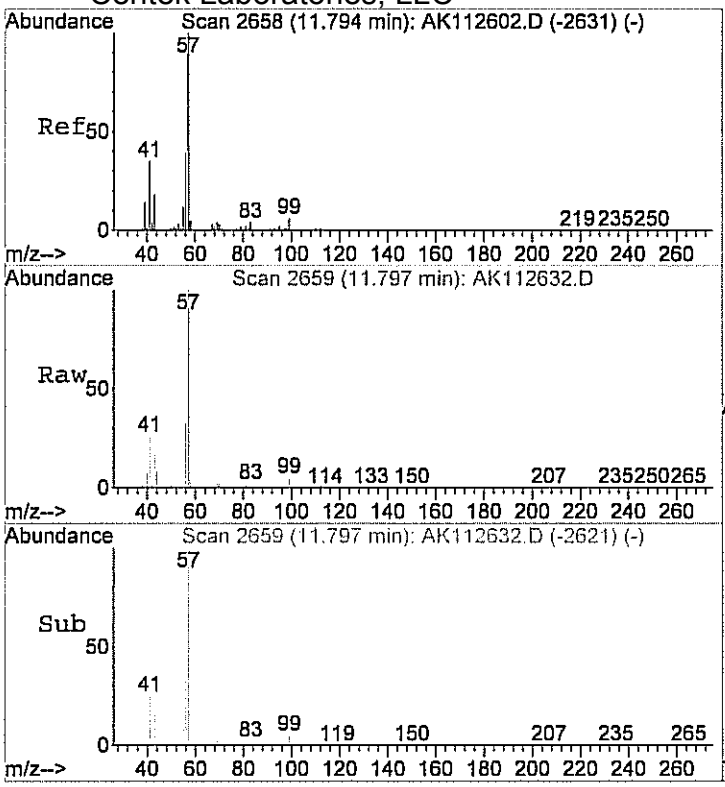


#38
Benzene
Concen: 1.44 ppb
RT: 10.92 min Scan# 2367
Delta R.T. -0.04 min
Lab File: AK112632.D
Acq: 27 Nov 2013 5:24 am

Tgt Ion: 78 Resp: 99920

Ion	Ratio	Lower	Upper
78	100		
77	29.6	6.7	46.7
51	20.6	0.0	37.6

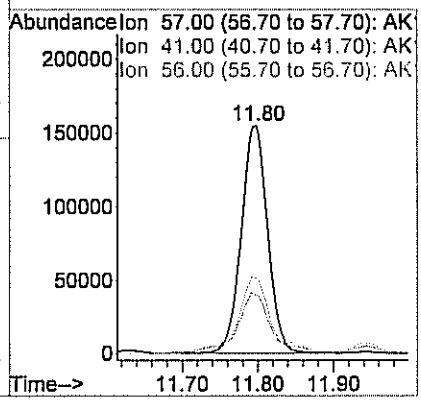


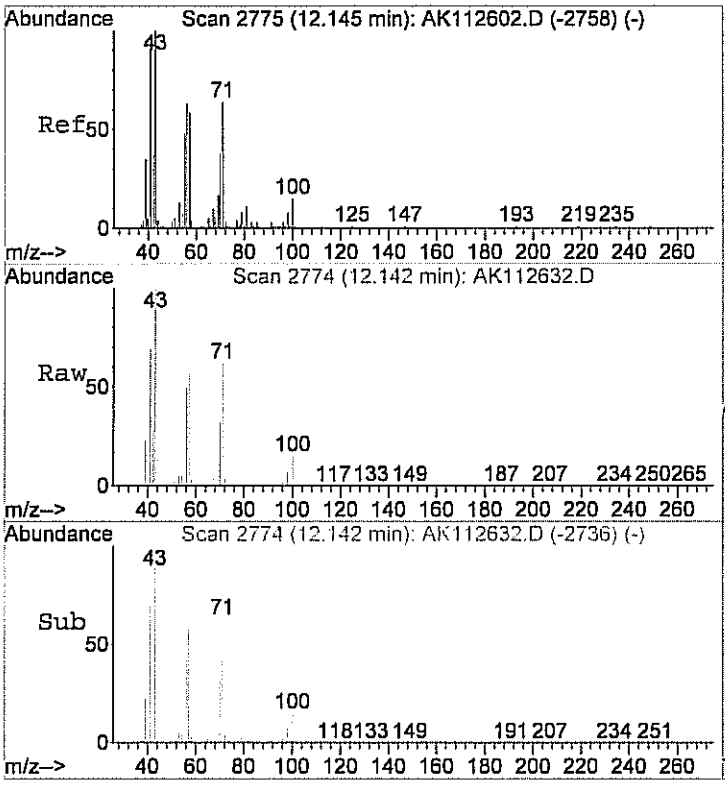


#41
2,2,4-trimethylpentane
Concen: 4.51 ppb
RT: 11.80 min Scan# 2659
Delta R.T. -0.04 min
Lab File: AK112632.D
Acq: 27 Nov 2013 5:24 am

Tgt Ion: 57 Resp: 376517

Ion	Ratio	Lower	Upper
57	100		
41	34.6	12.0	52.0
56	43.2	16.8	56.8

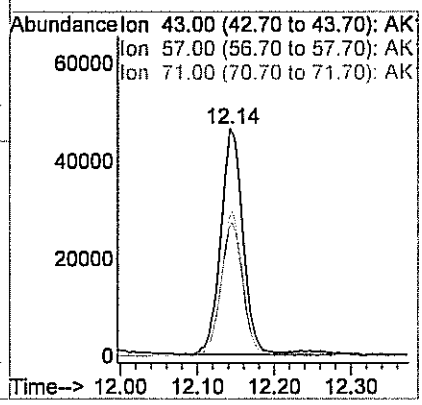


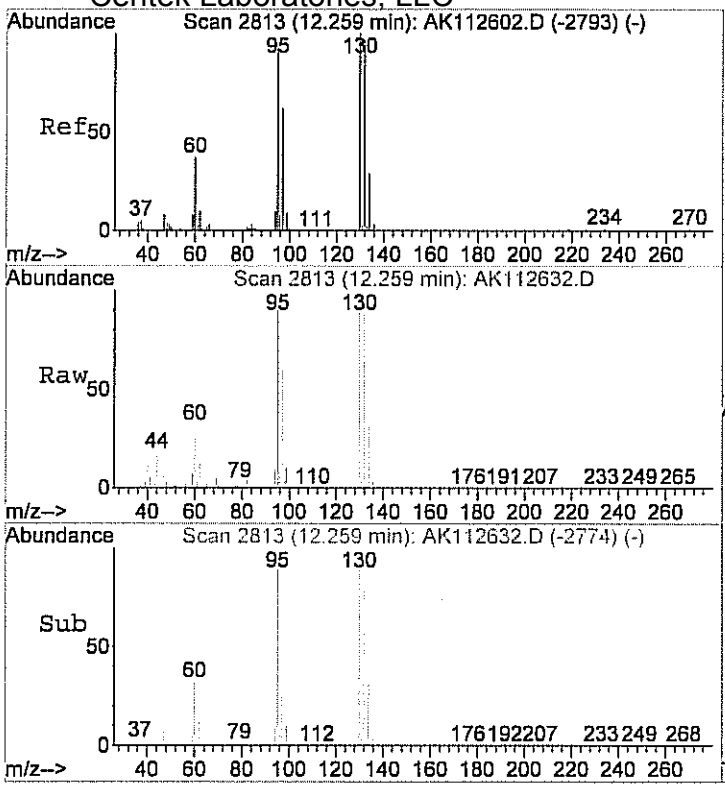


#42
Heptane
Concen: 3.74 ppb
RT: 12.14 min Scan# 2774
Delta R.T. -0.04 min
Lab File: AK112632.D
Acq: 27 Nov 2013 5:24 am

Tgt Ion: 43 Resp: 94731

Ion	Ratio	Lower	Upper
43	100		
57	60.2	40.9	80.9
71	61.6	41.8	81.8

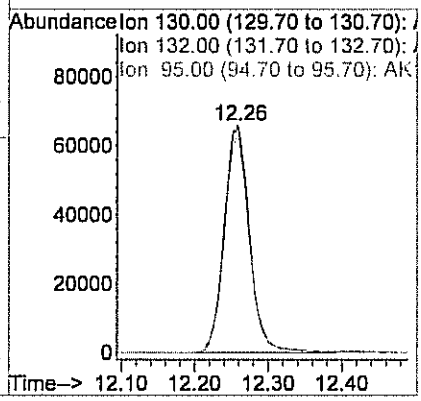


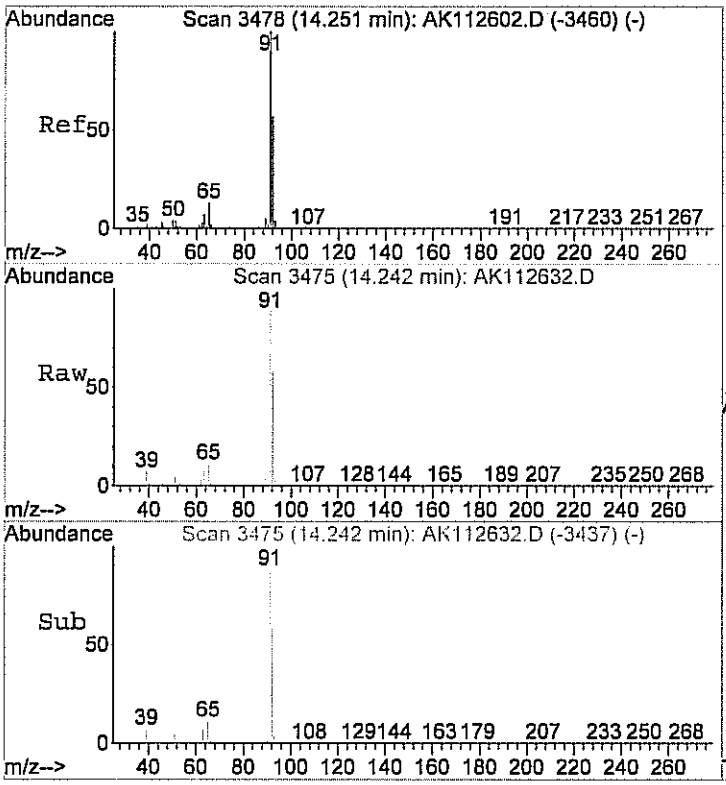


#43
Trichloroethene
Concen: 4.90 ppb
RT: 12.26 min Scan# 2813
Delta R.T. -0.03 min
Lab File: AK112632.D
Acq: 27 Nov 2013 5:24 am

Tgt Ion:130 Resp: 158707

Ion	Ratio	Lower	Upper
130	100		
132	95.6	77.0	117.0
95	95.7	76.9	116.9

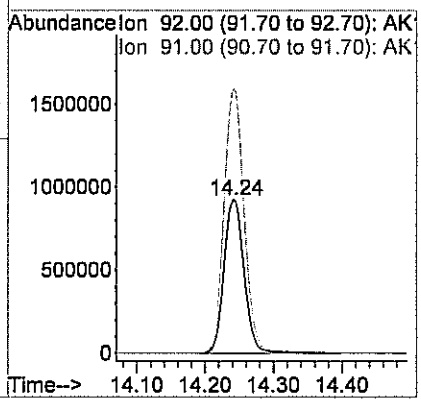


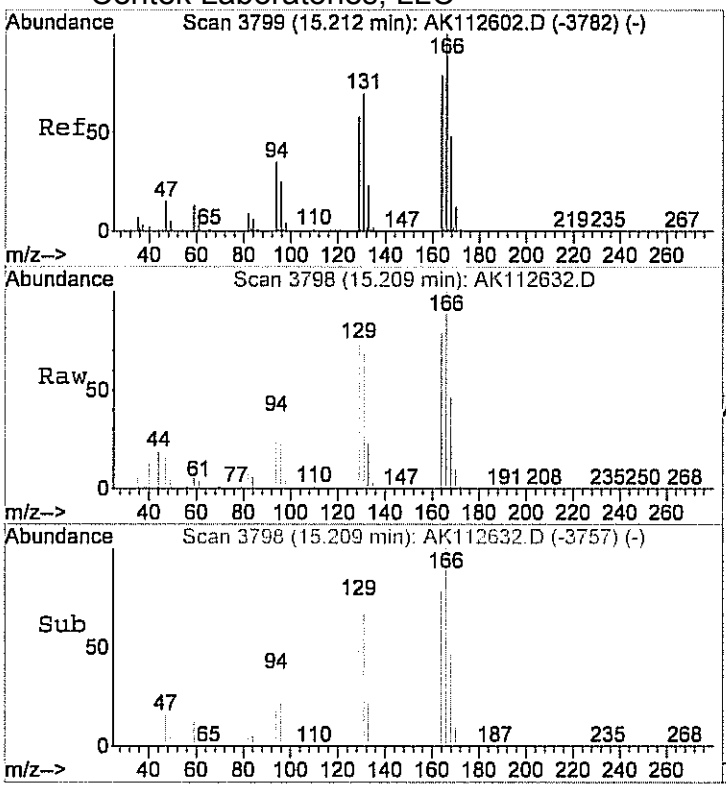


#50
Toluene
Concen: 40.65 ppb
RT: 14.24 min Scan# 3475
Delta R.T. -0.04 min
Lab File: AK112632.D
Acq: 27 Nov 2013 5:24 am

Tgt Ion: 92 Resp: 1891985

Ion	Ratio	Lower	Upper
92	100		
91	172.0	156.6	196.6

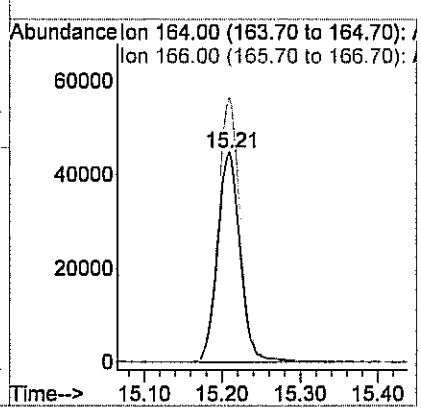


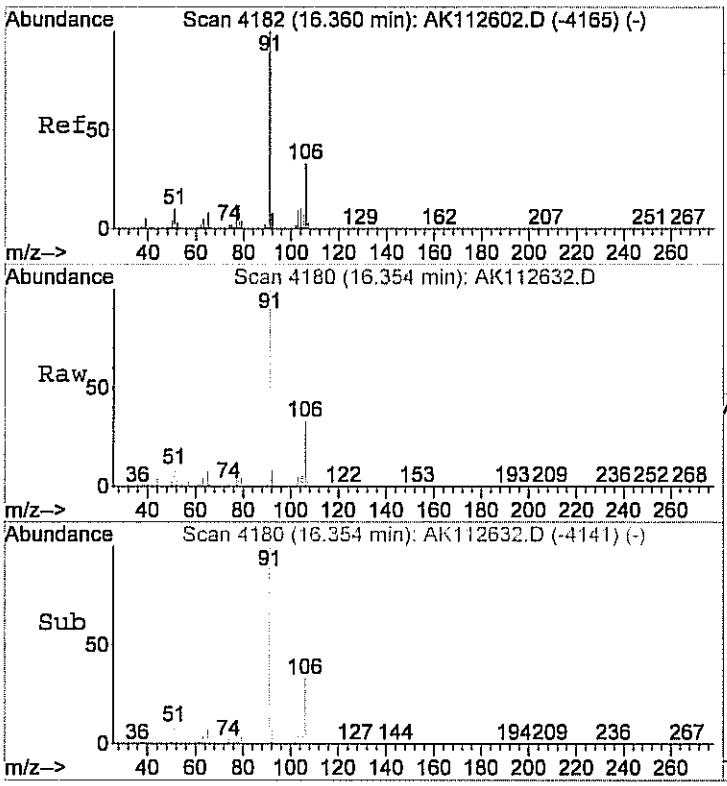


#55
Tetrachloroethylene
Concen: 1.86 ppb
RT: 15.21 min Scan# 3798
Delta R.T. -0.03 min
Lab File: AK112632.D
Acq: 27 Nov 2013 5:24 am

Tgt Ion:164 Resp: 89647

Ion	Ratio	Lower	Upper
164	100		
166	125.1	108.8	148.8

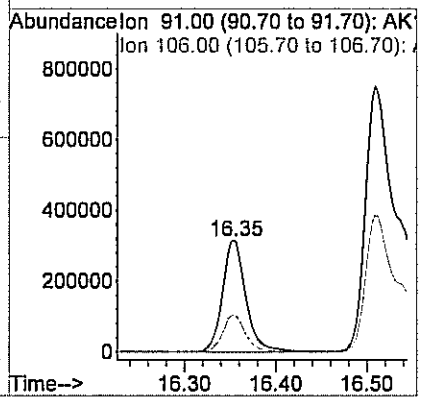


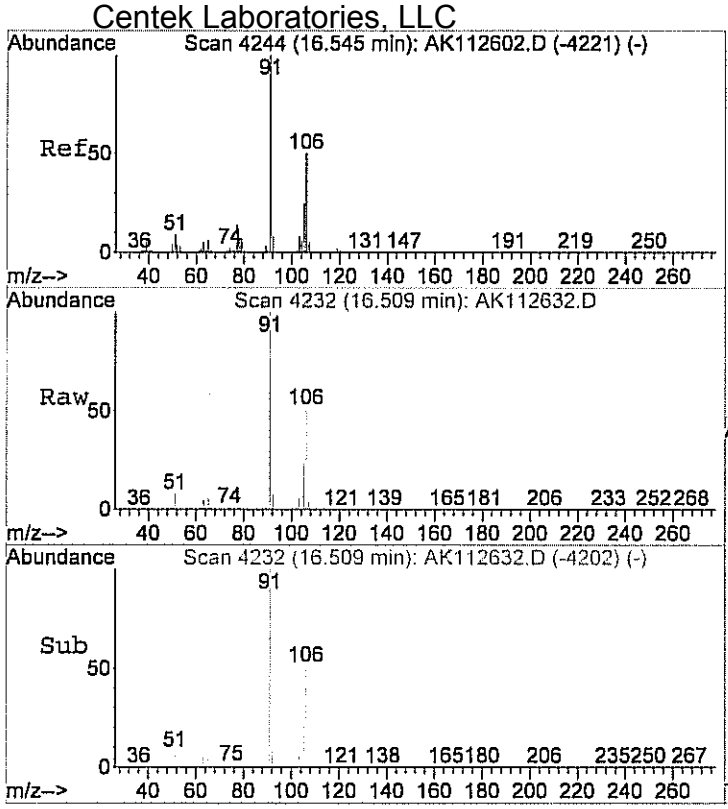


#57
Ethylbenzene
Concen: 6.46 ppb
RT: 16.35 min Scan# 4180
Delta R.T. -0.03 min
Lab File: AK112632.D
Acq: 27 Nov 2013 5:24 am

Tgt Ion: 91 Resp: 561260

Ion	Ratio	Lower	Upper
91	100		
106	32.9	12.8	52.8

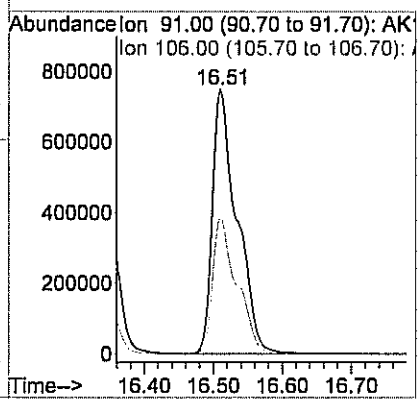


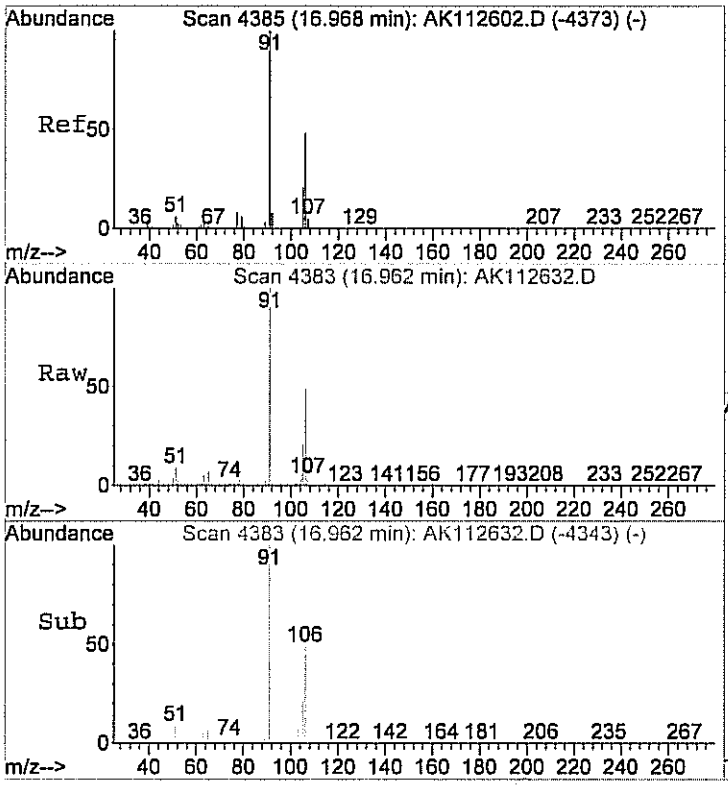


#58
m&p-xylene
Concen: 24.61 ppb
RT: 16.51 min Scan# 4232
Delta R.T. -0.06 min
Lab File: AK112632.D
Acq: 27 Nov 2013 5:24 am

Tgt Ion: 91 Resp: 1852337

Ion	Ratio	Lower	Upper
91	100		
106	51.6	31.3	71.3

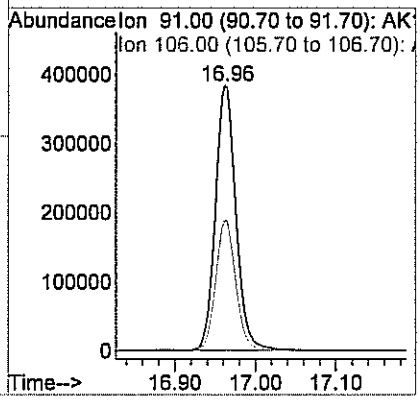


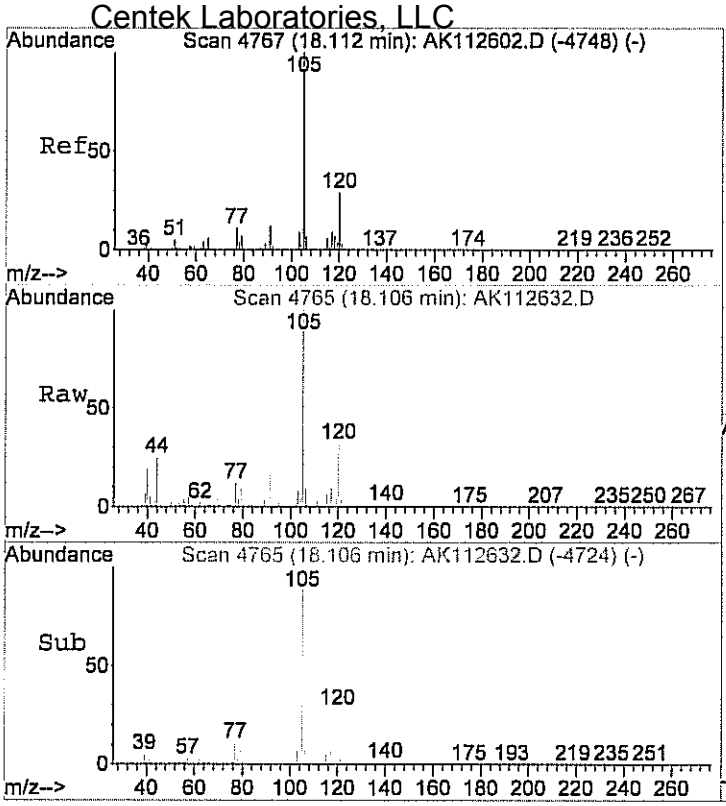


#61
o-xylene
Concen: 6.00 ppb
RT: 16.96 min Scan# 4383
Delta R.T. -0.03 min
Lab File: AK112632.D
Acq: 27 Nov 2013 5:24 am

Tgt Ion: 91 Resp: 676769

Ion	Ratio	Lower	Upper
91	100		
106	48.8	22.3	62.3

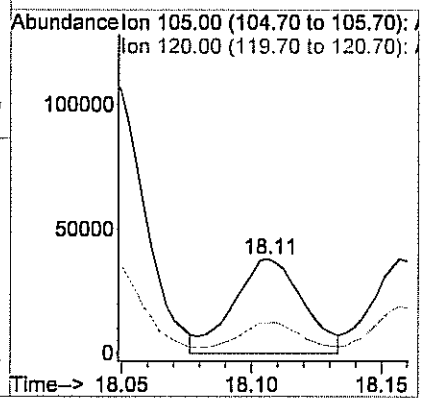


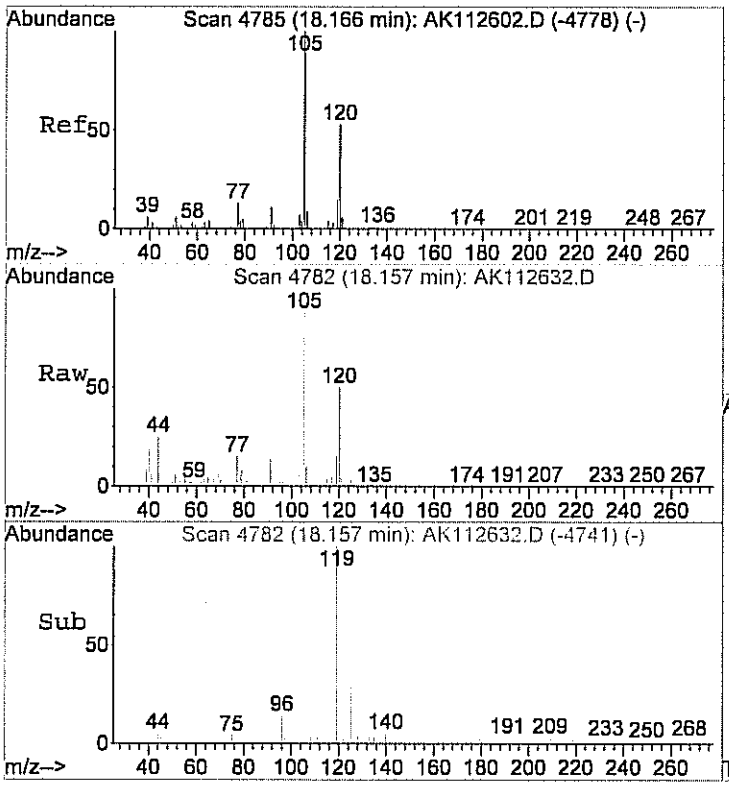


#65
4-ethyltoluene
Concen: 0.74 ppb m
RT: 18.11 min Scan# 4765
Delta R.T. -0.03 min
Lab File: AK112632.D
Acq: 27 Nov 2013 5:24 am

Tgt Ion:105 Resp: 70490

Ion	Ratio	Lower	Upper
105	100		
120	44.4	35.6	75.6

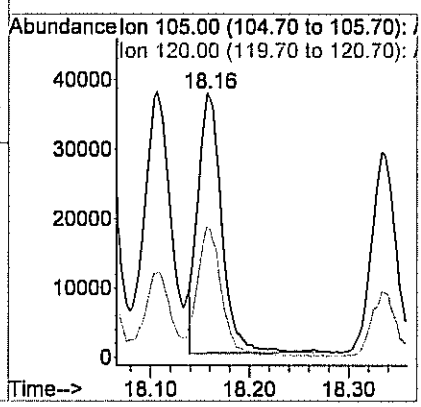


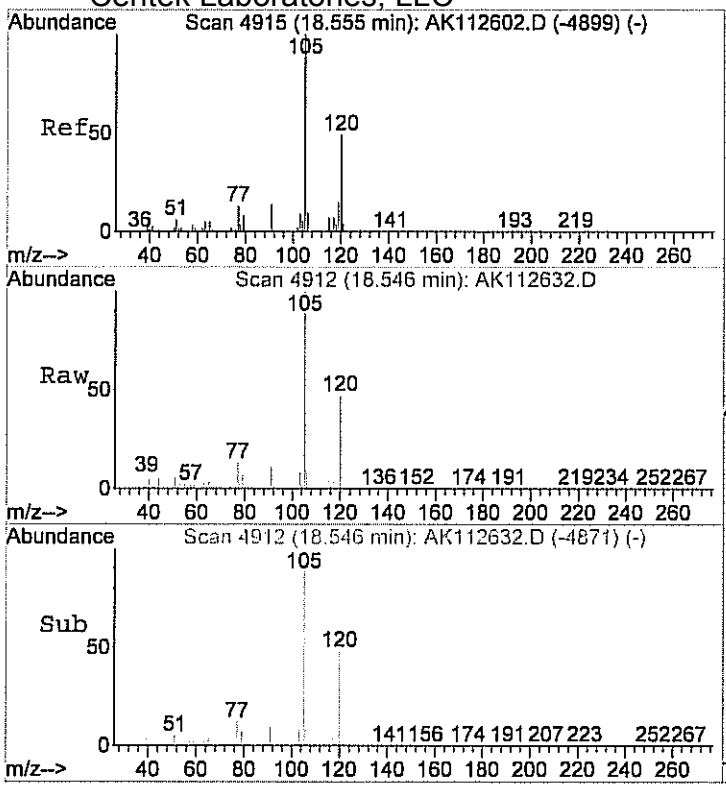


#66
1,3,5-trimethylbenzene
Concen: 0.57 ppb
RT: 18.16 min Scan# 4782
Delta R.T. -0.03 min
Lab File: AK112632.D
Acq: 27 Nov 2013 5:24 am

Tgt Ion:105 Resp: 63356

Ion	Ratio	Lower	Upper
105	100		
120	51.1	26.4	66.4

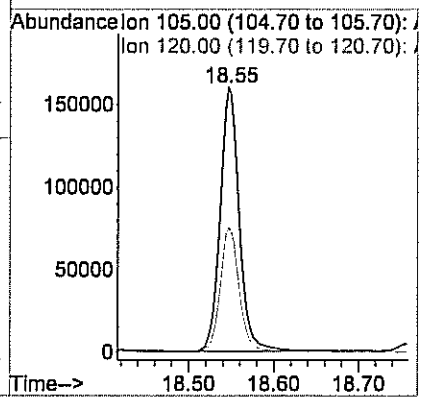




#67
1,2,4-trimethylbenzene
Concen: 3.28 ppb
RT: 18.55 min Scan# 4912
Delta R.T. -0.03 min
Lab File: AK112632.D
Acq: 27 Nov 2013 5:24 am

Tgt Ion:105 Resp: 248999

Ion	Ratio	Lower	Upper
105	100		
120	47.1	26.8	66.8



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK112727.D Vial: 27
Acq On : 28 Nov 2013 1:35 am Operator: RJP
Sample : C1311058-005A 10X Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 29 10:56:18 2013 Quant Results File: AO15_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Oct 15 18:12:29 2013
Response via : Initial Calibration
DataAcq Meth : 1UG_T015

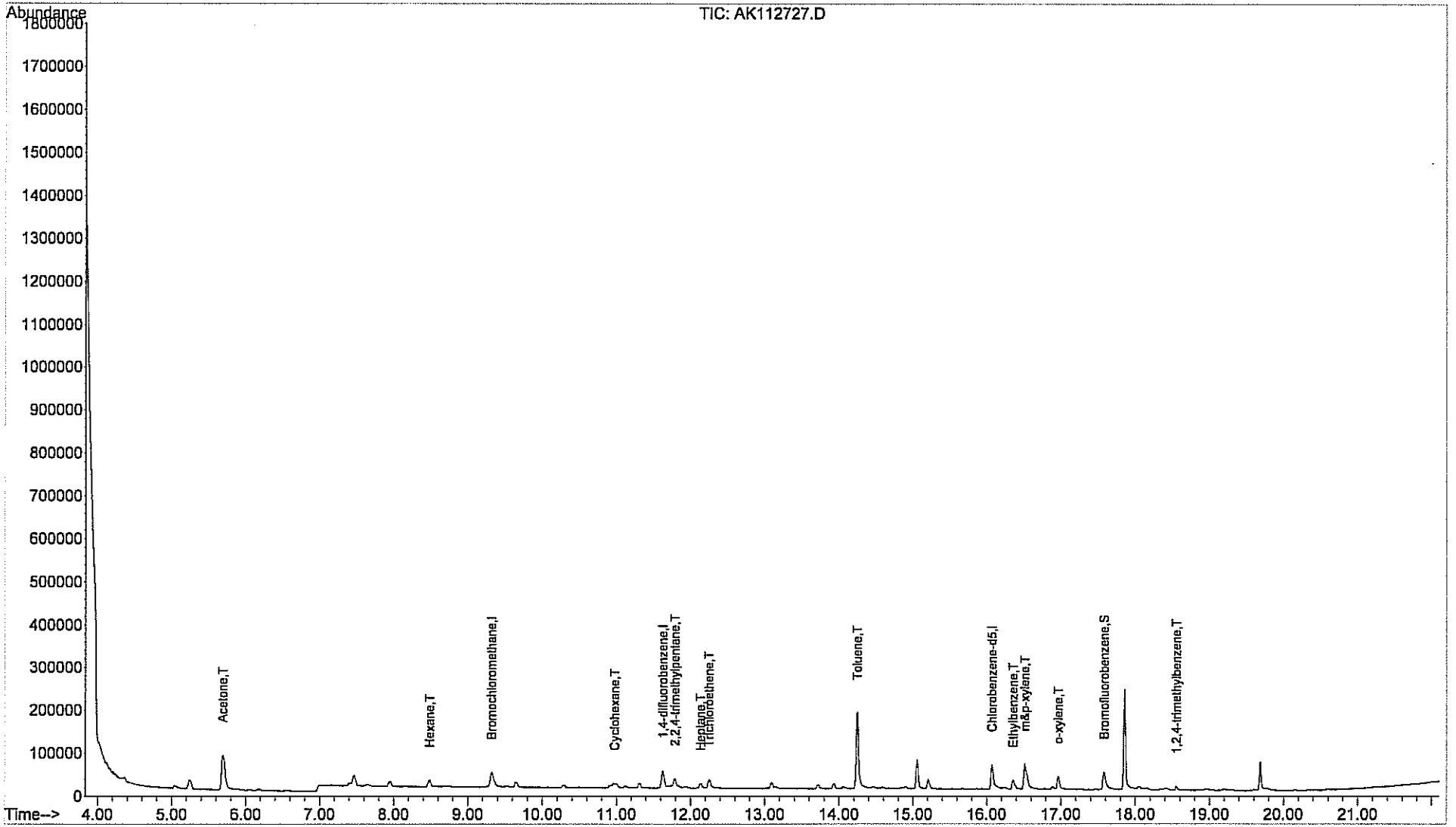
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.32	128	19573	1.00	ppb	-0.04
34) 1,4-difluorobenzene	11.63	114	47462	1.00	ppb	-0.04
49) Chlorobenzene-d5	16.07	117	50677	1.00	ppb	-0.03
System Monitoring Compounds						
62) Bromofluorobenzene	17.58	95	23288	0.78	ppb	-0.03
Spiked Amount 1.000	Range 70 - 130		Recovery = 78.00%			
Target Compounds						Qvalue
15) Acetone	5.69	58	38910	7.20	ppb	# 17
29) Hexane	8.48	57	6438	0.28	ppb	# 70
36) Cyclohexane	10.99	56	5196	0.29	ppb	# 41
41) 2,2,4-trimethylpentane	11.79	57	18273	0.30	ppb	72
42) Heptane	12.14	43	4254	0.23	ppb	88
43) Trichloroethene	12.25	130	9144	0.39	ppb	97
50) Toluene	14.24	92	94077	3.31	ppb	99
57) Ethylbenzene	16.36	91	18823	0.35	ppb	99
58) m&p-xylene	16.52	91	60798	1.32	ppb	100
61) o-xylene	16.97	91	20117	0.29	ppb	84
67) 1,2,4-trimethylbenzene	18.55	105	7791m	0.17	ppb	

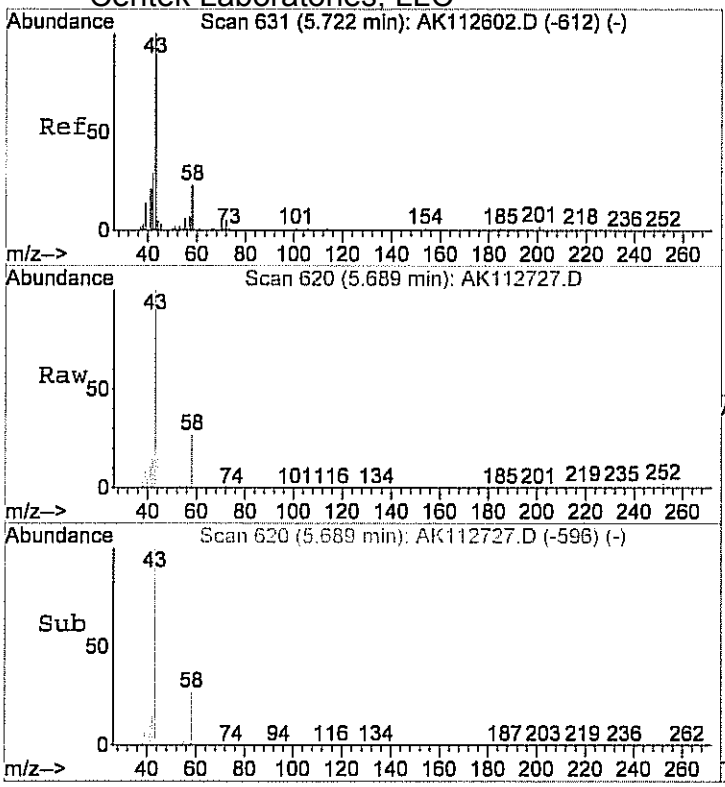
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK112727.D Vial: 27
Acq On : 28 Nov 2013 1:35 am Operator: RJP
Sample : C1311058-005A 10X Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Dec 2 8:24 2013 Quant Results File: AO15_1UG.RES

Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Wed Dec 11 12:48:42 2013
Response via : Initial Calibration

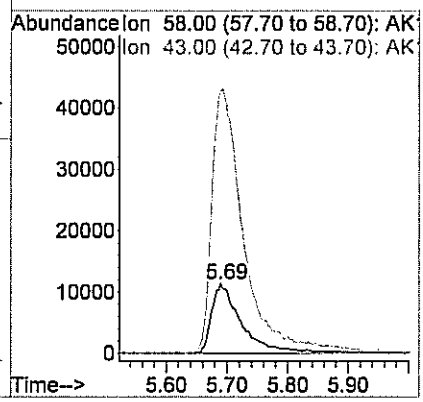


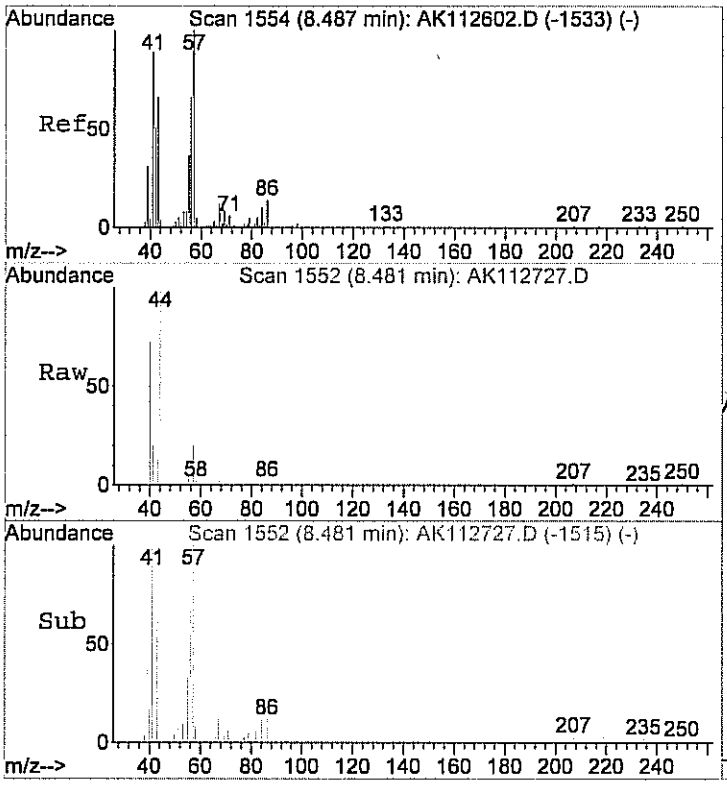


#15
Acetone
Concen: 7.20 ppb
RT: 5.69 min Scan# 620
Delta R.T. -0.08 min
Lab File: AK112727.D
Acq: 28 Nov 2013 1:35 am

Tgt Ion: 58 Resp: 38910

Ion	Ratio	Lower	Upper
58	100		
43	397.8	650.3	710.3#

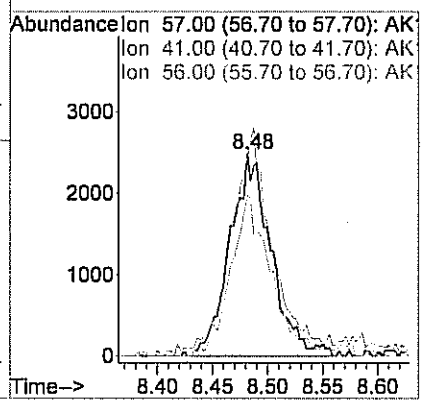


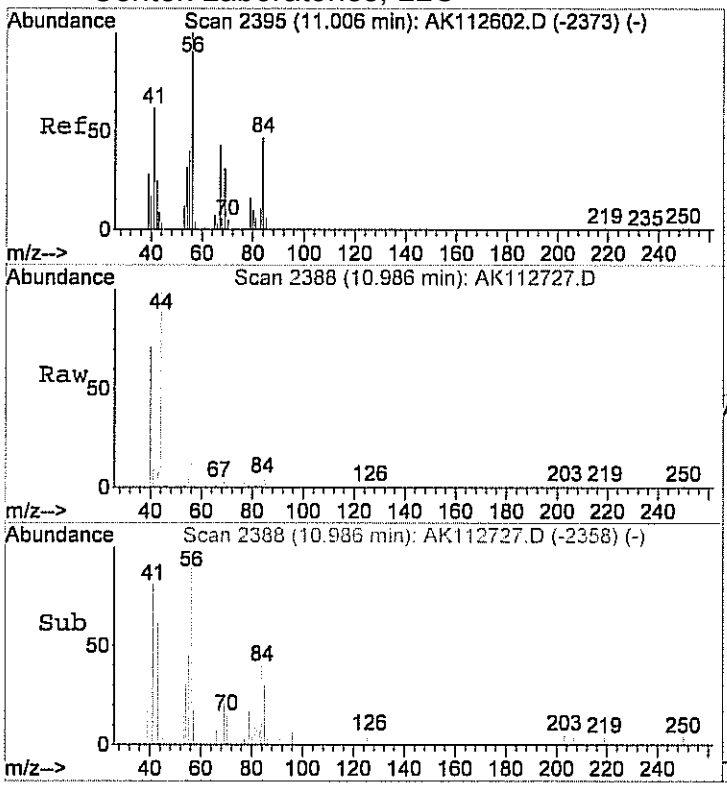


#29
Hexane
Concen: 0.28 ppb
RT: 8.48 min Scan# 1552
Delta R.T. -0.04 min
Lab File: AK112727.D
Acq: 28 Nov 2013 1:35 am

Tgt Ion: 57 Resp: 6438

Ion	Ratio	Lower	Upper
57	100		
41	122.5	68.6	108.6#
56	79.5	43.7	83.7

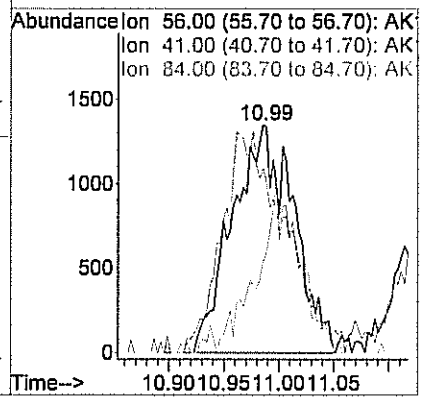


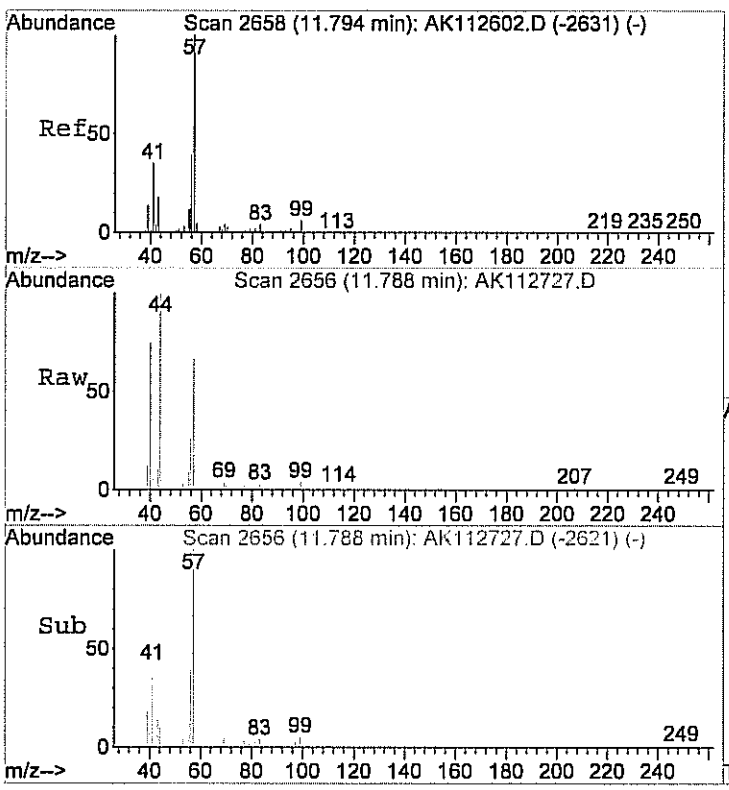


#36
Cyclohexane
Concen: 0.29 ppb
RT: 10.99 min Scan# 2388
Delta R.T. -0.06 min
Lab File: AK112727.D
Acq: 28 Nov 2013 1:35 am

Tgt Ion: 56 Resp: 5196

Ion	Ratio	Lower	Upper
56	100		
41	100.8	38.1	78.1#
84	51.0	97.4	137.4#

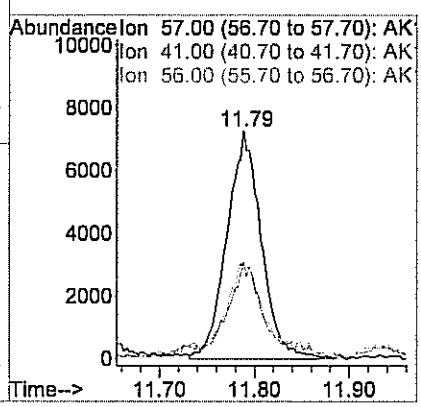


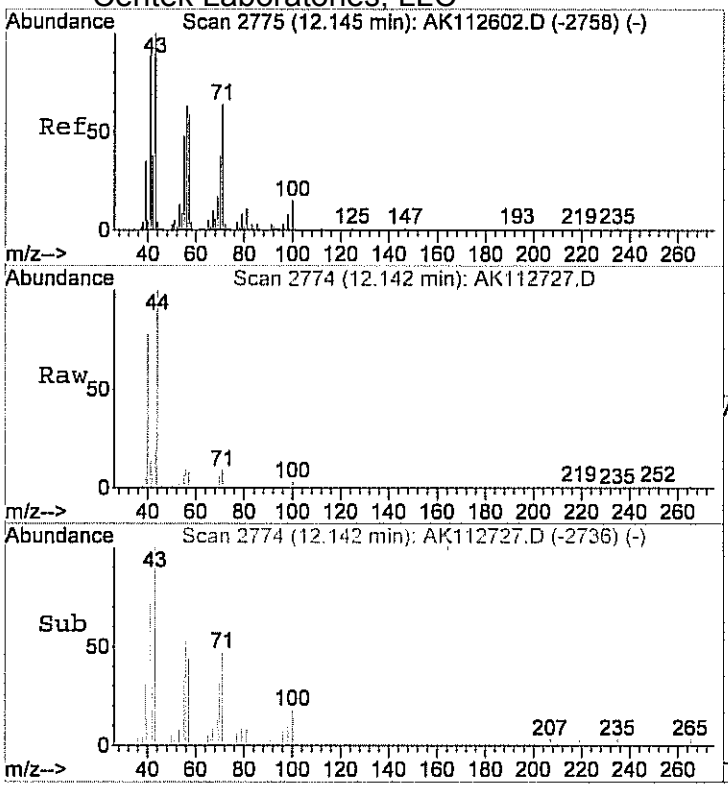


#41
2,2,4-trimethylpentane
Concen: 0.30 ppb
RT: 11.79 min Scan# 2656
Delta R.T. -0.05 min
Lab File: AK112727.D
Acq: 28 Nov 2013 1:35 am

Tgt Ion: 57 Resp: 18273

Ion	Ratio	Lower	Upper
57	100		
41	48.7	12.0	52.0
56	53.0	16.8	56.8

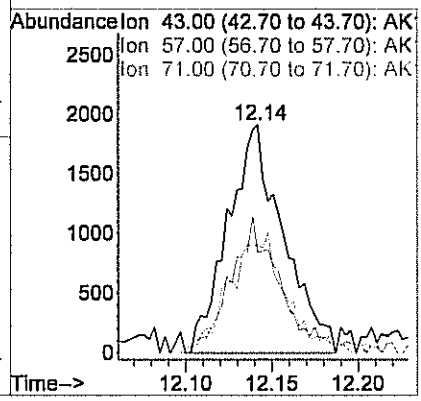


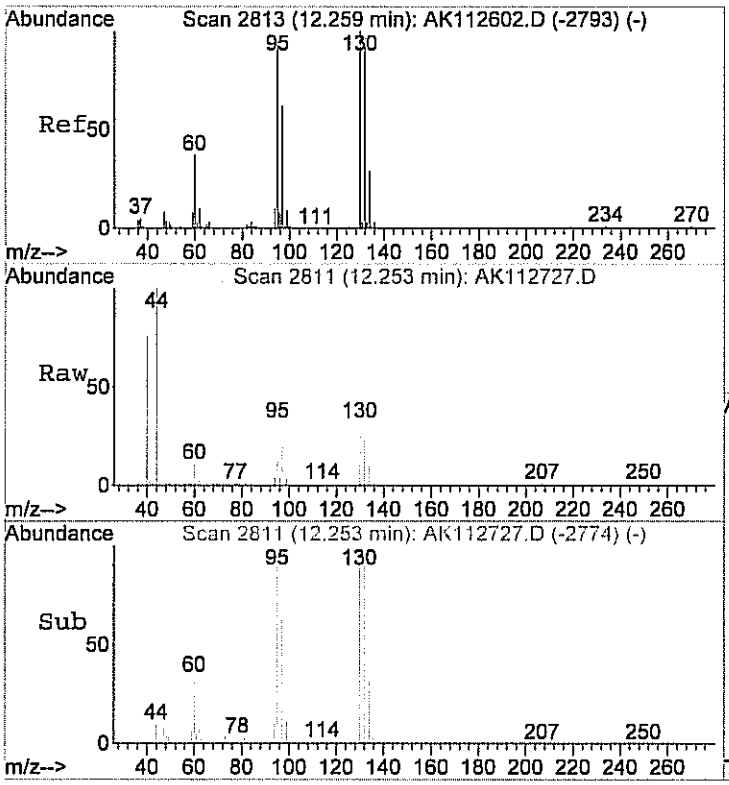


#42
Heptane
Concen: 0.23 ppb
RT: 12.14 min Scan# 2774
Delta R.T. -0.04 min
Lab File: AK112727.D
Acq: 28 Nov 2013 1:35 am

Tgt Ion: 43 Resp: 4254

Ion	Ratio	Lower	Upper
43	100		
57	52.1	40.9	80.9
71	52.8	41.8	81.8

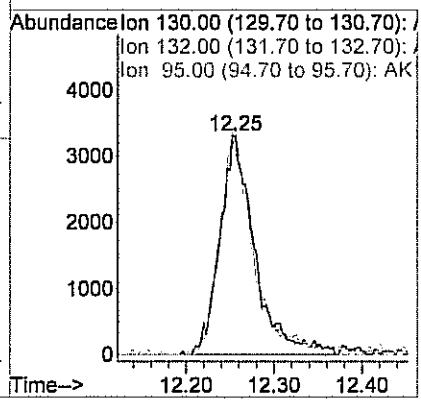


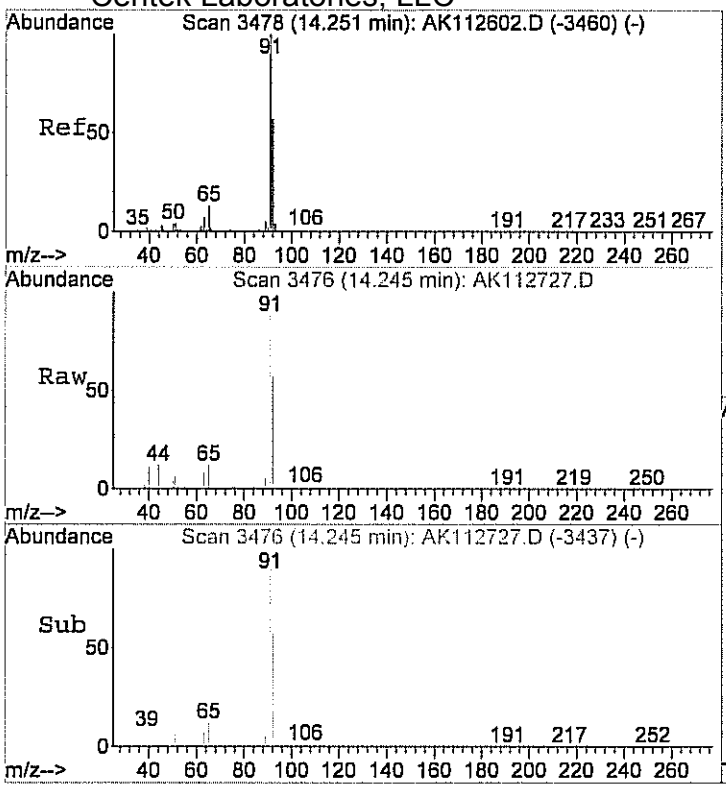


#43
Trichloroethene
Concen: 0.39 ppb
RT: 12.25 min Scan# 2811
Delta R.T. -0.04 min
Lab File: AK112727.D
Acq: 28 Nov 2013 1:35 am

Tgt Ion:130 Resp: 9144

Ion	Ratio	Lower	Upper
130	100		
132	98.6	77.0	117.0
95	100.9	76.9	116.9

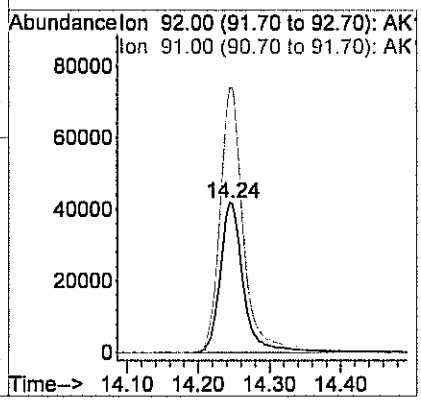


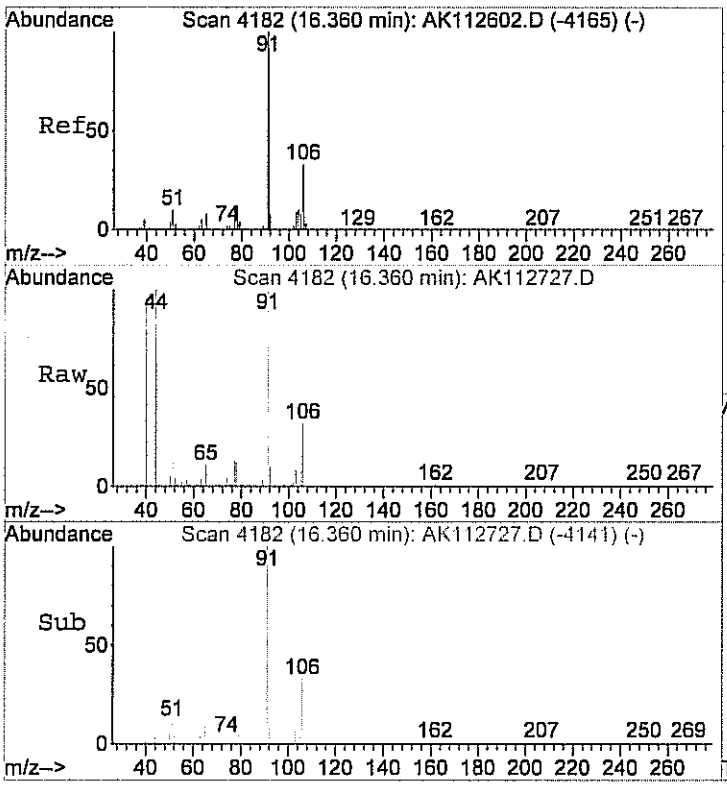


#50
Toluene
Concen: 3.31 ppb
RT: 14.24 min Scan# 3476
Delta R.T. -0.03 min
Lab File: AK112727.D
Acq: 28 Nov 2013 1:35 am

Tgt Ion: 92 Resp: 94077

Ion	Ratio	Lower	Upper
92	100		
91	178.2	156.6	196.6

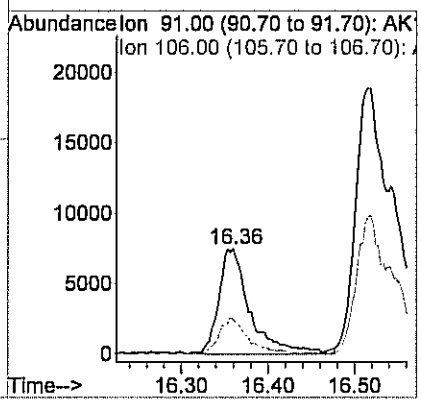


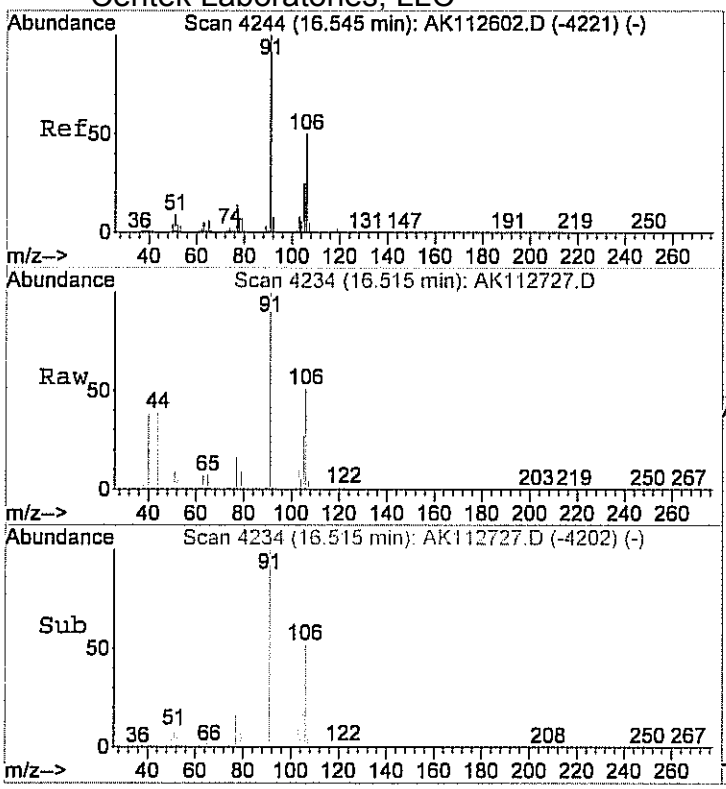


#57
Ethylbenzene
Concen: 0.35 ppb
RT: 16.36 min Scan# 4182
Delta R.T. -0.03 min
Lab File: AK112727.D
Acq: 28 Nov 2013 1:35 am

Tgt Ion: 91 Resp: 18823

Ion	Ratio	Lower	Upper
91	100		
106	32.4	12.8	52.8

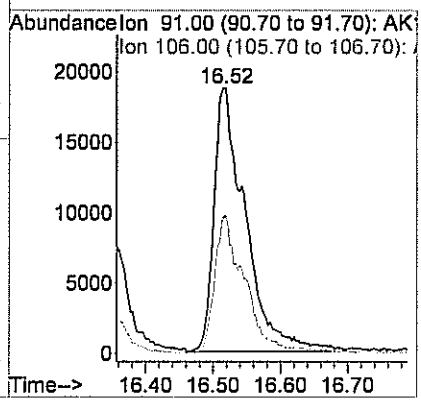


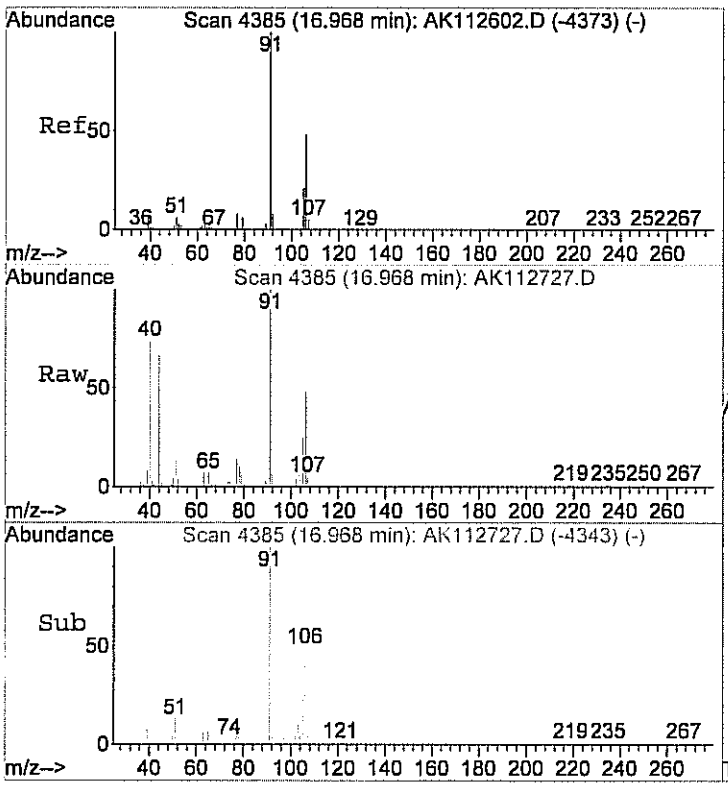


#58
m&p-xylene
Concen: 1.32 ppb
RT: 16.52 min Scan# 4234
Delta R.T. -0.05 min
Lab File: AK112727.D
Acq: 28 Nov 2013 1:35 am

Tgt Ion: 91 Resp: 60798

Ion	Ratio	Lower	Upper
91	100		
106	51.3	31.3	71.3

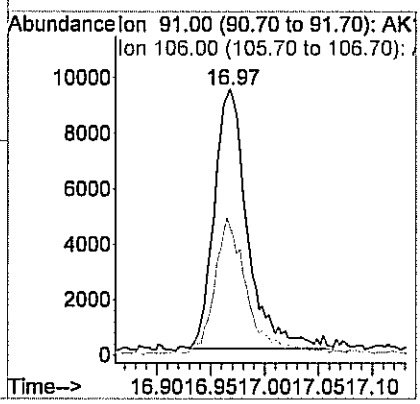


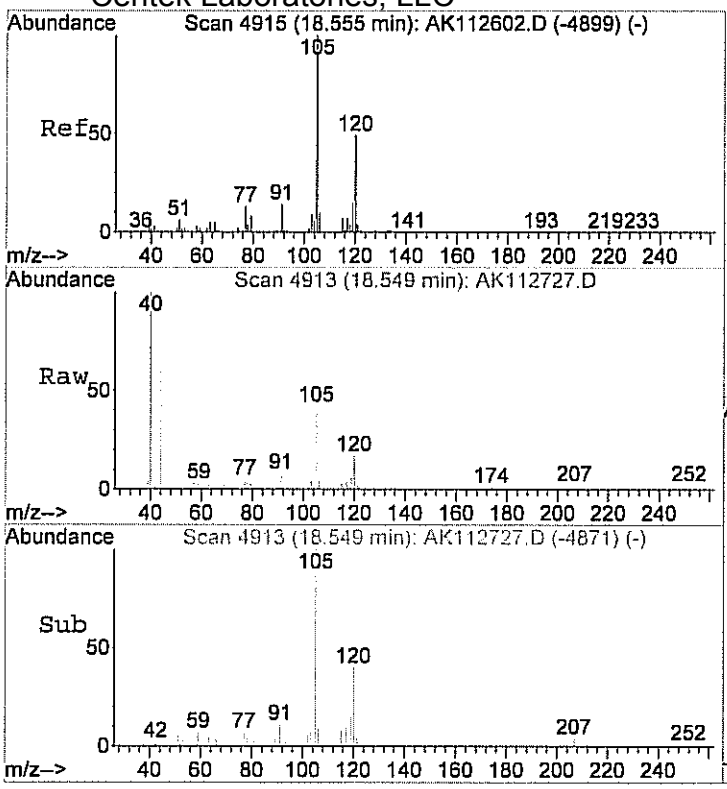


#61
o-xylene
Concen: 0.29 ppb
RT: 16.97 min Scan# 4385
Delta R.T. -0.02 min
Lab File: AK112727.D
Acq: 28 Nov 2013 1:35 am

Tgt Ion: 91 Resp: 20117

Ion	Ratio	Lower	Upper
91	100		
106	52.3	22.3	62.3

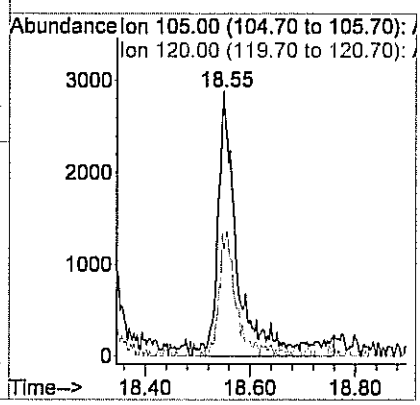




#67
1,2,4-trimethylbenzene
Concen: 0.17 ppb m
RT: 18.55 min Scan# 4913
Delta R.T. -0.02 min
Lab File: AK112727.D
Acq: 28 Nov 2013 1:35 am

Tgt Ion:105 Resp: 7791

Ion	Ratio	Lower	Upper
105	100		
120	37.4	26.8	66.8



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK112728.D Vial: 28
Acq On : 28 Nov 2013 2:09 am Operator: RJP
Sample : C1311058-005A 40X Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 29 10:56:19 2013 Quant Results File: AO15_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Oct 15 18:12:29 2013
Response via : Initial Calibration
DataAcq Meth : 1UG_T015

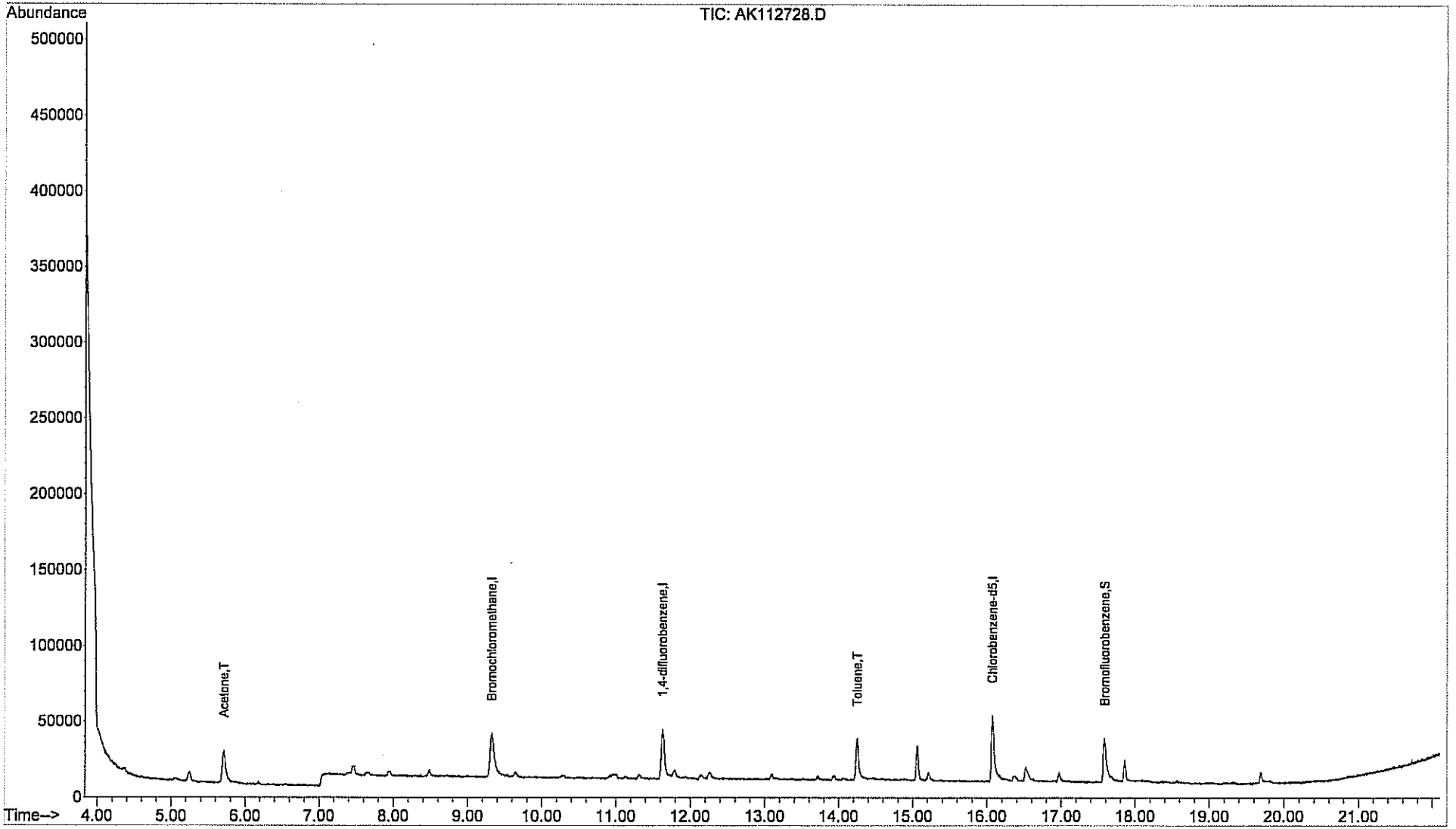
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.33	128	18227	1.00	ppb	-0.04
34) 1,4-difluorobenzene	11.63	114	42644	1.00	ppb	-0.04
49) Chlorobenzene-d5	16.07	117	41566	1.00	ppb	-0.02
System Monitoring Compounds						
62) Bromofluorobenzene	17.58	95	19553m	0.80	ppb	-0.02
Spiked Amount 1.000	Range 70 - 130		Recovery = 80.00%			
Target Compounds						Qvalue
15) Acetone	5.72	58	10083	2.00	ppb	# 17
50) Toluene	14.25	92	16135	0.69	ppb	97

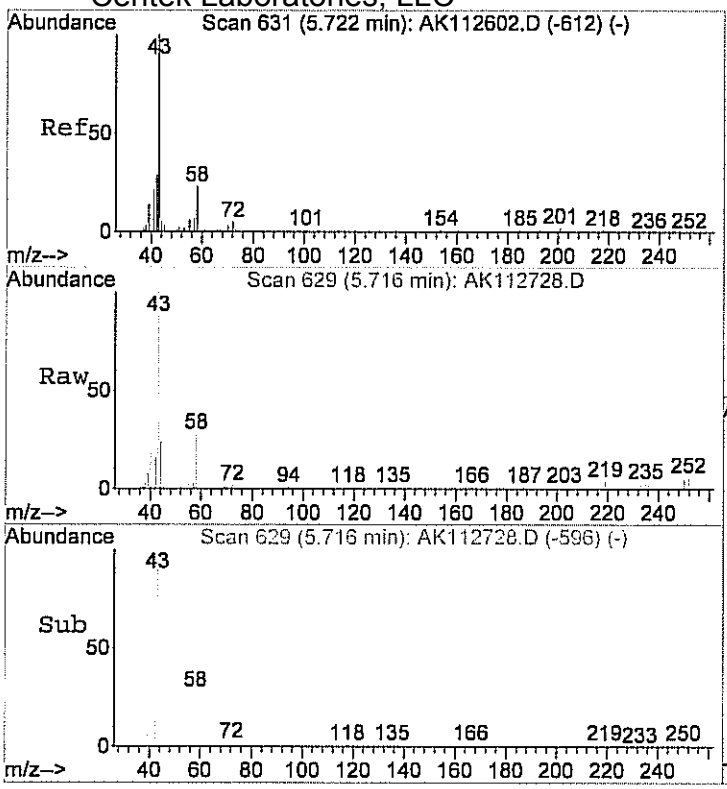
(#) = qualifier out of range (m) = manual integration (+) = signals summed
AK112728.D AO15_1UG.M Wed Dec 11 12:53:48 2013 MSD1 Page 1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK112728.D Vial: 28
Acq On : 28 Nov 2013 2:09 am Operator: RJP
Sample : C1311058-005A 40X Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Dec 2 8:25 2013 Quant Results File: AO15_1UG.RES

Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Wed Dec 11 12:48:42 2013
Response via : Initial Calibration

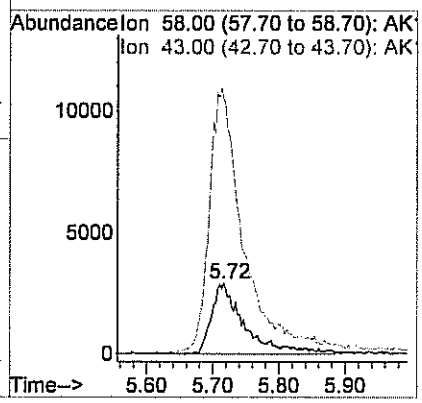


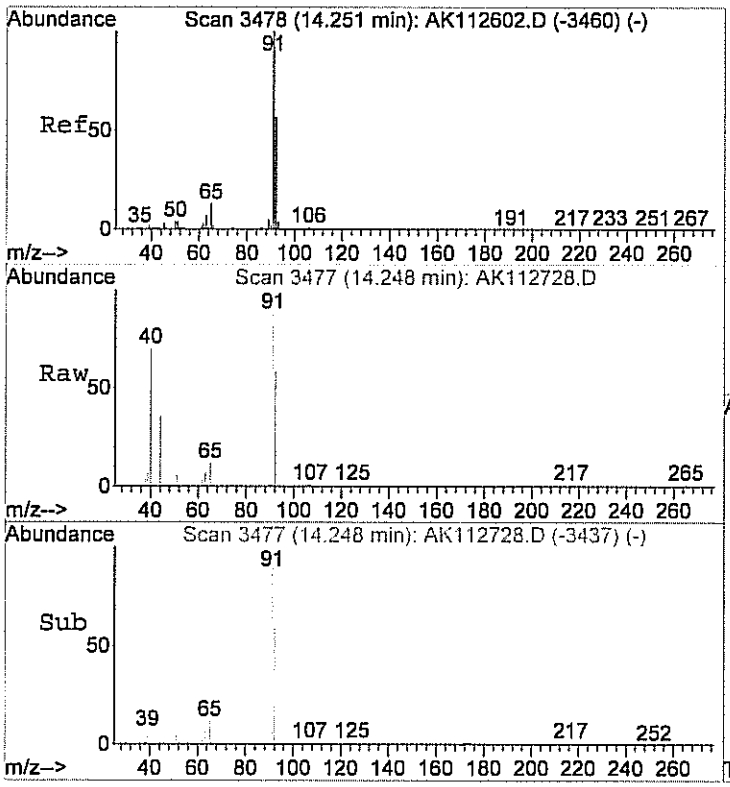


#15
Acetone
Concen: 2.00 ppb
RT: 5.72 min Scan# 629
Delta R.T. -0.05 min
Lab File: AK112728.D
Acq: 28 Nov 2013 2:09 am

Tgt Ion: 58 Resp: 10083

Ion	Ratio	Lower	Upper
58	100		
43	396.2	650.3	710.3#

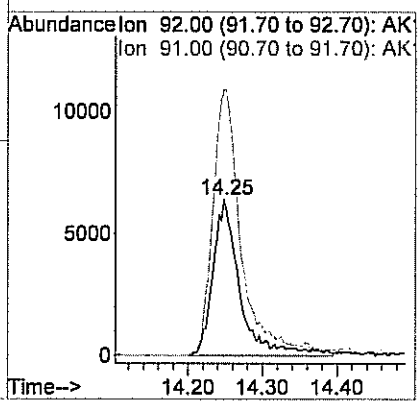




#50
Toluene
Concen: 0.69 ppb
RT: 14.25 min Scan# 3477
Delta R.T. -0.03 min
Lab File: AK112728.D
Acq: 28 Nov 2013 2:09 am

Tgt Ion: 92 Resp: 16135

Ion	Ratio	Lower	Upper
92	100		
91	181.0	156.6	196.6



Centek Laboratories, LLC

Date: *11-Dec-13*

CLIENT:	HDR Engineering	**Client Sample ID:**	303-E-SSD
Lab Order:	C1311058	**Tag Number:**	406,436
Project:	Aluminum Louvre	**Collection Date:**	11/18/2013
Lab ID:	C1311058-006A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS		FLD				Analyst:
Lab Vacuum In	-1			"Hg		11/20/2013
Lab Vacuum Out	-30			"Hg		11/20/2013
1UG/M3 BY METHOD TO15		TO-15				Analyst: RJP
1,1,1-Trichloroethane	0.23	0.15		ppbV	1	11/27/2013 6:01:00 AM
1,1,2,2-Tetrachloroethane	< 0.15	0.15		ppbV	1	11/27/2013 6:01:00 AM
1,1,2-Trichloroethane	< 0.15	0.15		ppbV	1	11/27/2013 6:01:00 AM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	11/27/2013 6:01:00 AM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	11/27/2013 6:01:00 AM
1,2,4-Trichlorobenzene	< 0.15	0.15		ppbV	1	11/27/2013 6:01:00 AM
1,2,4-Trimethylbenzene	2.9	0.15		ppbV	1	11/27/2013 6:01:00 AM
1,2-Dibromoethane	< 0.15	0.15		ppbV	1	11/27/2013 6:01:00 AM
1,2-Dichlorobenzene	< 0.15	0.15		ppbV	1	11/27/2013 6:01:00 AM
1,2-Dichloroethane	< 0.15	0.15		ppbV	1	11/27/2013 6:01:00 AM
1,2-Dichloropropane	< 0.15	0.15		ppbV	1	11/27/2013 6:01:00 AM
1,3,5-Trimethylbenzene	0.50	0.15		ppbV	1	11/27/2013 6:01:00 AM
1,3-butadiene	< 0.15	0.15		ppbV	1	11/27/2013 6:01:00 AM
1,3-Dichlorobenzene	< 0.15	0.15		ppbV	1	11/27/2013 6:01:00 AM
1,4-Dichlorobenzene	< 0.15	0.15		ppbV	1	11/27/2013 6:01:00 AM
1,4-Dioxane	< 0.30	0.30		ppbV	1	11/27/2013 6:01:00 AM
2,2,4-trimethylpentane	2.6	1.5		ppbV	10	11/28/2013 2:44:00 AM
4-ethyltoluene	0.64	0.15		ppbV	1	11/27/2013 6:01:00 AM
Acetone	52	12		ppbV	40	11/28/2013 3:18:00 AM
Allyl chloride	< 0.15	0.15		ppbV	1	11/27/2013 6:01:00 AM
Benzene	1.4	0.15		ppbV	1	11/27/2013 6:01:00 AM
Benzyl chloride	< 0.15	0.15		ppbV	1	11/27/2013 6:01:00 AM
Bromodichloromethane	< 0.15	0.15		ppbV	1	11/27/2013 6:01:00 AM
Bromoform	< 0.15	0.15		ppbV	1	11/27/2013 6:01:00 AM
Bromomethane	< 0.15	0.15		ppbV	1	11/27/2013 6:01:00 AM
Carbon disulfide	< 0.15	0.15		ppbV	1	11/27/2013 6:01:00 AM
Carbon tetrachloride	< 0.15	0.15		ppbV	1	11/27/2013 6:01:00 AM
Chlorobenzene	< 0.15	0.15		ppbV	1	11/27/2013 6:01:00 AM
Chloroethane	< 0.15	0.15		ppbV	1	11/27/2013 6:01:00 AM
Chloroform	< 0.15	0.15		ppbV	1	11/27/2013 6:01:00 AM
Chloromethane	0.38	0.15		ppbV	1	11/27/2013 6:01:00 AM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	11/27/2013 6:01:00 AM
cis-1,3-Dichloropropene	< 0.15	0.15		ppbV	1	11/27/2013 6:01:00 AM
Cyclohexane	2.6	1.5		ppbV	10	11/28/2013 2:44:00 AM
Dibromochloromethane	< 0.15	0.15		ppbV	1	11/27/2013 6:01:00 AM
Ethyl acetate	< 0.25	0.25		ppbV	1	11/27/2013 6:01:00 AM

Qualifiers:

**	Reporting Limit	.	Results reported are not blank corrected
B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: *11-Dec-13*

CLIENT:	HDR Engineering	**Client Sample ID:**	303-E-SSD
Lab Order:	C1311058	**Tag Number:**	406,436
Project:	Aluminum Louvre	**Collection Date:**	11/18/2013
Lab ID:	C1311058-006A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15		TO-15				Analyst: RJP
Ethylbenzene	2.8	1.5		ppbV	10	11/28/2013 2:44:00 AM
Freon 11	0.27	0.15		ppbV	1	11/27/2013 6:01:00 AM
Freon 113	< 0.15	0.15		ppbV	1	11/27/2013 6:01:00 AM
Freon 114	< 0.15	0.15		ppbV	1	11/27/2013 6:01:00 AM
Freon 12	0.52	0.15		ppbV	1	11/27/2013 6:01:00 AM
Heptane	1.9	1.5		ppbV	10	11/28/2013 2:44:00 AM
Hexachloro-1,3-butadiene	< 0.15	0.15		ppbV	1	11/27/2013 6:01:00 AM
Hexane	2.5	1.5		ppbV	10	11/28/2013 2:44:00 AM
Isopropyl alcohol	< 0.15	0.15		ppbV	1	11/27/2013 6:01:00 AM
m&p-Xylene	9.4	3.0		ppbV	10	11/28/2013 2:44:00 AM
Methyl Butyl Ketone	< 0.30	0.30		ppbV	1	11/27/2013 6:01:00 AM
Methyl Ethyl Ketone	1.1	0.30		ppbV	1	11/27/2013 6:01:00 AM
Methyl Isobutyl Ketone	< 0.30	0.30		ppbV	1	11/27/2013 6:01:00 AM
Methyl tert-butyl ether	< 0.15	0.15		ppbV	1	11/27/2013 6:01:00 AM
Methylene chloride	0.31	0.15		ppbV	1	11/27/2013 6:01:00 AM
o-Xylene	2.3	1.5		ppbV	10	11/28/2013 2:44:00 AM
Propylene	< 0.15	0.15		ppbV	1	11/27/2013 6:01:00 AM
Styrene	< 0.15	0.15		ppbV	1	11/27/2013 6:01:00 AM
Tetrachloroethylene	8.4	1.5		ppbV	10	11/28/2013 2:44:00 AM
Tetrahydrofuran	< 0.15	0.15		ppbV	1	11/27/2013 6:01:00 AM
Toluene	14	6.0		ppbV	40	11/28/2013 3:18:00 AM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	11/27/2013 6:01:00 AM
trans-1,3-Dichloropropene	< 0.15	0.15		ppbV	1	11/27/2013 6:01:00 AM
Trichloroethene	3.4	1.5		ppbV	10	11/28/2013 2:44:00 AM
Vinyl acetate	< 0.15	0.15		ppbV	1	11/27/2013 6:01:00 AM
Vinyl Bromide	< 0.15	0.15		ppbV	1	11/27/2013 6:01:00 AM
Vinyl chloride	< 0.15	0.15		ppbV	1	11/27/2013 6:01:00 AM
Surr: Bromofluorobenzene	109	70-130		%REC	1	11/27/2013 6:01:00 AM

Qualifiers:

**	Reporting Limit	.	Results reported are not blank corrected
B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: *11-Dec-13*

CLIENT:	HDR Engineering	**Client Sample ID:**	303-E-SSD
Lab Order:	C1311058	**Tag Number:**	406,436
Project:	Aluminum Louvre	**Collection Date:**	11/18/2013
Lab ID:	C1311058-006A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15		TO-15				Analyst: **RJP**
1,1,1-Trichloroethane	1.3	0.83		ug/m3	1	11/27/2013 6:01:00 AM
1,1,2,2-Tetrachloroethane	< 1.0	1.0		ug/m3	1	11/27/2013 6:01:00 AM
1,1,2-Trichloroethane	< 0.83	0.83		ug/m3	1	11/27/2013 6:01:00 AM
1,1-Dichloroethane	< 0.62	0.62		ug/m3	1	11/27/2013 6:01:00 AM
1,1-Dichloroethene	< 0.60	0.60		ug/m3	1	11/27/2013 6:01:00 AM
1,2,4-Trichlorobenzene	< 1.1	1.1		ug/m3	1	11/27/2013 6:01:00 AM
1,2,4-Trimethylbenzene	15	0.75		ug/m3	1	11/27/2013 6:01:00 AM
1,2-Dibromoethane	< 1.2	1.2		ug/m3	1	11/27/2013 6:01:00 AM
1,2-Dichlorobenzene	< 0.92	0.92		ug/m3	1	11/27/2013 6:01:00 AM
1,2-Dichloroethane	< 0.62	0.62		ug/m3	1	11/27/2013 6:01:00 AM
1,2-Dichloropropane	< 0.70	0.70		ug/m3	1	11/27/2013 6:01:00 AM
1,3,5-Trimethylbenzene	2.5	0.75		ug/m3	1	11/27/2013 6:01:00 AM
1,3-butadiene	< 0.34	0.34		ug/m3	1	11/27/2013 6:01:00 AM
1,3-Dichlorobenzene	< 0.92	0.92		ug/m3	1	11/27/2013 6:01:00 AM
1,4-Dichlorobenzene	< 0.92	0.92		ug/m3	1	11/27/2013 6:01:00 AM
1,4-Dioxane	< 1.1	1.1		ug/m3	1	11/27/2013 6:01:00 AM
2,2,4-trimethylpentane	12	7.1		ug/m3	10	11/28/2013 2:44:00 AM
4-ethyltoluene	3.2	0.75		ug/m3	1	11/27/2013 6:01:00 AM
Acetone	130	29		ug/m3	40	11/28/2013 3:18:00 AM
Allyl chloride	< 0.48	0.48		ug/m3	1	11/27/2013 6:01:00 AM
Benzene	4.4	0.49		ug/m3	1	11/27/2013 6:01:00 AM
Benzyl chloride	< 0.88	0.88		ug/m3	1	11/27/2013 6:01:00 AM
Bromodichloromethane	< 1.0	1.0		ug/m3	1	11/27/2013 6:01:00 AM
Bromoform	< 1.6	1.6		ug/m3	1	11/27/2013 6:01:00 AM
Bromomethane	< 0.59	0.59		ug/m3	1	11/27/2013 6:01:00 AM
Carbon disulfide	< 0.47	0.47		ug/m3	1	11/27/2013 6:01:00 AM
Carbon tetrachloride	< 0.96	0.96		ug/m3	1	11/27/2013 6:01:00 AM
Chlorobenzene	< 0.70	0.70		ug/m3	1	11/27/2013 6:01:00 AM
Chloroethane	< 0.40	0.40		ug/m3	1	11/27/2013 6:01:00 AM
Chloroform	< 0.74	0.74		ug/m3	1	11/27/2013 6:01:00 AM
Chloromethane	0.80	0.31		ug/m3	1	11/27/2013 6:01:00 AM
cis-1,2-Dichloroethene	< 0.60	0.60		ug/m3	1	11/27/2013 6:01:00 AM
cis-1,3-Dichloropropene	< 0.69	0.69		ug/m3	1	11/27/2013 6:01:00 AM
Cyclohexane	9.1	5.2		ug/m3	10	11/28/2013 2:44:00 AM
Dibromochloromethane	< 1.3	1.3		ug/m3	1	11/27/2013 6:01:00 AM
Ethyl acetate	< 0.92	0.92		ug/m3	1	11/27/2013 6:01:00 AM
Ethylbenzene	12	6.6		ug/m3	10	11/28/2013 2:44:00 AM
Freon 11	1.5	0.86		ug/m3	1	11/27/2013 6:01:00 AM
Freon 113	< 1.2	1.2		ug/m3	1	11/27/2013 6:01:00 AM
Freon 114	< 1.1	1.1		ug/m3	1	11/27/2013 6:01:00 AM

Qualifiers:

**	Reporting Limit	.	Results reported are not blank corrected
B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: *11-Dec-13*

CLIENT:	HDR Engineering	**Client Sample ID:**	303-E-SSD
Lab Order:	C1311058	**Tag Number:**	406,436
Project:	Aluminum Louvre	**Collection Date:**	11/18/2013
Lab ID:	C1311058-006A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15		TO-15				Analyst: RJP
Freon 12	2.6	0.75		ug/m3	1	11/27/2013 6:01:00 AM
Heptane	7.9	6.2		ug/m3	10	11/28/2013 2:44:00 AM
Hexachloro-1,3-butadiene	< 1.6	1.6		ug/m3	1	11/27/2013 6:01:00 AM
Hexane	9.0	5.4		ug/m3	10	11/28/2013 2:44:00 AM
Isopropyl alcohol	< 0.37	0.37		ug/m3	1	11/27/2013 6:01:00 AM
m&p-Xylene	41	13		ug/m3	10	11/28/2013 2:44:00 AM
Methyl Butyl Ketone	< 1.2	1.2		ug/m3	1	11/27/2013 6:01:00 AM
Methyl Ethyl Ketone	3.2	0.90		ug/m3	1	11/27/2013 6:01:00 AM
Methyl Isobutyl Ketone	< 1.2	1.2		ug/m3	1	11/27/2013 6:01:00 AM
Methyl tert-butyl ether	< 0.55	0.55		ug/m3	1	11/27/2013 6:01:00 AM
Methylene chloride	1.1	0.53		ug/m3	1	11/27/2013 6:01:00 AM
o-Xylene	10	6.6		ug/m3	10	11/28/2013 2:44:00 AM
Propylene	< 0.26	0.26		ug/m3	1	11/27/2013 6:01:00 AM
Styrene	< 0.65	0.65		ug/m3	1	11/27/2013 6:01:00 AM
Tetrachloroethylene	58	10		ug/m3	10	11/28/2013 2:44:00 AM
Tetrahydrofuran	< 0.45	0.45		ug/m3	1	11/27/2013 6:01:00 AM
Toluene	54	23		ug/m3	40	11/28/2013 3:18:00 AM
trans-1,2-Dichloroethene	< 0.60	0.60		ug/m3	1	11/27/2013 6:01:00 AM
trans-1,3-Dichloropropene	< 0.69	0.69		ug/m3	1	11/27/2013 6:01:00 AM
Trichloroethene	19	8.2		ug/m3	10	11/28/2013 2:44:00 AM
Vinyl acetate	< 0.54	0.54		ug/m3	1	11/27/2013 6:01:00 AM
Vinyl Bromide	< 0.67	0.67		ug/m3	1	11/27/2013 6:01:00 AM
Vinyl chloride	< 0.39	0.39		ug/m3	1	11/27/2013 6:01:00 AM

Qualifiers:

**	Reporting Limit	.	Results reported are not blank corrected
B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK112633.D Vial: 21
Acq On : 27 Nov 2013 6:01 am Operator: RJP
Sample : C1311058-006A Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 27 07:39:49 2013 Quant Results File: AO15_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Oct 15 18:12:29 2013
Response via : Initial Calibration
DataAcq Meth : 1UG_T015

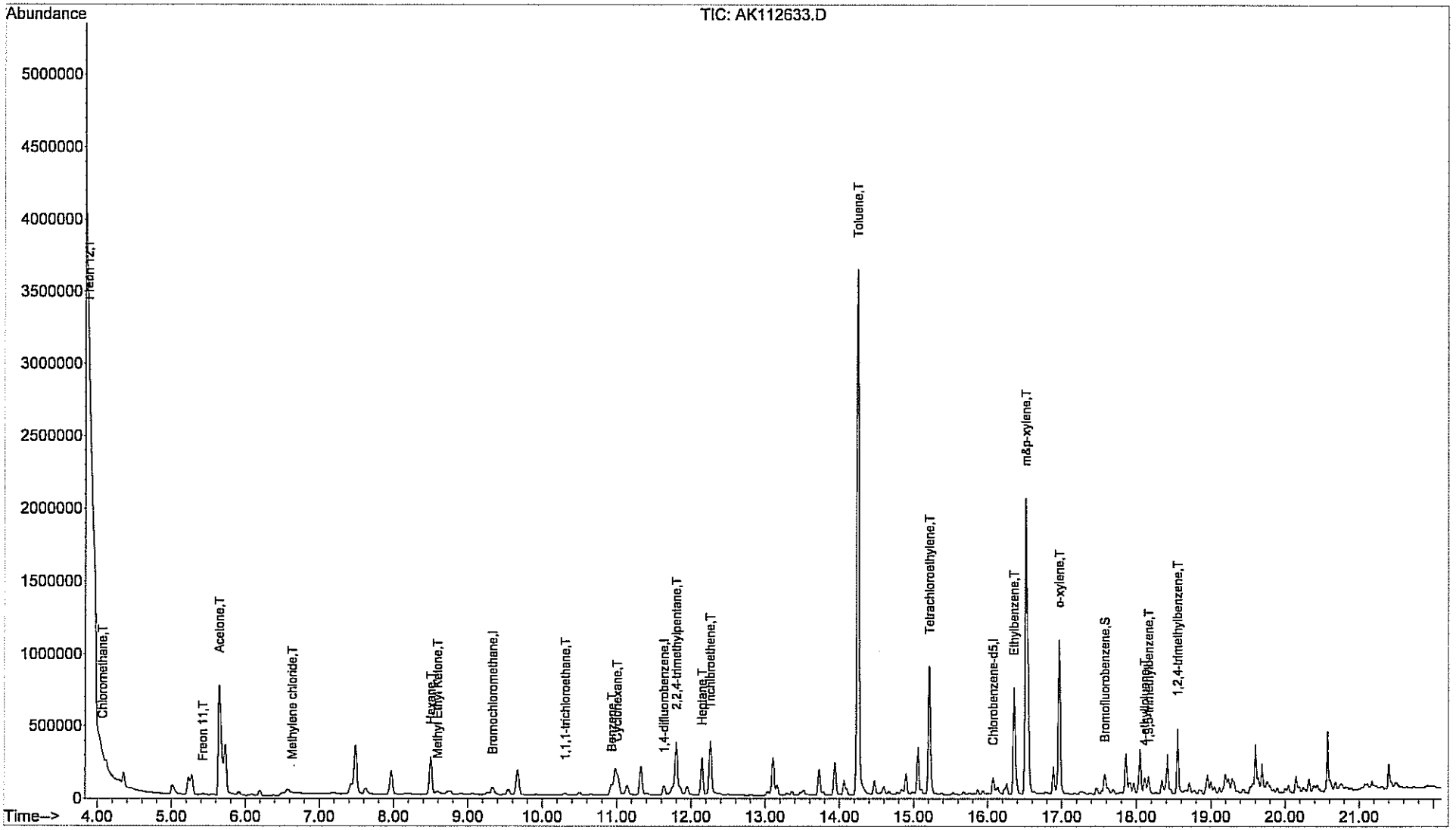
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane	9.33	128	24749	1.00	ppb		-0.03
34) 1,4-difluorobenzene	11.64	114	69683	1.00	ppb		-0.03
49) Chlorobenzene-d5	16.08	117	89821	1.00	ppb		-0.02
System Monitoring Compounds							
62) Bromofluorobenzene	17.58	95	57391	1.09	ppb		-0.02
Spiked Amount 1.000	Range 70 - 130		Recovery = 109.00%				
Target Compounds							Qvalue
4) Freon 12	3.89	85	42918	0.52	ppb		100
5) Chloromethane	4.07	50	7410	0.38	ppb		71
14) Freon 11	5.43	101	17138	0.27	ppb		99
15) Acetone	5.64	58	420756	61.61	ppb	#	18
20) Methylene chloride	6.63	84	4950	0.31	ppb		81
27) Methyl Ethyl Ketone	8.58	72	10038	1.08	ppb	#	100
29) Hexane	8.50	57	139934	4.80	ppb		91
35) 1,1,1-trichloroethane	10.31	97	13168	0.23	ppb		99
36) Cyclohexane	11.01	56	103933m	3.95	ppb		
38) Benzene	10.92	78	101804	1.37	ppb		93
41) 2,2,4-trimethylpentane	11.80	57	380187	4.24	ppb		91
42) Heptane	12.15	43	96344	3.55	ppb		99
43) Trichloroethene	12.26	130	154956	4.46	ppb		99
50) Toluene	14.24	92	1893965	37.60	ppb		97
55) Tetrachloroethylene	15.21	164	246120	4.72	ppb		98
57) Ethylbenzene	16.36	91	554761	5.90	ppb		100
58) m&p-xylene	16.52	91	1829268	22.45	ppb		100
61) o-xylene	16.96	91	669902	5.48	ppb		89
65) 4-ethyltoluene	18.11	105	65740m	0.64	ppb		
66) 1,3,5-trimethylbenzene	18.16	105	60488	0.50	ppb		92
67) 1,2,4-trimethylbenzene	18.55	105	241237	2.94	ppb		98

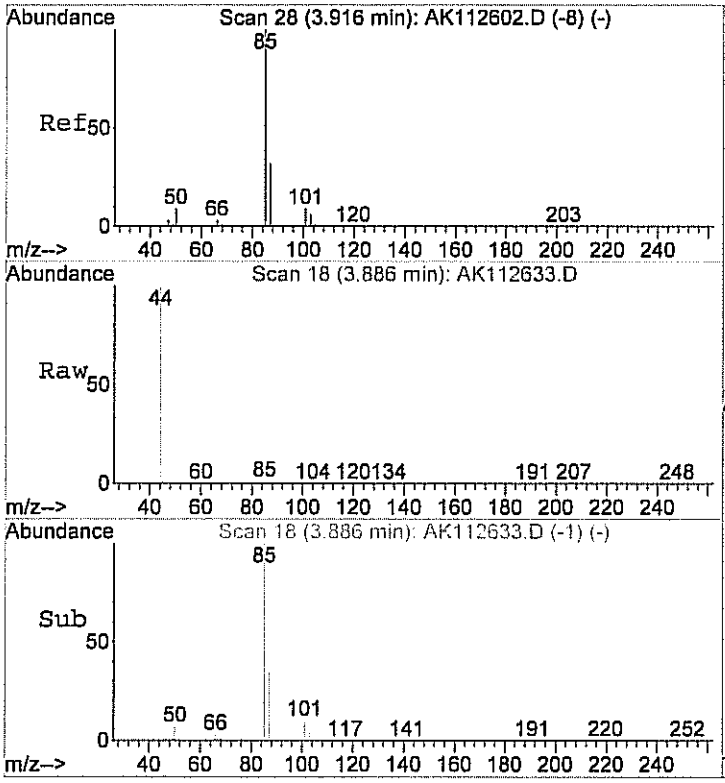
(#) = qualifier out of range (m) = manual integration (+) = signals summed
AK112633.D AO15_1UG.M Wed Dec 11 12:52:45 2013 MSD1 Page 1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK112633.D Vial: 21
Acq On : 27 Nov 2013 6:01 am Operator: RJP
Sample : C1311058-006A Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 29 11:05 2013 Quant Results File: AO15_1UG.RES

Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Wed Dec 11 12:48:42 2013
Response via : Initial Calibration

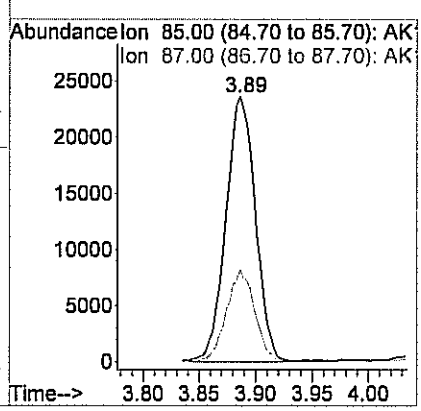


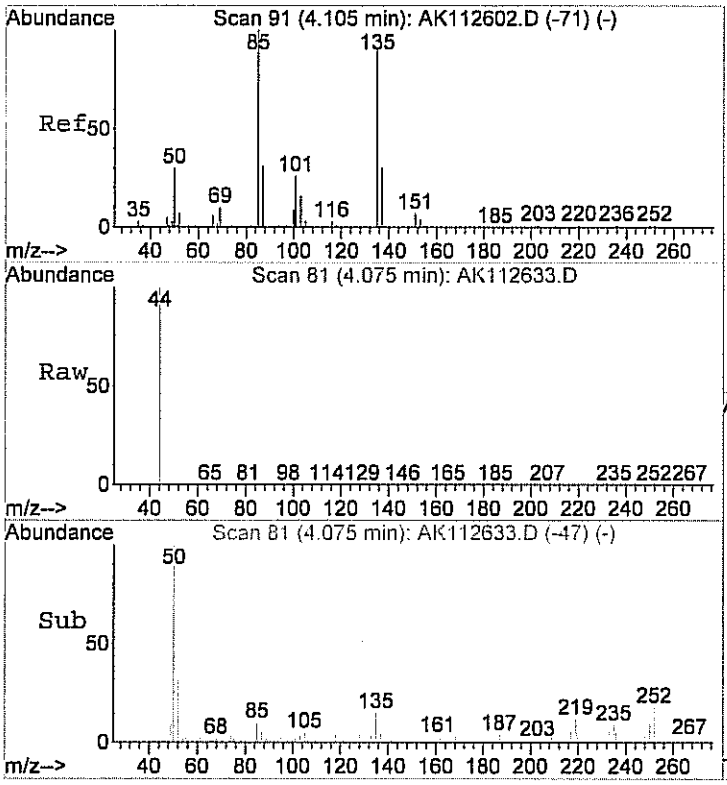


#4
Freon 12
Concen: 0.52 ppb
RT: 3.89 min Scan# 18
Delta R.T. -0.05 min
Lab File: AK112633.D
Acq: 27 Nov 2013 6:01 am

Tgt Ion: 85 Resp: 42918

Ion	Ratio	Lower	Upper
85	100		
87	32.9	12.8	52.8

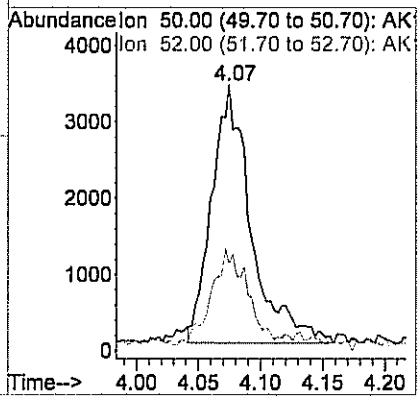


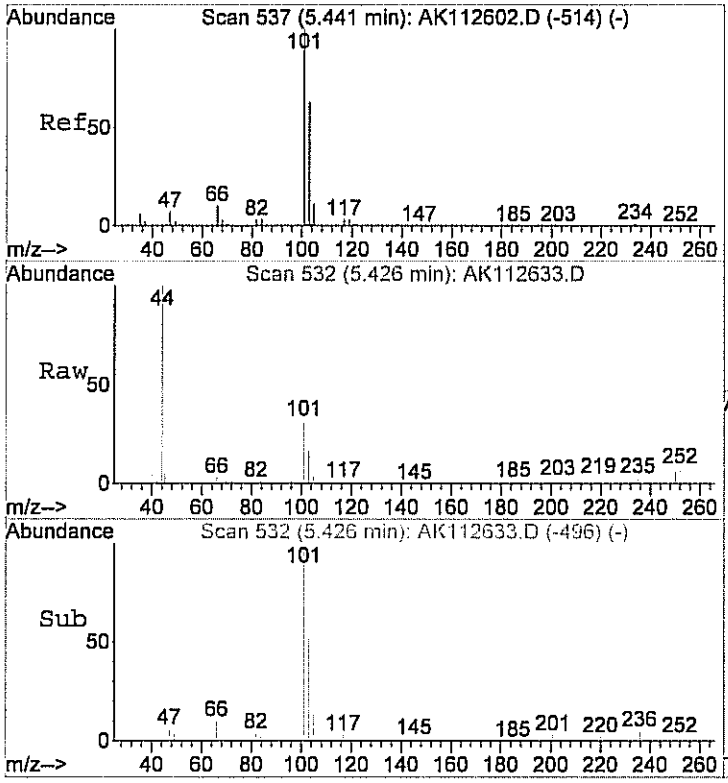


#5
Chloromethane
Concen: 0.38 ppb
RT: 4.07 min Scan# 81
Delta R.T. -0.05 min
Lab File: AK112633.D
Acq: 27 Nov 2013 6:01 am

Tgt Ion: 50 Resp: 7410

Ion	Ratio	Lower	Upper
50	100		
52	45.1	9.4	49.4

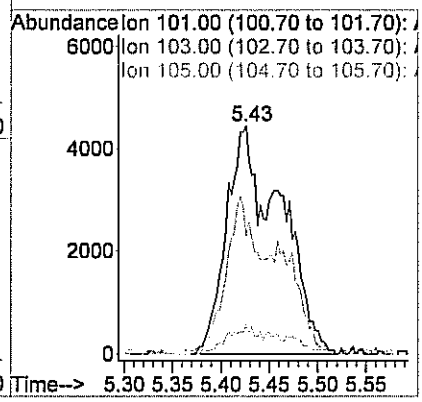


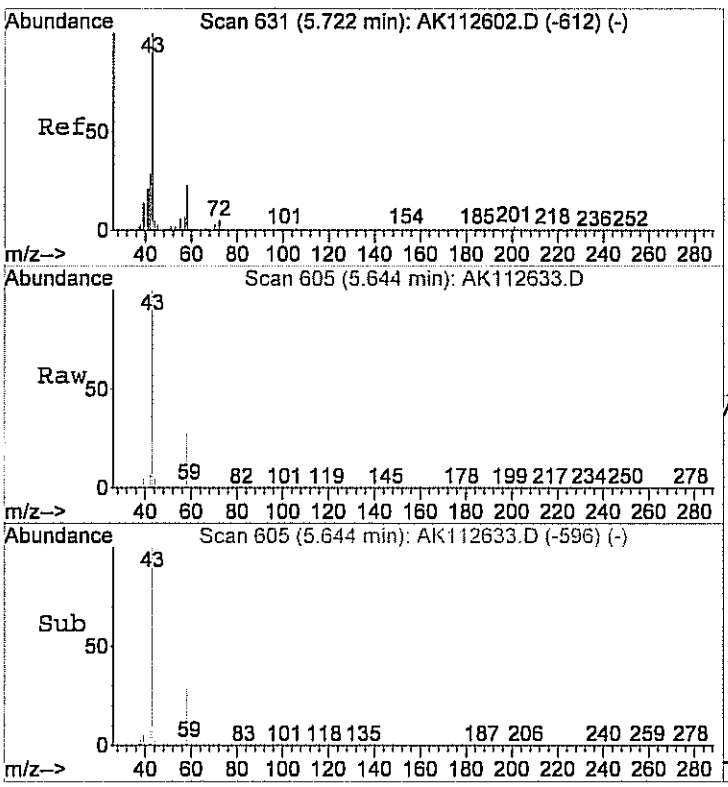


#14
Freon 11
Concen: 0.27 ppb
RT: 5.43 min Scan# 532
Delta R.T. -0.04 min
Lab File: AK112633.D
Acq: 27 Nov 2013 6:01 am

Tgt Ion:101 Resp: 17138

Ion	Ratio	Lower	Upper
101	100		
103	65.6	46.0	86.0
105	12.6	0.0	31.7

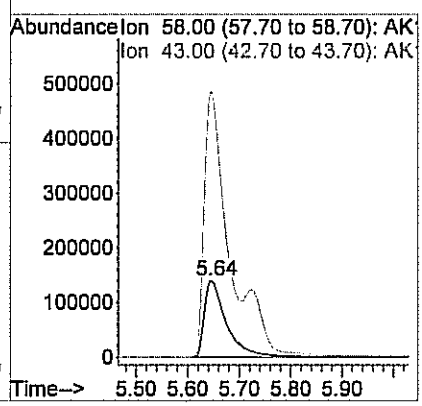


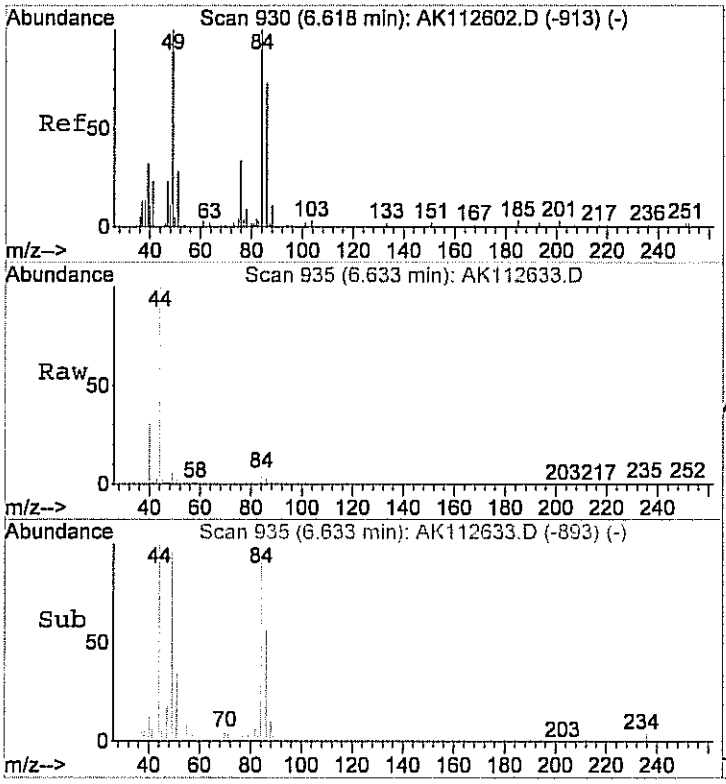


#15
Acetone
Concen: 61.61 ppb
RT: 5.64 min Scan# 605
Delta R.T. -0.12 min
Lab File: AK112633.D
Acq: 27 Nov 2013 6:01 am

Tgt Ion: 58 Resp: 420756

Ion	Ratio	Lower	Upper
58	100		
43	400.9	650.3	710.3#

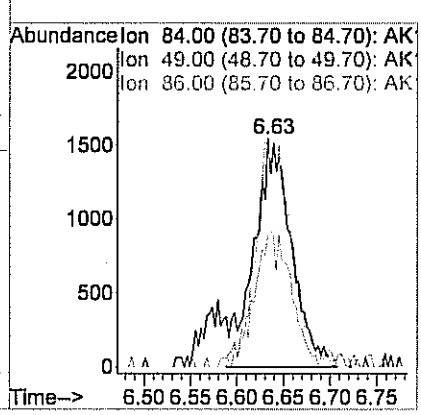


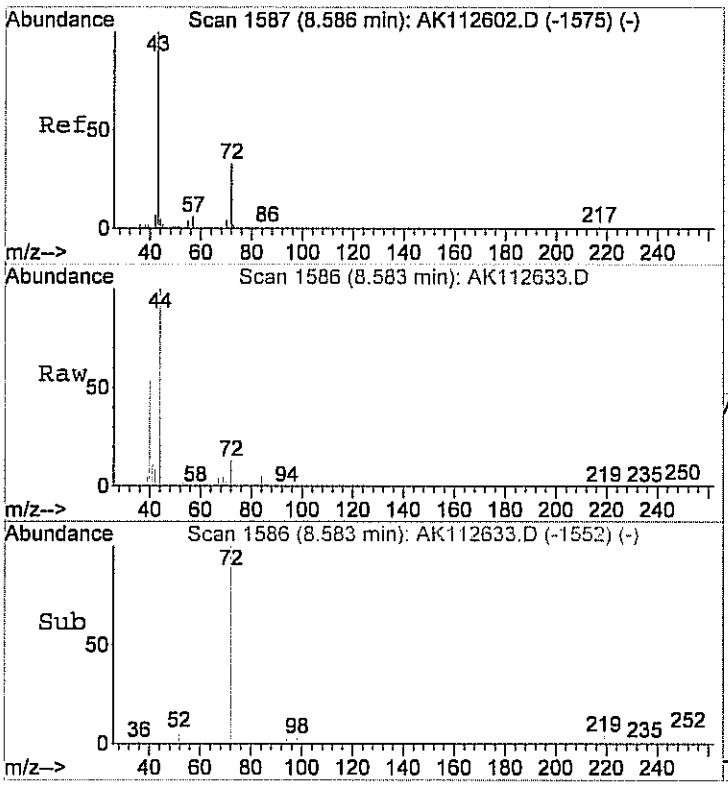


#20
Methylene chloride
Concen: 0.31 ppb
RT: 6.63 min Scan# 935
Delta R.T. -0.02 min
Lab File: AK112633.D
Acq: 27 Nov 2013 6:01 am

Tgt Ion: 84 Resp: 4950

Ion	Ratio	Lower	Upper
84	100		
49	83.9	82.2	122.2
86	49.8	45.4	85.4

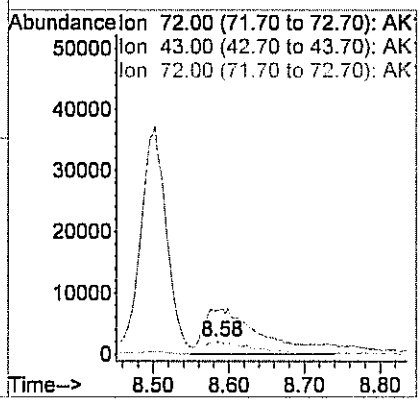


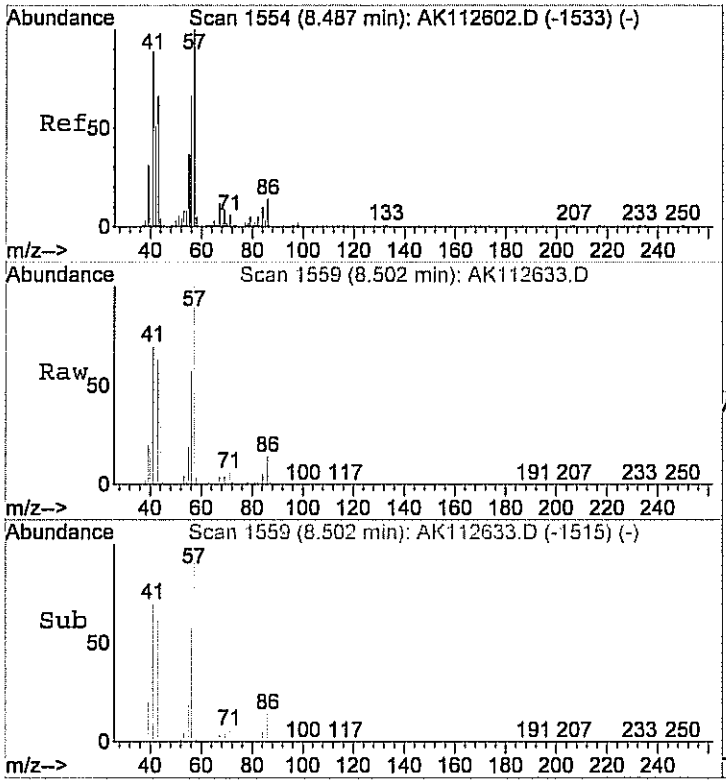


#27
Methyl Ethyl Ketone
Concen: 1.08 ppb
RT: 8.58 min Scan# 1586
Delta R.T. -0.05 min
Lab File: AK112633.D
Acq: 27 Nov 2013 6:01 am

Tgt Ion: 72 Resp: 10038

Ion	Ratio	Lower	Upper
72	100		
43	276.0	0.0	20.0#
72	100.0	80.0	120.0

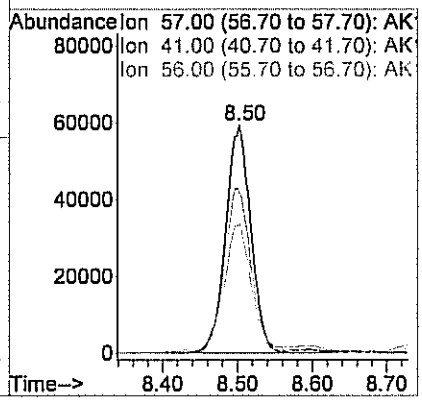


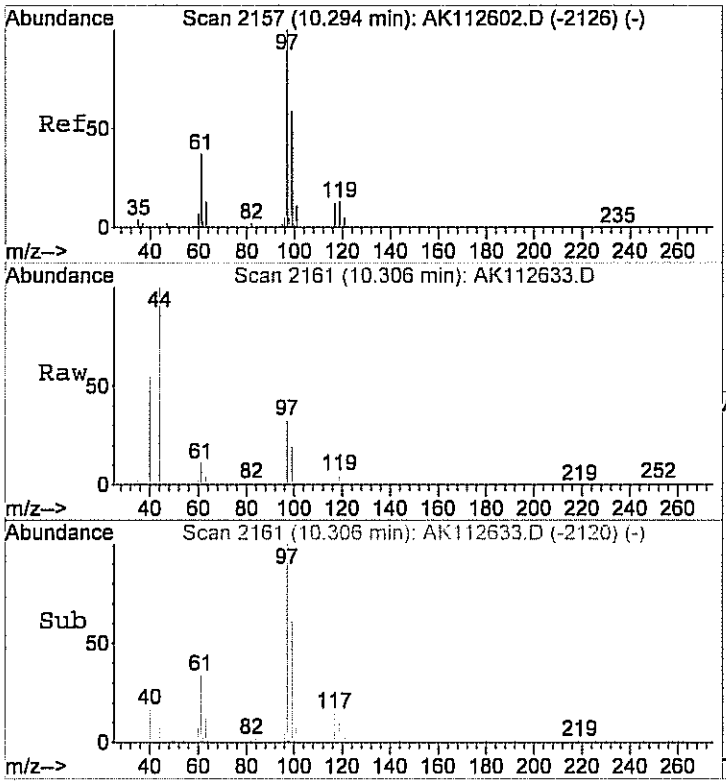


#29
Hexane
Concen: 4.80 ppb
RT: 8.50 min Scan# 1559
Delta R.T. -0.02 min
Lab File: AK112633.D
Acq: 27 Nov 2013 6:01 am

Tgt Ion: 57 Resp: 139934

Ion	Ratio	Lower	Upper
57	100		
41	76.0	68.6	108.6
56	61.2	43.7	83.7

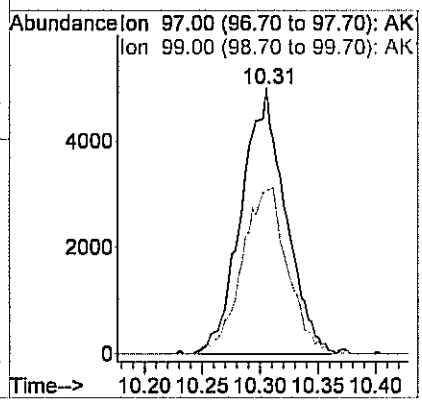


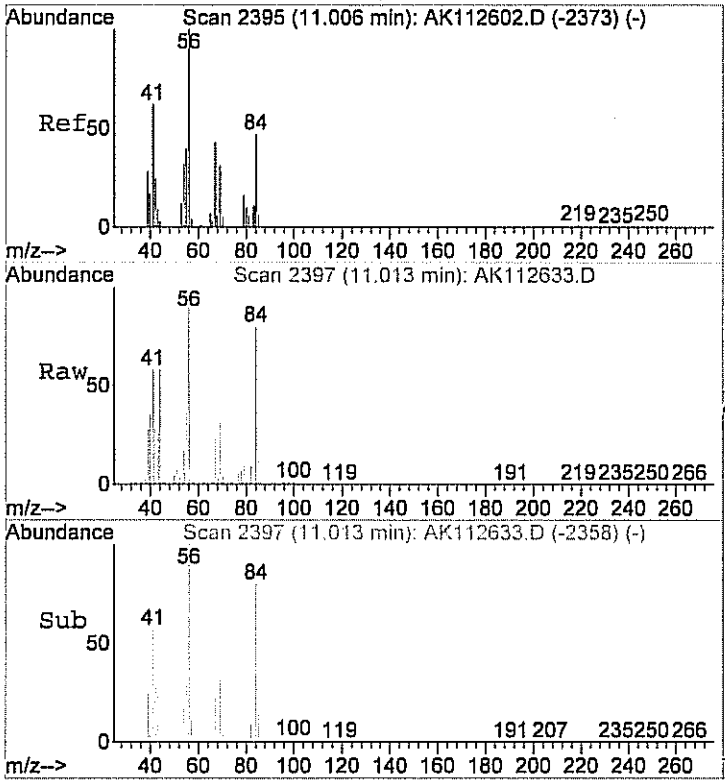


#35
1,1,1-trichloroethane
Concen: 0.23 ppb
RT: 10.31 min Scan# 2161
Delta R.T. -0.03 min
Lab File: AK112633.D
Acq: 27 Nov 2013 6:01 am

Tgt Ion: 97 Resp: 13168

Ion	Ratio	Lower	Upper
97	100		
99	64.6	45.3	85.3

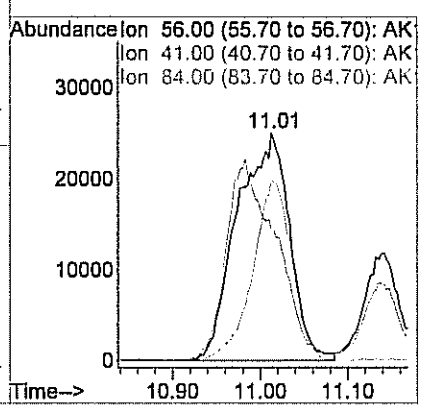


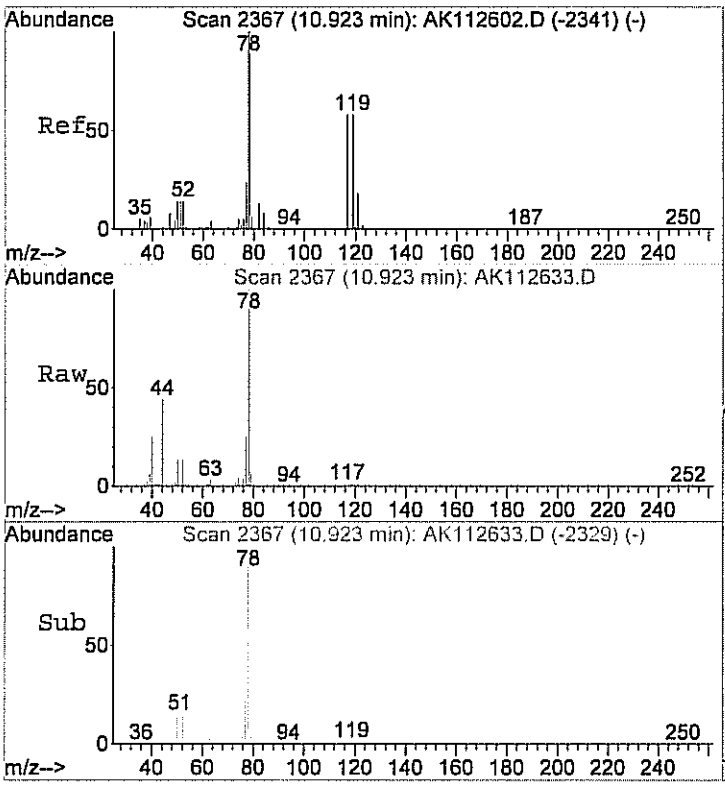


#36
Cyclohexane
Concen: 3.95 ppb m
RT: 11.01 min Scan# 2397
Delta R.T. -0.03 min
Lab File: AK112633.D
Acq: 27 Nov 2013 6:01 am

Tgt Ion: 56 Resp: 103933

Ion	Ratio	Lower	Upper
56	100		
41	103.0	38.1	78.1#
84	58.4	97.4	137.4#

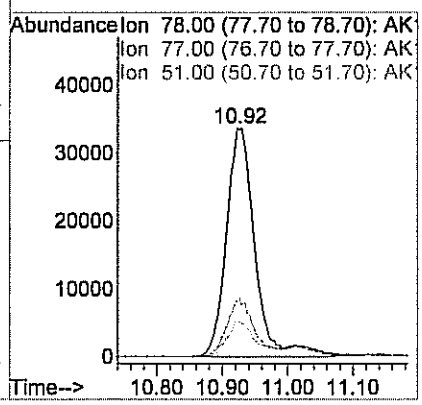


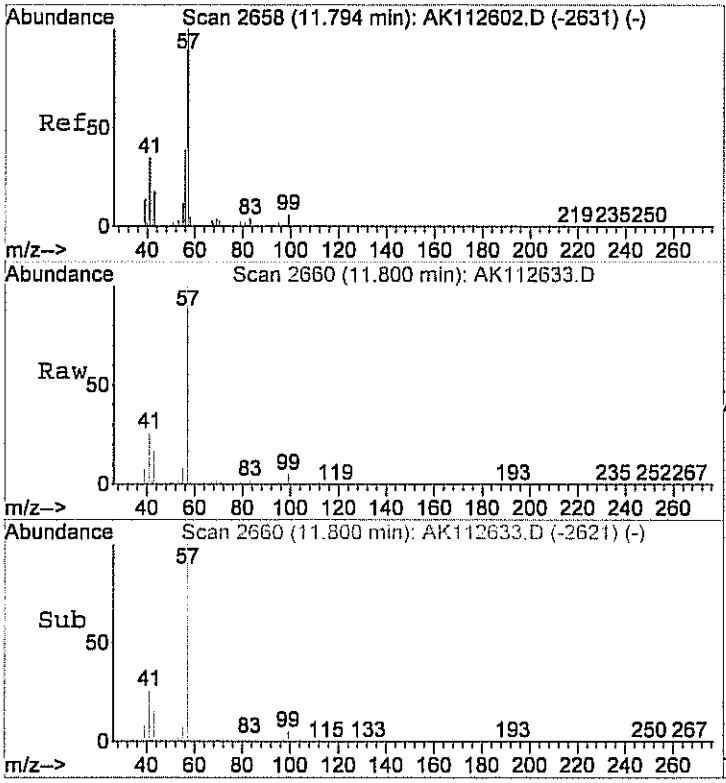


#38
Benzene
Concen: 1.37 ppb
RT: 10.92 min Scan# 2367
Delta R.T. -0.04 min
Lab File: AK112633.D
Acq: 27 Nov 2013 6:01 am

Tgt Ion: 78 Resp: 101804

Ion	Ratio	Lower	Upper
78	100		
77	29.9	6.7	46.7
51	20.7	0.0	37.6

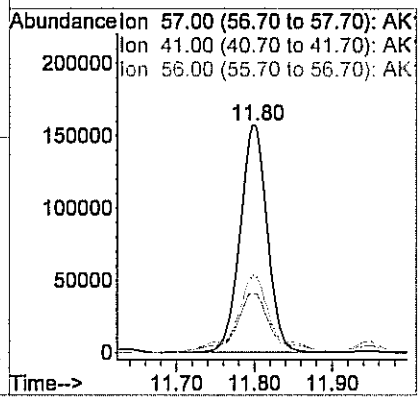


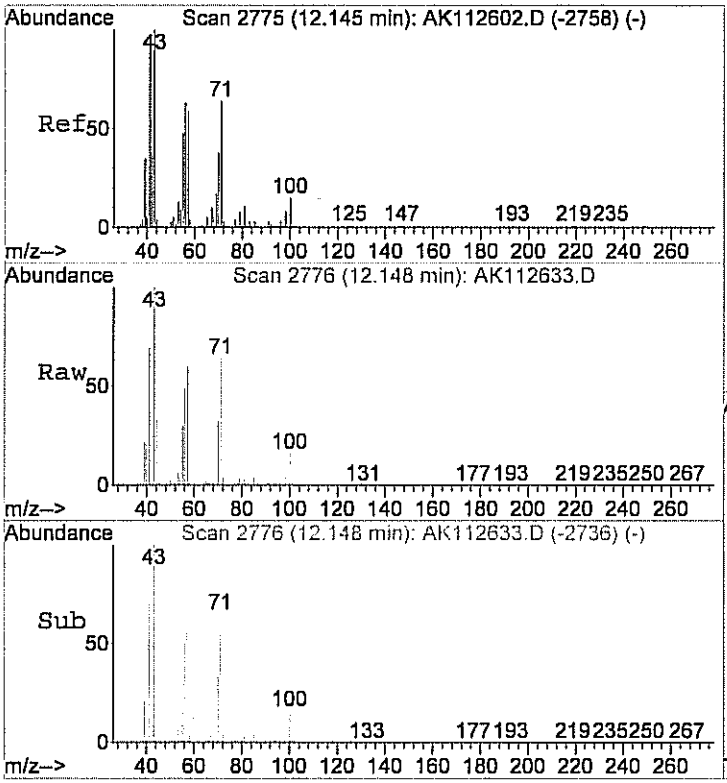


#41
2,2,4-trimethylpentane
Concen: 4.24 ppb
RT: 11.80 min Scan# 2660
Delta R.T. -0.03 min
Lab File: AK112633.D
Acq: 27 Nov 2013 6:01 am

Tgt Ion: 57 Resp: 380187

Ion	Ratio	Lower	Upper
57	100		
41	36.3	12.0	52.0
56	43.1	16.8	56.8

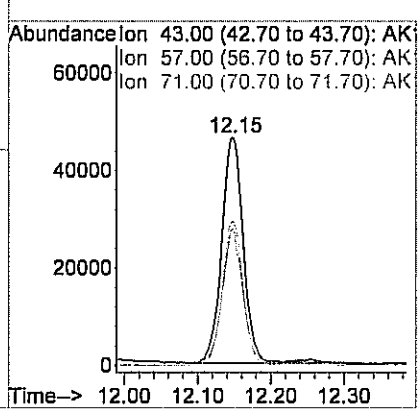


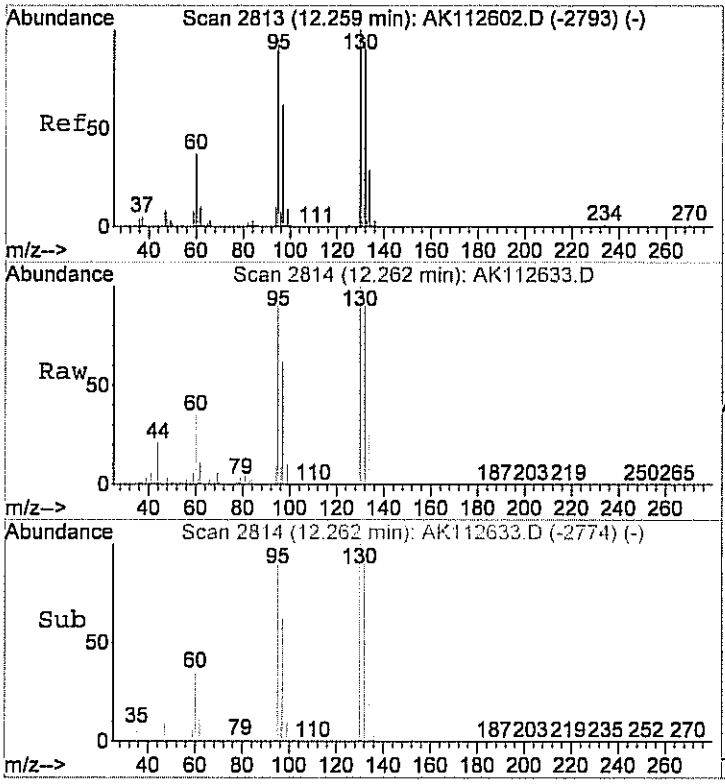


#42
Heptane
Concen: 3.55 ppb
RT: 12.15 min Scan# 2776
Delta R.T. -0.03 min
Lab File: AK112633.D
Acq: 27 Nov 2013 6:01 am

Tgt Ion: 43 Resp: 96344

Ion	Ratio	Lower	Upper
43	100		
57	61.6	40.9	80.9
71	62.0	41.8	81.8

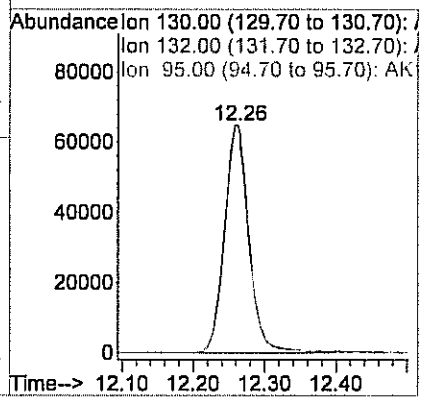


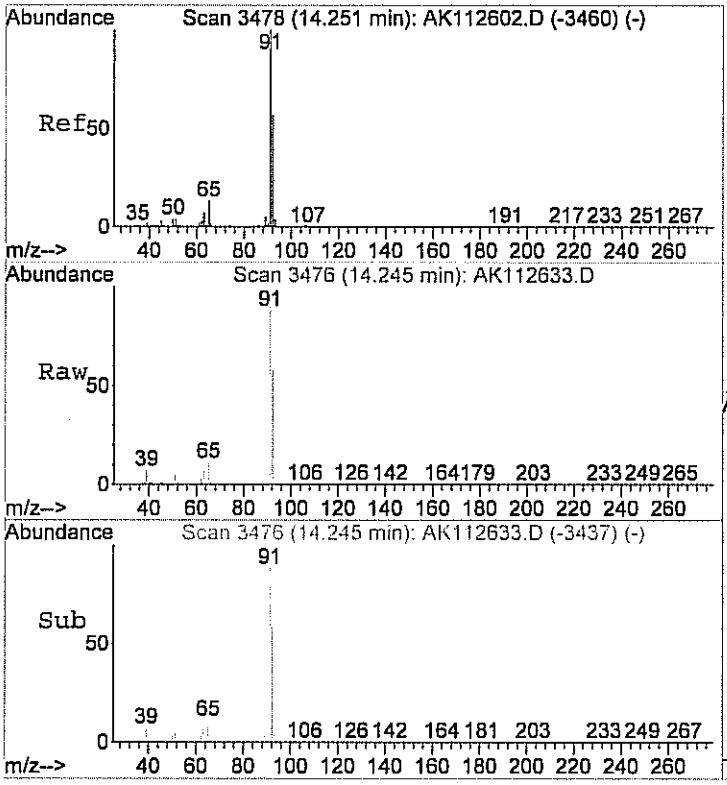


#43
Trichloroethene
Concen: 4.46 ppb
RT: 12.26 min Scan# 2814
Delta R.T. -0.03 min
Lab File: AK112633.D
Acq: 27 Nov 2013 6:01 am

Tgt Ion:130 Resp: 154956

Ion	Ratio	Lower	Upper
130	100		
132	95.3	77.0	117.0
95	95.9	76.9	116.9

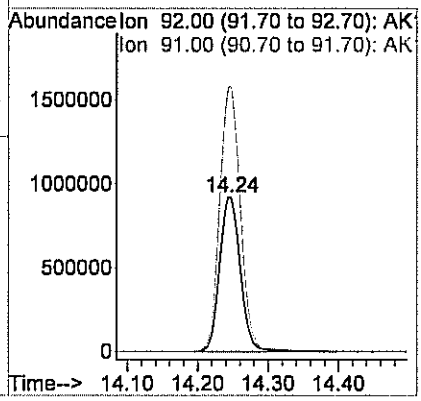


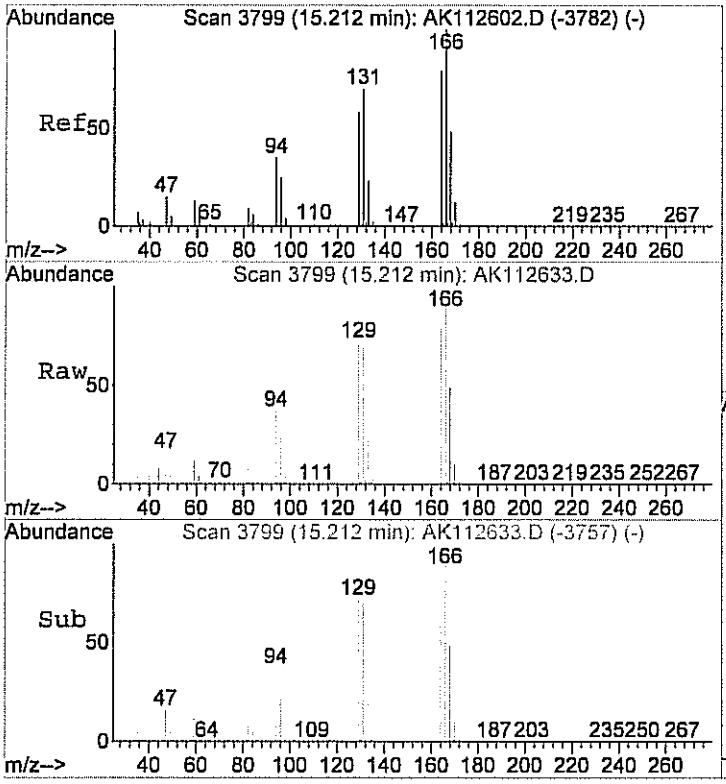


#50
Toluene
Concen: 37.60 ppb
RT: 14.24 min Scan# 3476
Delta R.T. -0.03 min
Lab File: AK112633.D
Acq: 27 Nov 2013 6:01 am

Tgt Ion: 92 Resp: 1893965

Ion	Ratio	Lower	Upper
92	100		
91	171.9	156.6	196.6

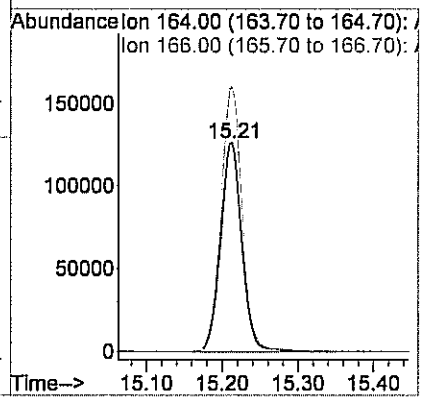


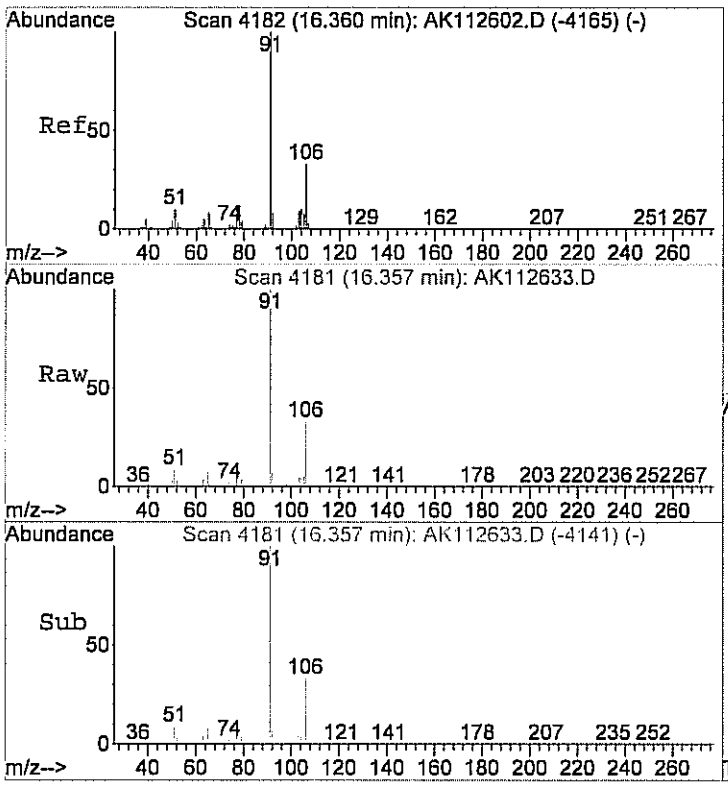


#55
Tetrachloroethylene
Concen: 4.72 ppb
RT: 15.21 min Scan# 3799
Delta R.T. -0.02 min
Lab File: AK112633.D
Acq: 27 Nov 2013 6:01 am

Tgt Ion:164 Resp: 246120

Ion	Ratio	Lower	Upper
164	100		
166	126.9	108.8	148.8

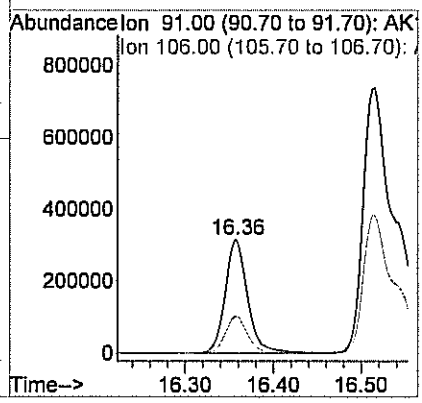


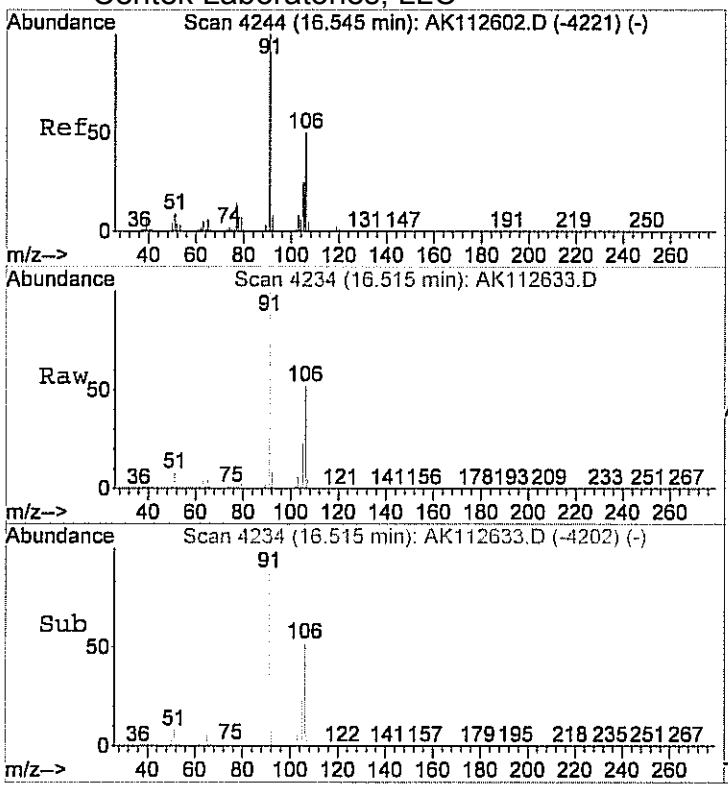


#57
Ethylbenzene
Concen: 5.90 ppb
RT: 16.36 min Scan# 4181
Delta R.T. -0.03 min
Lab File: AK112633.D
Acq: 27 Nov 2013 6:01 am

Tgt Ion: 91 Resp: 554761

Ion	Ratio	Lower	Upper
91	100		
106	32.8	12.8	52.8

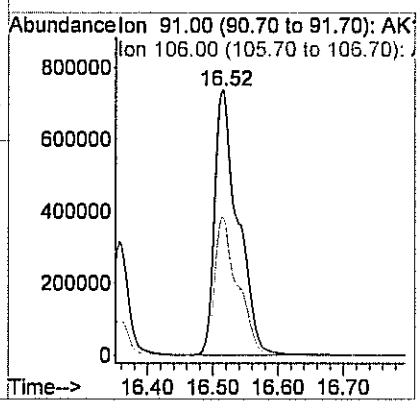


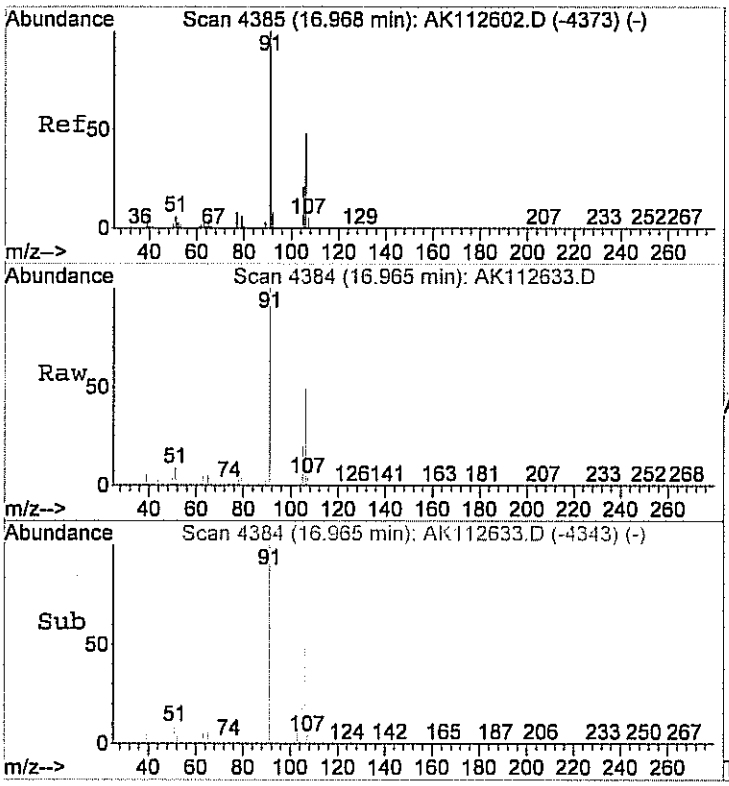


#58
m&p-xylene
Concen: 22.45 ppb
RT: 16.52 min Scan# 4234
Delta R.T. -0.05 min
Lab File: AK112633.D
Acq: 27 Nov 2013 6:01 am

Tgt Ion: 91 Resp: 1829268

Ion	Ratio	Lower	Upper
91	100		
106	51.6	31.3	71.3

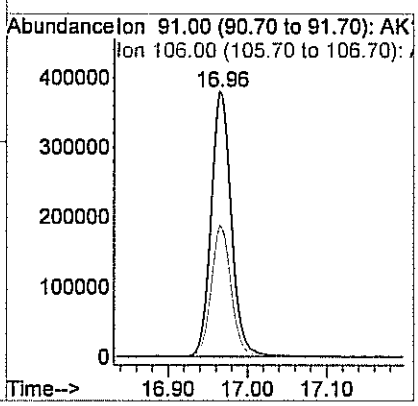


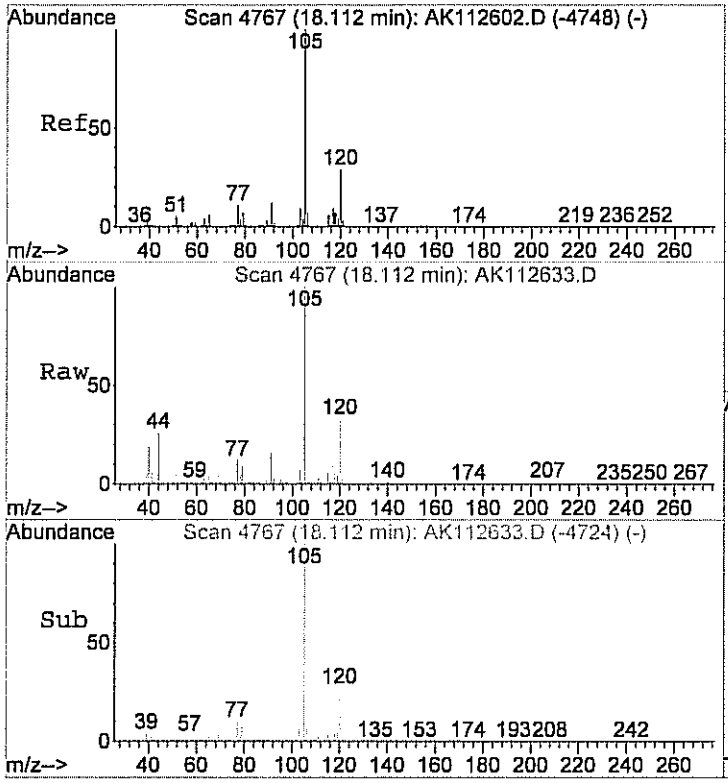


#61
o-xylene
Concen: 5.48 ppb
RT: 16.96 min Scan# 4384
Delta R.T. -0.03 min
Lab File: AK112633.D
Acq: 27 Nov 2013 6:01 am

Tgt Ion: 91 Resp: 669902

Ion	Ratio	Lower	Upper
91	100		
106	49.2	22.3	62.3

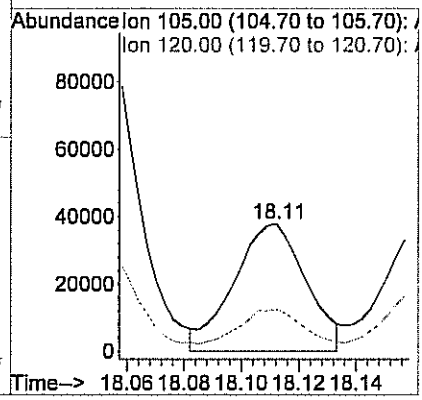


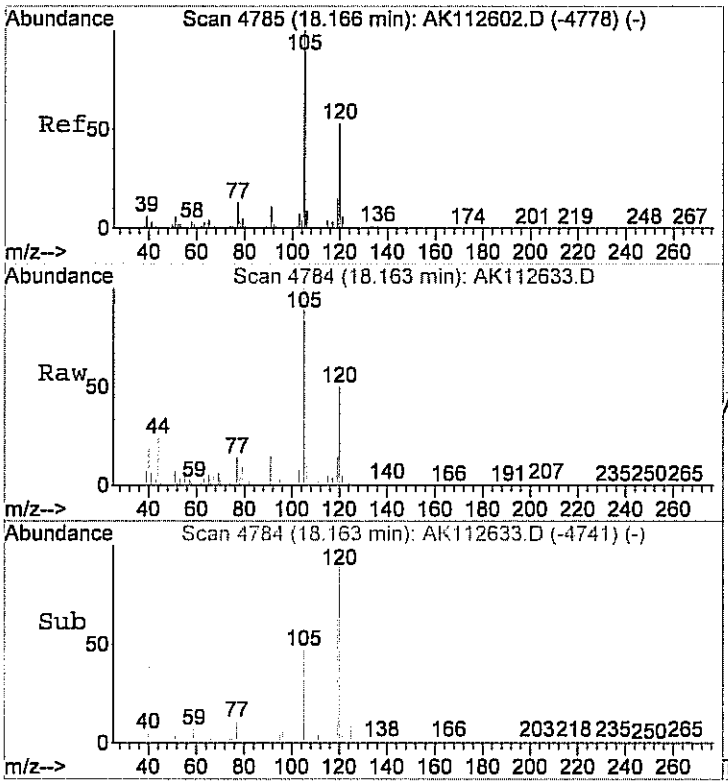


#65
4-ethyltoluene
Concen: 0.64 ppb m
RT: 18.11 min Scan# 4767
Delta R.T. -0.02 min
Lab File: AK112633.D
Acq: 27 Nov 2013 6:01 am

Tgt Ion:105 Resp: 65740

Ion	Ratio	Lower	Upper
105	100		
120	119.4	35.6	75.6#

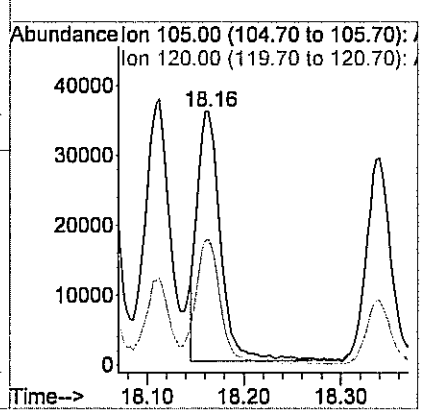


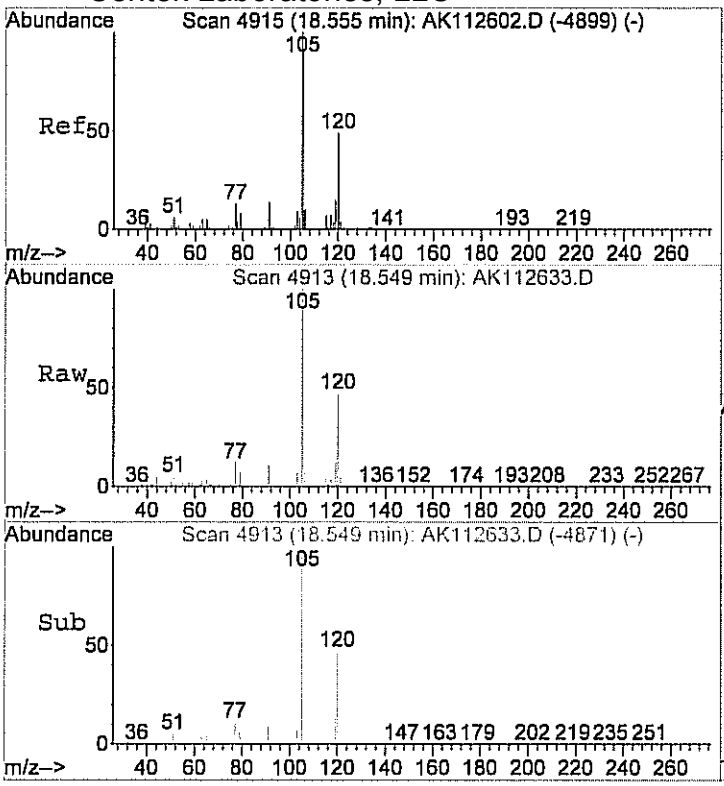


#66
1,3,5-trimethylbenzene
Concen: 0.50 ppb
RT: 18.16 min Scan# 4784
Delta R.T. -0.02 min
Lab File: AK112633.D
Acq: 27 Nov 2013 6:01 am

Tgt Ion:105 Resp: 60488

Ion	Ratio	Lower	Upper
105	100		
120	51.6	26.4	66.4

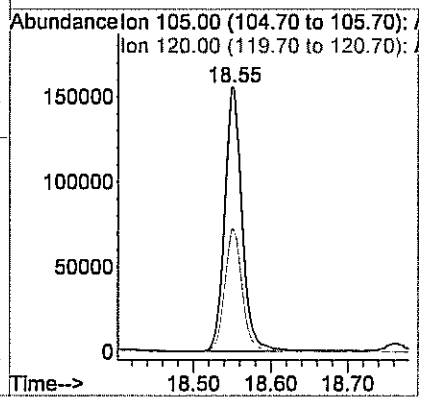




#67
1,2,4-trimethylbenzene
Concen: 2.94 ppb
RT: 18.55 min Scan# 4913
Delta R.T. -0.02 min
Lab File: AK112633.D
Acq: 27 Nov 2013 6:01 am

Tgt Ion:105 Resp: 241237

Ion	Ratio	Lower	Upper
105	100		
120	47.9	26.8	66.8



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK112729.D Vial: 29
Acq On : 28 Nov 2013 2:44 am Operator: RJP
Sample : C1311058-006A 10X Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 29 10:56:20 2013 Quant Results File: AO15_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Oct 15 18:12:29 2013
Response via : Initial Calibration
DataAcq Meth : 1UG_T015

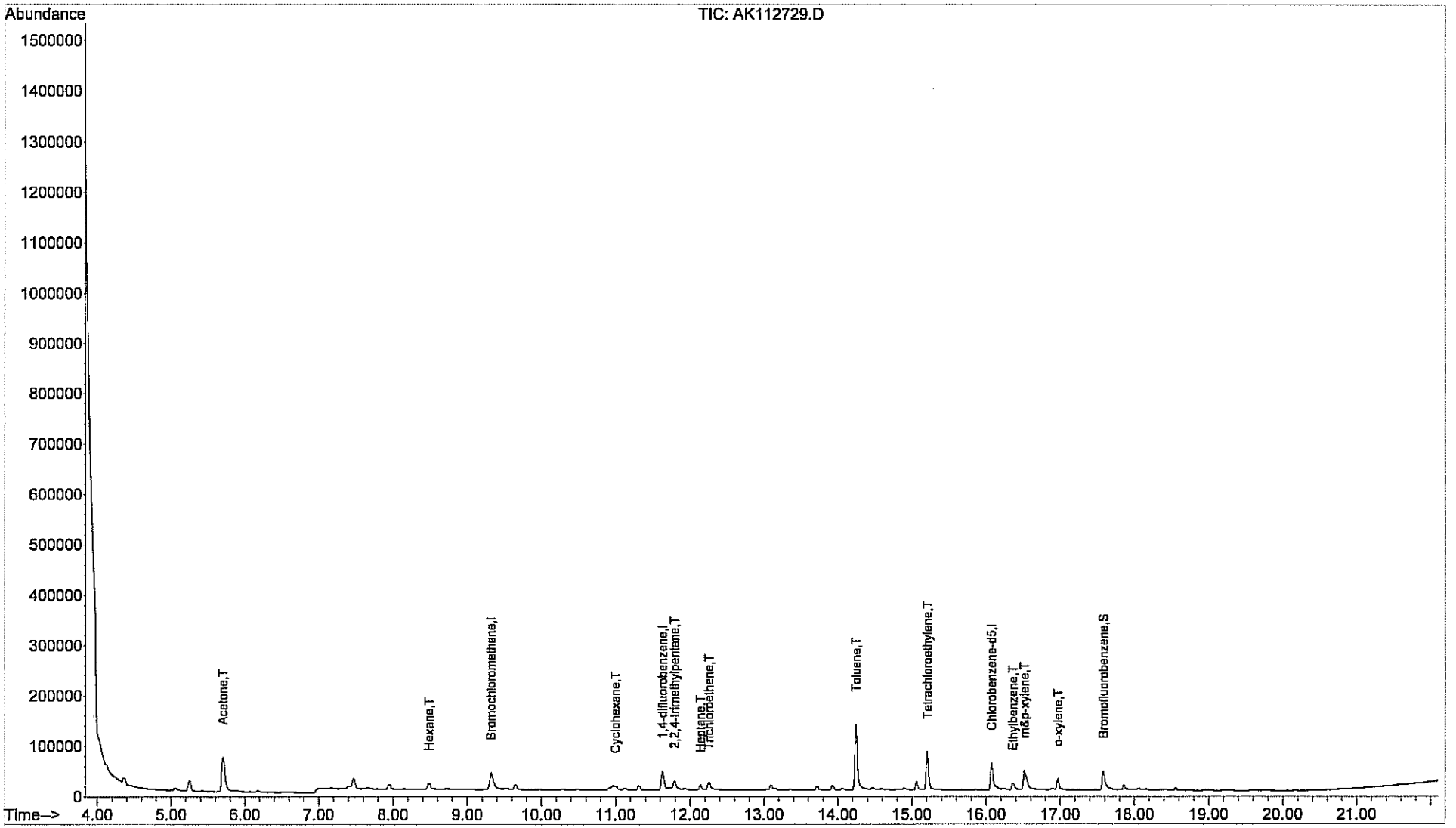
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane	9.32	128	18834	1.00	ppb		-0.04
34) 1,4-difluorobenzene	11.62	114	45262	1.00	ppb		-0.04
49) Chlorobenzene-d5	16.07	117	47902	1.00	ppb		-0.02
System Monitoring Compounds							
62) Bromofluorobenzene	17.58	95	20990	0.75	ppb		-0.02
Spiked Amount 1.000	Range 70 - 130		Recovery = 75.00%				
Target Compounds							Qvalue
15) Acetone	5.70	58	30962	5.96	ppb	#	20
29) Hexane	8.48	57	5476	0.25	ppb	#	82
36) Cyclohexane	11.00	56	4420	0.26	ppb	#	38
41) 2,2,4-trimethylpentane	11.79	57	14991	0.26	ppb		85
42) Heptane	12.14	43	3327	0.19	ppb		92
43) Trichloroethene	12.26	130	7731m	0.34	ppb		
50) Toluene	14.25	92	69438	2.58	ppb		97
55) Tetrachloroethylene	15.21	164	23353	0.84	ppb		100
57) Ethylbenzene	16.36	91	13929	0.28	ppb		98
58) m&p-xylene	16.52	91	41023	0.94	ppb		98
61) o-xylene	16.96	91	15171	0.23	ppb		86

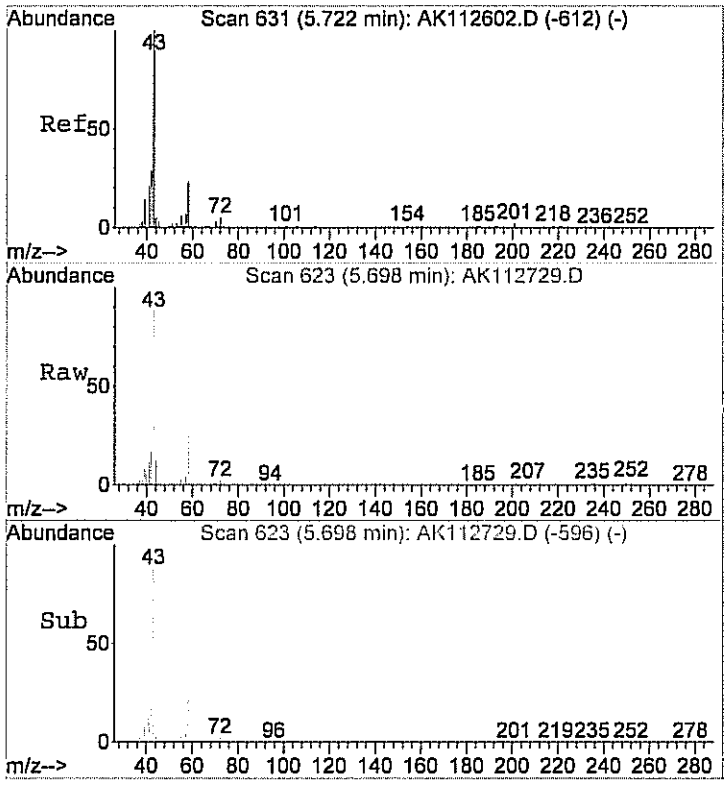
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK112729.D Vial: 29
Acq On : 28 Nov 2013 2:44 am Operator: RJP
Sample : C1311058-006A 10X Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Dec 2 8:27 2013 Quant Results File: AO15_1UG.RES

Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Wed Dec 11 12:48:42 2013
Response via : Initial Calibration

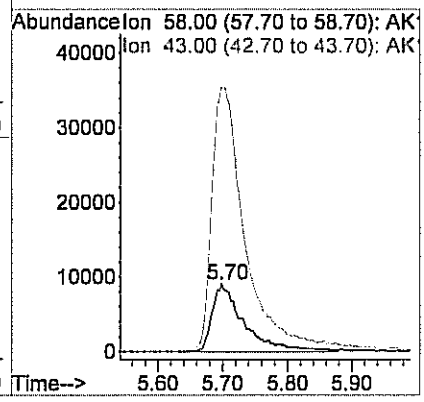


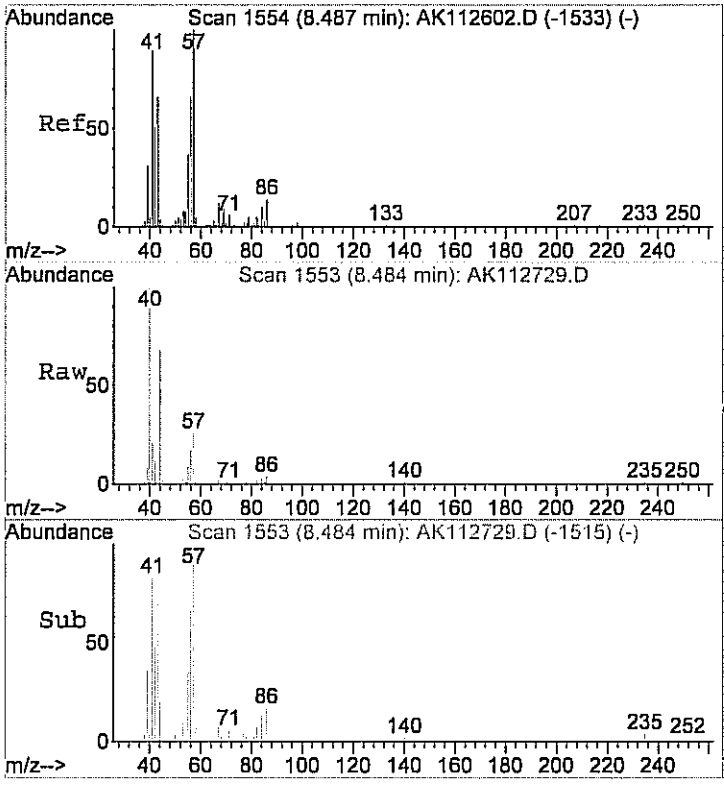


#15
Acetone
Concen: 5.96 ppb
RT: 5.70 min Scan# 623
Delta R.T. -0.07 min
Lab File: AK112729.D
Acq: 28 Nov 2013 2:44 am

Tgt Ion: 58 Resp: 30962

Ion	Ratio	Lower	Upper
58	100		
43	409.1	650.3	710.3#

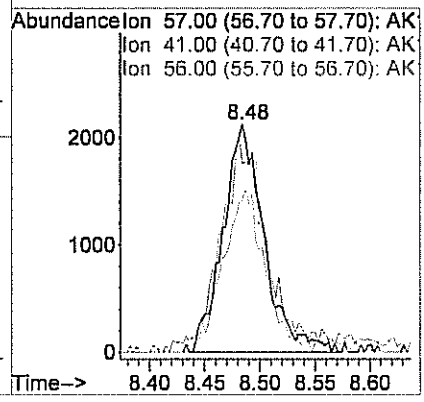


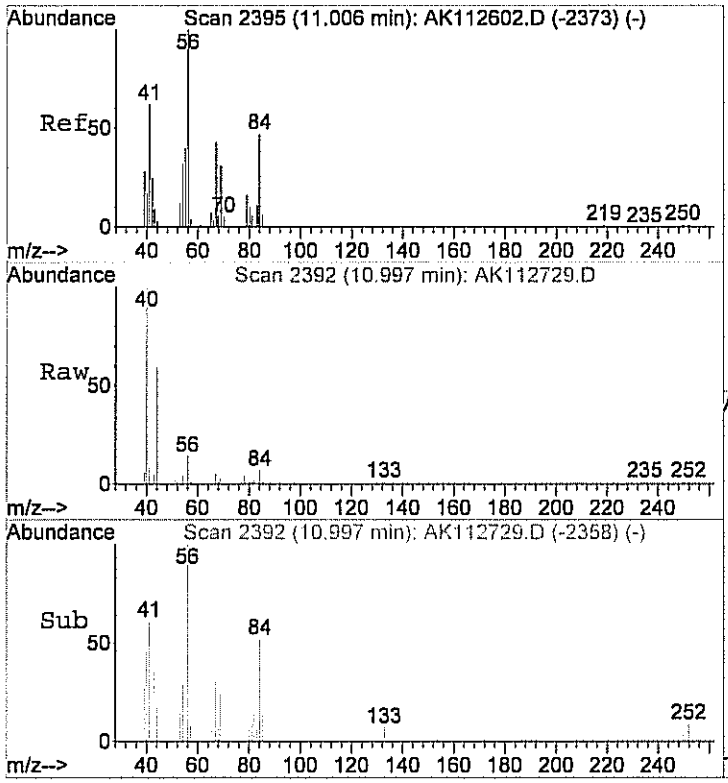


#29
Hexane
Concen: 0.25 ppb
RT: 8.48 min Scan# 1553
Delta R.T. -0.04 min
Lab File: AK112729.D
Acq: 28 Nov 2013 2:44 am

Tgt Ion: 57 Resp: 5476

Ion	Ratio	Lower	Upper
57	100		
41	108.8	68.6	108.6#
56	73.0	43.7	83.7

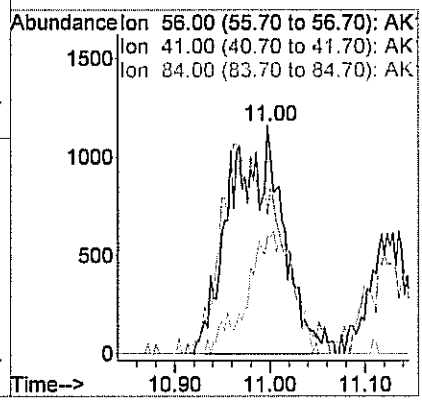


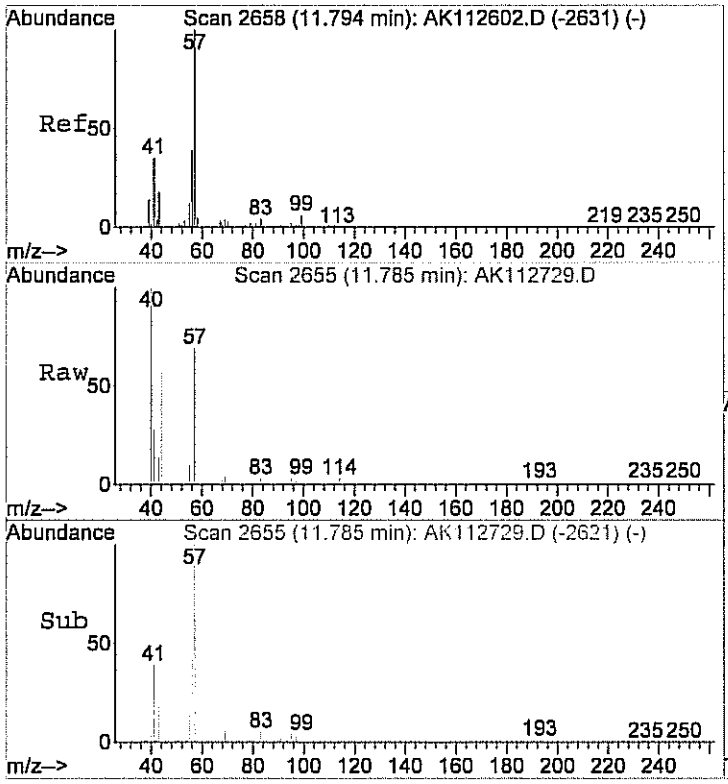


#36
Cyclohexane
Concen: 0.26 ppb
RT: 11.00 min Scan# 2392
Delta R.T. -0.05 min
Lab File: AK112729.D
Acq: 28 Nov 2013 2:44 am

Tgt Ion: 56 Resp: 4420

Ion	Ratio	Lower	Upper
56	100		
41	98.8	38.1	78.1#
84	46.2	97.4	137.4#

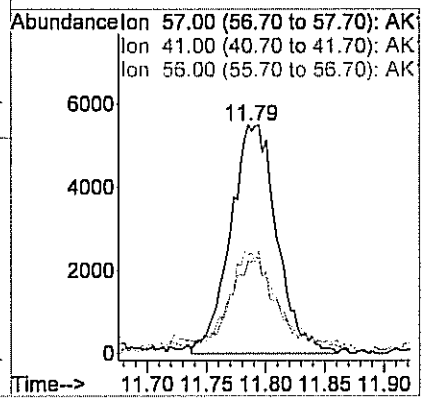


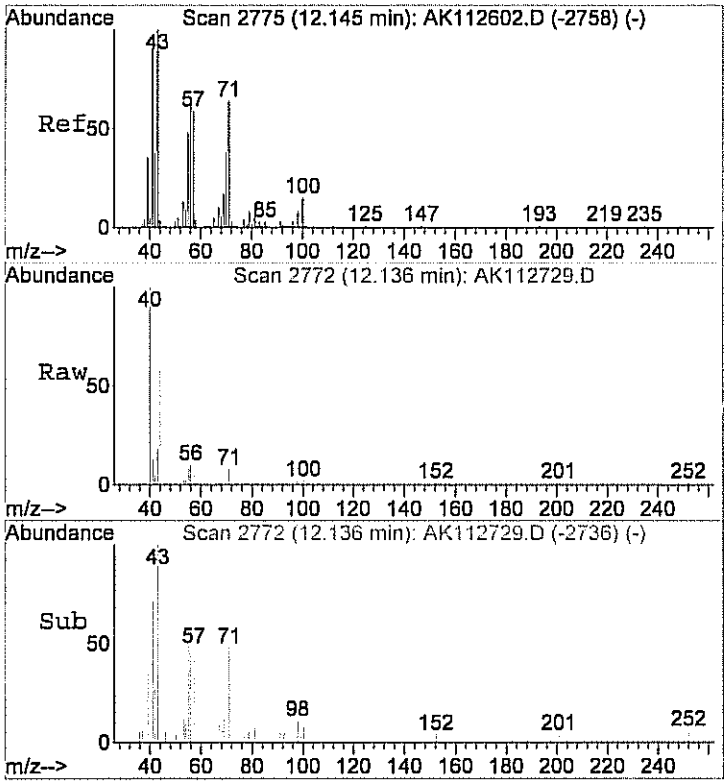


#41
2,2,4-trimethylpentane
Concen: 0.26 ppb
RT: 11.79 min Scan# 2655
Delta R.T. -0.05 min
Lab File: AK112729.D
Acq: 28 Nov 2013 2:44 am

Tgt Ion: 57 Resp: 14991

Ion	Ratio	Lower	Upper
57	100		
41	40.3	12.0	52.0
56	45.4	16.8	56.8

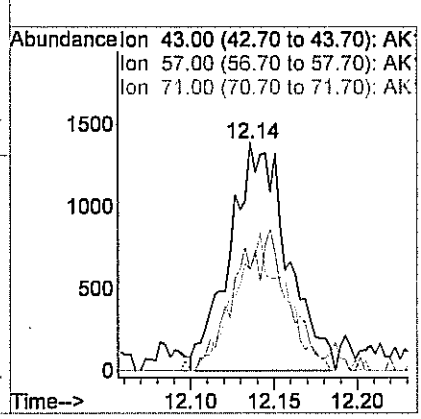


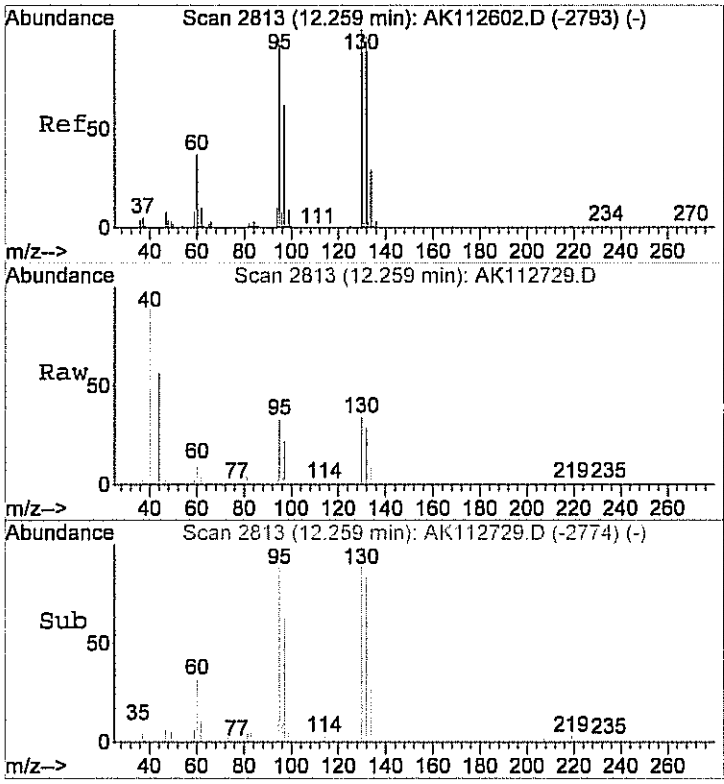


#42
Heptane
Concen: 0.19 ppb
RT: 12.14 min Scan# 2772
Delta R.T. -0.04 min
Lab File: AK112729.D
Acq: 28 Nov 2013 2:44 am

Tgt Ion: 43 Resp: 3327

Ion	Ratio	Lower	Upper
43	100		
57	58.3	40.9	80.9
71	51.9	41.8	81.8

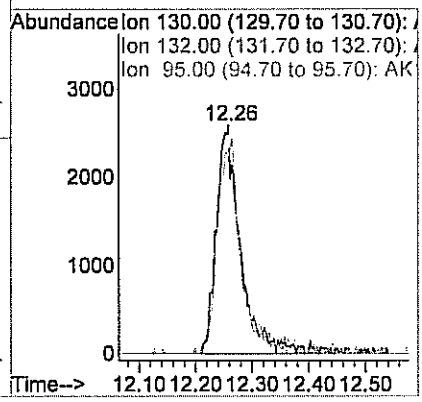


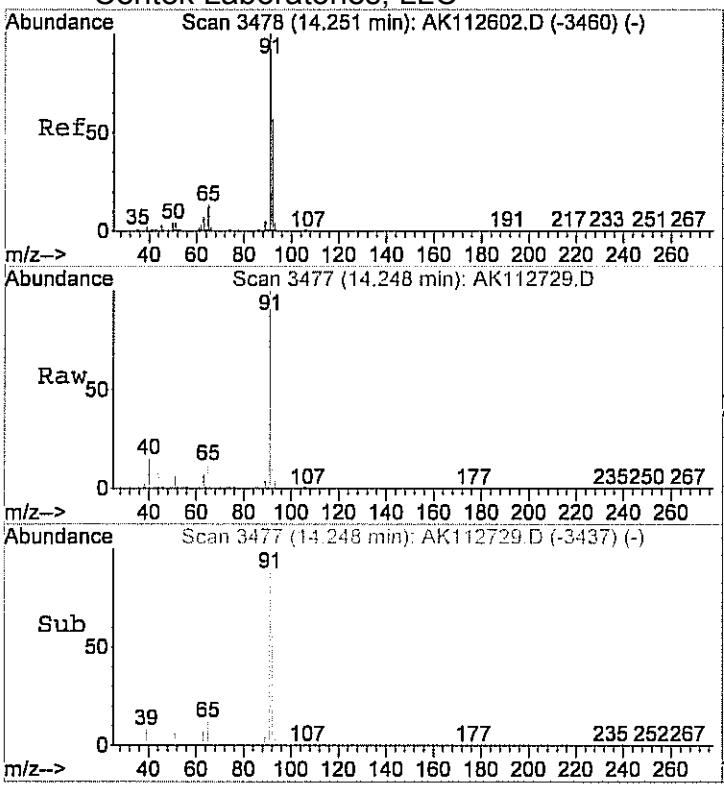


#43
Trichloroethene
Concen: 0.34 ppb m
RT: 12.26 min Scan# 2813
Delta R.T. -0.03 min
Lab File: AK112729.D
Acq: 28 Nov 2013 2:44 am

Tgt Ion:130 Resp: 7731

Ion	Ratio	Lower	Upper
130	100		
132	90.0	77.0	117.0
95	92.8	76.9	116.9

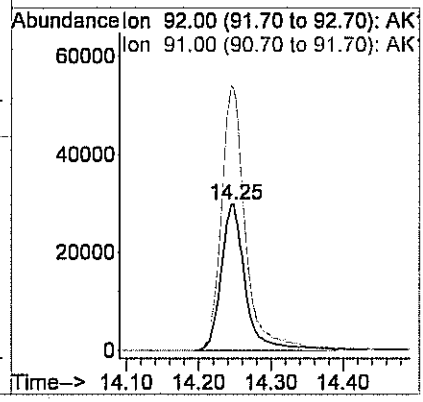


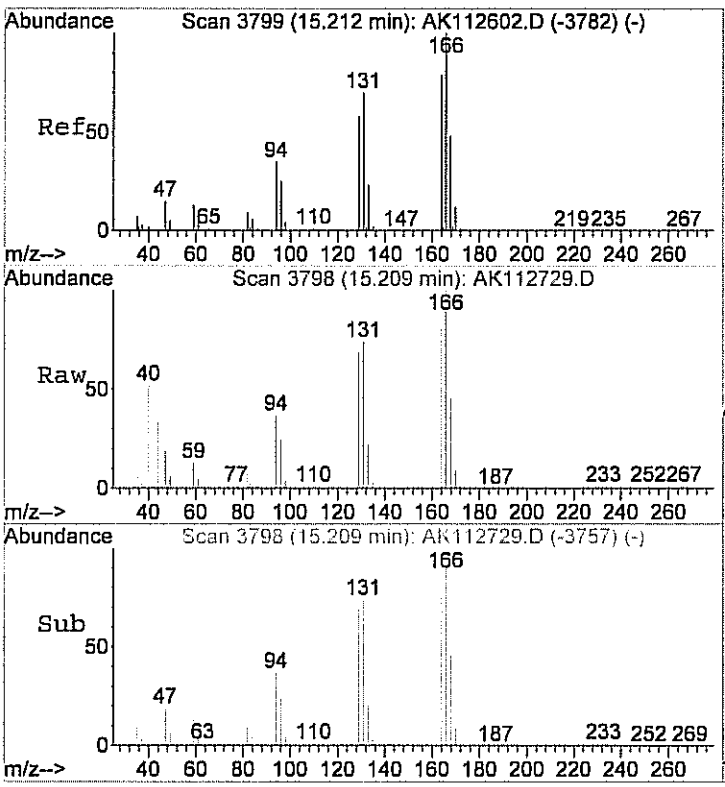


#50
Toluene
Concen: 2.58 ppb
RT: 14.25 min Scan# 3477
Delta R.T. -0.03 min
Lab File: AK112729.D
Acq: 28 Nov 2013 2:44 am

Tgt Ion: 92 Resp: 69438

Ion	Ratio	Lower	Upper
92	100		
91	180.7	156.6	196.6

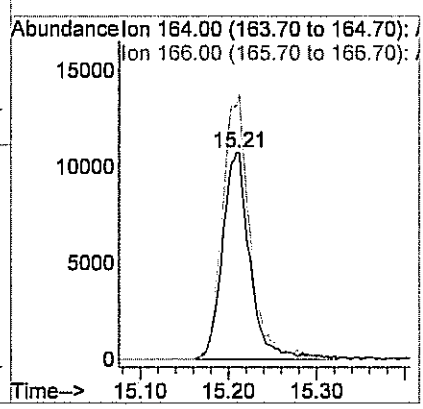


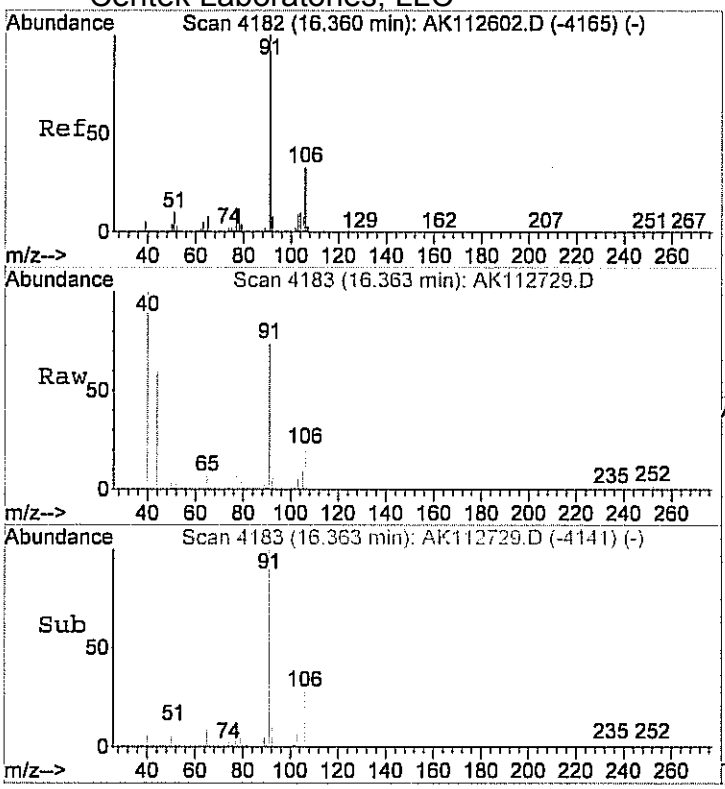


#55
Tetrachloroethylene
Concen: 0.84 ppb
RT: 15.21 min Scan# 3798
Delta R.T. -0.03 min
Lab File: AK112729.D
Acq: 28 Nov 2013 2:44 am

Tgt Ion:164 Resp: 23353

Ion	Ratio	Lower	Upper
164	100		
166	129.3	108.8	148.8

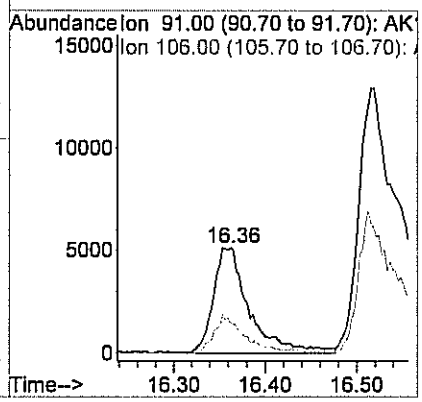


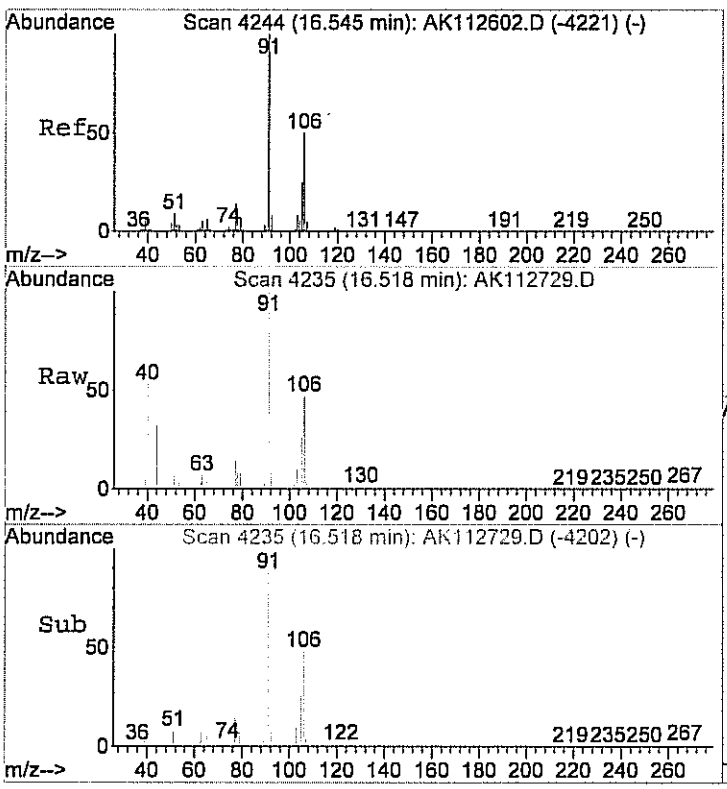


#57
Ethylbenzene
Concen: 0.28 ppb
RT: 16.36 min Scan# 4183
Delta R.T. -0.02 min
Lab File: AK112729.D
Acq: 28 Nov 2013 2:44 am

Tgt Ion: 91 Resp: 13929

Ion	Ratio	Lower	Upper
91	100		
106	31.5	12.8	52.8

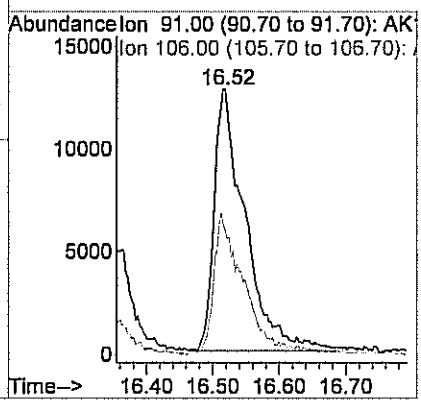


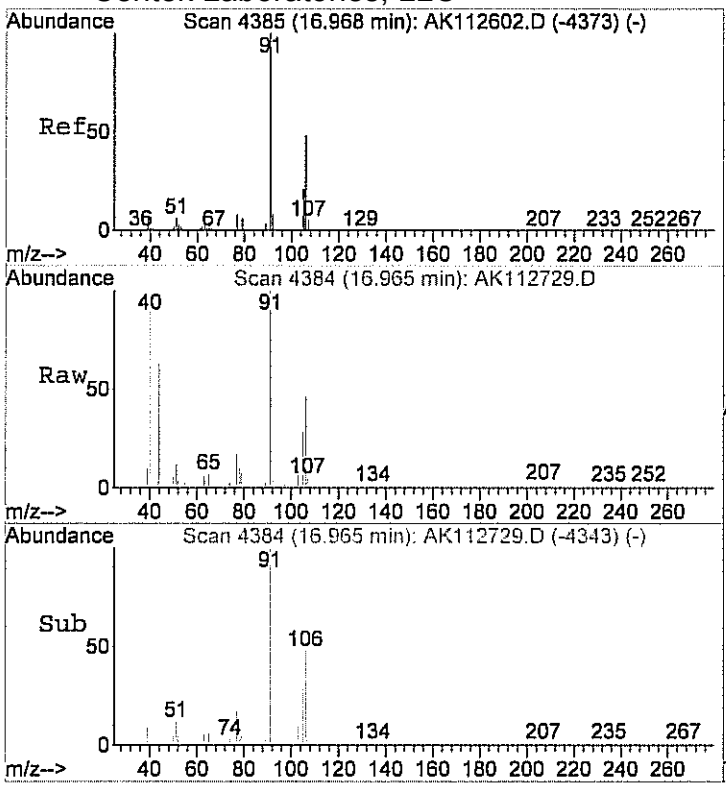


#58
m&p-xylene
Concen: 0.94 ppb
RT: 16.52 min Scan# 4235
Delta R.T. -0.05 min
Lab File: AK112729.D
Acq: 28 Nov 2013 2:44 am

Tgt Ion: 91 Resp: 41023

Ion	Ratio	Lower	Upper
91	100		
106	50.0	31.3	71.3

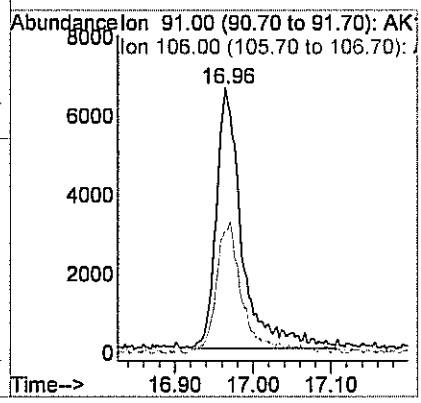




#61
o-xylene
Concen: 0.23 ppb
RT: 16.96 min Scan# 4384
Delta R.T. -0.03 min
Lab File: AK112729.D
Acq: 28 Nov 2013 2:44 am

Tgt Ion: 91 Resp: 15171

Ion	Ratio	Lower	Upper
91	100		
106	51.0	22.3	62.3



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK112730.D Vial: 30
Acq On : 28 Nov 2013 3:18 am Operator: RJP
Sample : C1311058-006A 40X Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 29 10:56:21 2013 Quant Results File: AO15_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Oct 15 18:12:29 2013
Response via : Initial Calibration
DataAcq Meth : 1UG_T015

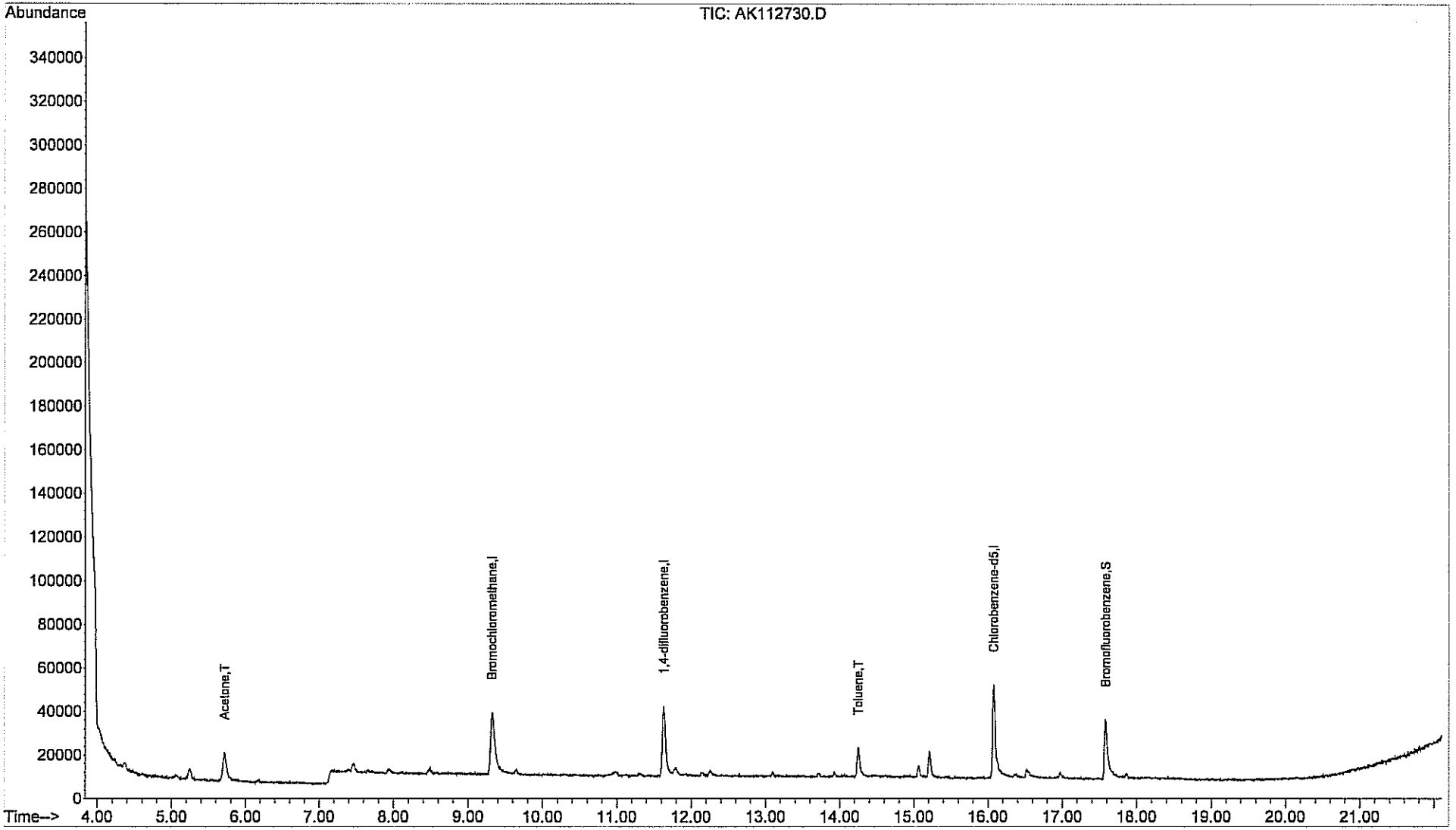
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.33	128	18077	1.00	ppb	-0.04
34) 1,4-difluorobenzene	11.63	114	42960	1.00	ppb	-0.04
49) Chlorobenzene-d5	16.08	117	41605	1.00	ppb	-0.02
System Monitoring Compounds						
62) Bromofluorobenzene	17.58	95	18803m	0.77	ppb	-0.02
Spiked Amount 1.000	Range 70 - 130		Recovery = 77.00%			
Target Compounds						Qvalue
15) Acetone	5.72	58	6528	1.31	ppb	# 15
50) Toluene	14.25	92	8215	0.35	ppb	95

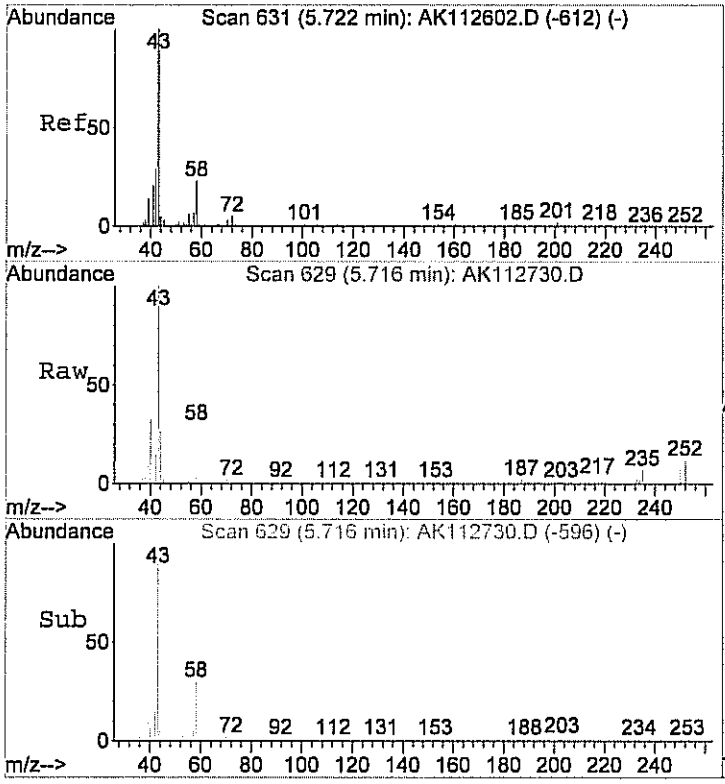
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK112730.D Vial: 30
Acq On : 28 Nov 2013 3:18 am Operator: RJP
Sample : C1311058-006A 40X Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Dec 2 8:28 2013 Quant Results File: AO15_1UG.RES

Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Wed Dec 11 12:48:42 2013
Response via : Initial Calibration

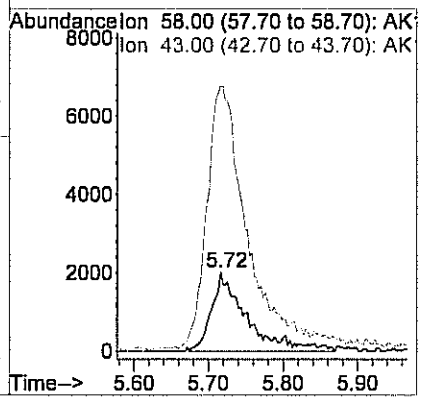


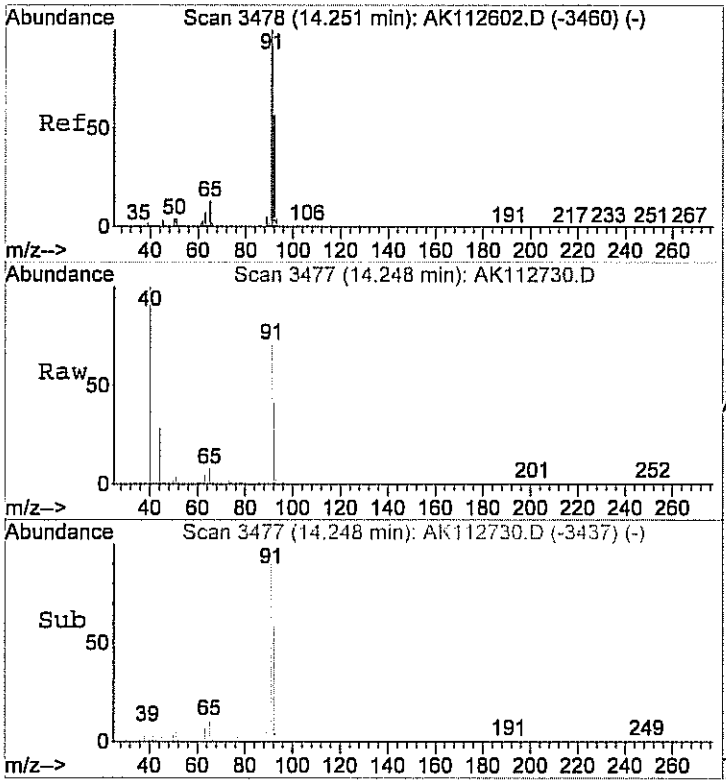


#15
Acetone
Concen: 1.31 ppb
RT: 5.72 min Scan# 629
Delta R.T. -0.05 min
Lab File: AK112730.D
Acq: 28 Nov 2013 3:18 am

Tgt Ion: 58 Resp: 6528

Ion	Ratio	Lower	Upper
58	100		
43	390.7	650.3	710.3#

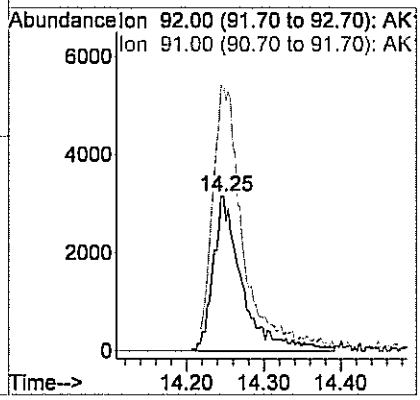




#50
Toluene
Concen: 0.35 ppb
RT: 14.25 min Scan# 3477
Delta R.T. -0.03 min
Lab File: AK112730.D
Acq: 28 Nov 2013 3:18 am

Tgt Ion: 92 Resp: 8215

Ion	Ratio	Lower	Upper
92	100		
91	183.4	156.6	196.6



Centek Laboratories, LLC

Date: *11-Dec-13*

CLIENT:	HDR Engineering	**Client Sample ID:**	303-W-IA
Lab Order:	C1311058	**Tag Number:**	171,455
Project:	Aluminum Louvre	**Collection Date:**	11/18/2013
Lab ID:	C1311058-007A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS		FLD				Analyst:
Lab Vacuum In	-1			"Hg		11/20/2013
Lab Vacuum Out	-30			"Hg		11/20/2013
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		TO-15				Analyst: RJP
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	11/27/2013 2:43:00 AM
1,1,2,2-Tetrachloroethane	< 0.15	0.15		ppbV	1	11/27/2013 2:43:00 AM
1,1,2-Trichloroethane	< 0.15	0.15		ppbV	1	11/27/2013 2:43:00 AM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	11/27/2013 2:43:00 AM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	11/27/2013 2:43:00 AM
1,2,4-Trichlorobenzene	< 0.15	0.15		ppbV	1	11/27/2013 2:43:00 AM
1,2,4-Trimethylbenzene	0.15	0.15		ppbV	1	11/27/2013 2:43:00 AM
1,2-Dibromoethane	< 0.15	0.15		ppbV	1	11/27/2013 2:43:00 AM
1,2-Dichlorobenzene	< 0.15	0.15		ppbV	1	11/27/2013 2:43:00 AM
1,2-Dichloroethane	< 0.15	0.15		ppbV	1	11/27/2013 2:43:00 AM
1,2-Dichloropropane	< 0.15	0.15		ppbV	1	11/27/2013 2:43:00 AM
1,3,5-Trimethylbenzene	< 0.15	0.15		ppbV	1	11/27/2013 2:43:00 AM
1,3-butadiene	< 0.15	0.15		ppbV	1	11/27/2013 2:43:00 AM
1,3-Dichlorobenzene	< 0.15	0.15		ppbV	1	11/27/2013 2:43:00 AM
1,4-Dichlorobenzene	< 0.15	0.15		ppbV	1	11/27/2013 2:43:00 AM
1,4-Dioxane	< 0.30	0.30		ppbV	1	11/27/2013 2:43:00 AM
2,2,4-trimethylpentane	0.29	0.15		ppbV	1	11/27/2013 2:43:00 AM
4-ethyltoluene	< 0.15	0.15		ppbV	1	11/27/2013 2:43:00 AM
Acetone	6.0	3.0		ppbV	10	11/27/2013 9:53:00 PM
Allyl chloride	< 0.15	0.15		ppbV	1	11/27/2013 2:43:00 AM
Benzene	0.30	0.15		ppbV	1	11/27/2013 2:43:00 AM
Benzyl chloride	< 0.15	0.15		ppbV	1	11/27/2013 2:43:00 AM
Bromodichloromethane	< 0.15	0.15		ppbV	1	11/27/2013 2:43:00 AM
Bromoform	< 0.15	0.15		ppbV	1	11/27/2013 2:43:00 AM
Bromomethane	< 0.15	0.15		ppbV	1	11/27/2013 2:43:00 AM
Carbon disulfide	< 0.15	0.15		ppbV	1	11/27/2013 2:43:00 AM
Carbon tetrachloride	0.10	0.040		ppbV	1	11/27/2013 2:43:00 AM
Chlorobenzene	< 0.15	0.15		ppbV	1	11/27/2013 2:43:00 AM
Chloroethane	< 0.15	0.15		ppbV	1	11/27/2013 2:43:00 AM
Chloroform	< 0.15	0.15		ppbV	1	11/27/2013 2:43:00 AM
Chloromethane	0.42	0.15		ppbV	1	11/27/2013 2:43:00 AM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	11/27/2013 2:43:00 AM
cis-1,3-Dichloropropene	< 0.15	0.15		ppbV	1	11/27/2013 2:43:00 AM
Cyclohexane	< 0.15	0.15		ppbV	1	11/27/2013 2:43:00 AM
Dibromochloromethane	< 0.15	0.15		ppbV	1	11/27/2013 2:43:00 AM
Ethyl acetate	0.12	0.25	J	ppbV	1	11/27/2013 2:43:00 AM

Qualifiers:

**	Reporting Limit	.	Results reported are not blank corrected
B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: *11-Dec-13*

CLIENT:	HDR Engineering	**Client Sample ID:**	303-W-IA
Lab Order:	C1311058	**Tag Number:**	171,455
Project:	Aluminum Louvre	**Collection Date:**	11/18/2013
Lab ID:	C1311058-007A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		TO-15				Analyst: RJP
Ethylbenzene	0.21	0.15		ppbV	1	11/27/2013 2:43:00 AM
Freon 11	0.21	0.15		ppbV	1	11/27/2013 2:43:00 AM
Freon 113	< 0.15	0.15		ppbV	1	11/27/2013 2:43:00 AM
Freon 114	< 0.15	0.15		ppbV	1	11/27/2013 2:43:00 AM
Freon 12	0.53	0.15		ppbV	1	11/27/2013 2:43:00 AM
Heptane	0.64	0.15		ppbV	1	11/27/2013 2:43:00 AM
Hexachloro-1,3-butadiene	< 0.15	0.15		ppbV	1	11/27/2013 2:43:00 AM
Hexane	0.73	0.15		ppbV	1	11/27/2013 2:43:00 AM
Isopropyl alcohol	< 0.15	0.15		ppbV	1	11/27/2013 2:43:00 AM
m&p-Xylene	0.49	0.30		ppbV	1	11/27/2013 2:43:00 AM
Methyl Butyl Ketone	< 0.30	0.30		ppbV	1	11/27/2013 2:43:00 AM
Methyl Ethyl Ketone	0.54	0.30		ppbV	1	11/27/2013 2:43:00 AM
Methyl Isobutyl Ketone	< 0.30	0.30		ppbV	1	11/27/2013 2:43:00 AM
Methyl tert-butyl ether	< 0.15	0.15		ppbV	1	11/27/2013 2:43:00 AM
Methylene chloride	0.25	0.15		ppbV	1	11/27/2013 2:43:00 AM
o-Xylene	0.14	0.15	J	ppbV	1	11/27/2013 2:43:00 AM
Propylene	< 0.15	0.15		ppbV	1	11/27/2013 2:43:00 AM
Styrene	0.13	0.15	J	ppbV	1	11/27/2013 2:43:00 AM
Tetrachloroethylene	0.10	0.15	J	ppbV	1	11/27/2013 2:43:00 AM
Tetrahydrofuran	< 0.15	0.15		ppbV	1	11/27/2013 2:43:00 AM
Toluene	1.6	0.15		ppbV	1	11/27/2013 2:43:00 AM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	11/27/2013 2:43:00 AM
trans-1,3-Dichloropropene	< 0.15	0.15		ppbV	1	11/27/2013 2:43:00 AM
Trichloroethene	0.14	0.040		ppbV	1	11/27/2013 2:43:00 AM
Vinyl acetate	< 0.15	0.15		ppbV	1	11/27/2013 2:43:00 AM
Vinyl Bromide	< 0.15	0.15		ppbV	1	11/27/2013 2:43:00 AM
Vinyl chloride	< 0.040	0.040		ppbV	1	11/27/2013 2:43:00 AM
Surr: Bromofluorobenzene	83.0	70-130		%REC	1	11/27/2013 2:43:00 AM

Qualifiers:

**	Reporting Limit	.	Results reported are not blank corrected
B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: *11-Dec-13*

CLIENT:	HDR Engineering	**Client Sample ID:**	303-W-IA
Lab Order:	C1311058	**Tag Number:**	171,455
Project:	Aluminum Louvre	**Collection Date:**	11/18/2013
Lab ID:	C1311058-007A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		**TO-15**				Analyst: RJP
1,1,1-Trichloroethane	< 0.83	0.83		ug/m3	1	11/27/2013 2:43:00 AM
1,1,2,2-Tetrachloroethane	< 1.0	1.0		ug/m3	1	11/27/2013 2:43:00 AM
1,1,2-Trichloroethane	< 0.83	0.83		ug/m3	1	11/27/2013 2:43:00 AM
1,1-Dichloroethane	< 0.62	0.62		ug/m3	1	11/27/2013 2:43:00 AM
1,1-Dichloroethene	< 0.60	0.60		ug/m3	1	11/27/2013 2:43:00 AM
1,2,4-Trichlorobenzene	< 1.1	1.1		ug/m3	1	11/27/2013 2:43:00 AM
1,2,4-Trimethylbenzene	0.75	0.75		ug/m3	1	11/27/2013 2:43:00 AM
1,2-Dibromoethane	< 1.2	1.2		ug/m3	1	11/27/2013 2:43:00 AM
1,2-Dichlorobenzene	< 0.92	0.92		ug/m3	1	11/27/2013 2:43:00 AM
1,2-Dichloroethane	< 0.62	0.62		ug/m3	1	11/27/2013 2:43:00 AM
1,2-Dichloropropane	< 0.70	0.70		ug/m3	1	11/27/2013 2:43:00 AM
1,3,5-Trimethylbenzene	< 0.75	0.75		ug/m3	1	11/27/2013 2:43:00 AM
1,3-butadiene	< 0.34	0.34		ug/m3	1	11/27/2013 2:43:00 AM
1,3-Dichlorobenzene	< 0.92	0.92		ug/m3	1	11/27/2013 2:43:00 AM
1,4-Dichlorobenzene	< 0.92	0.92		ug/m3	1	11/27/2013 2:43:00 AM
1,4-Dioxane	< 1.1	1.1		ug/m3	1	11/27/2013 2:43:00 AM
2,2,4-trimethylpentane	1.4	0.71		ug/m3	1	11/27/2013 2:43:00 AM
4-ethyltoluene	< 0.75	0.75		ug/m3	1	11/27/2013 2:43:00 AM
Acetone	14	7.2		ug/m3	10	11/27/2013 9:53:00 PM
Allyl chloride	< 0.48	0.48		ug/m3	1	11/27/2013 2:43:00 AM
Benzene	0.97	0.49		ug/m3	1	11/27/2013 2:43:00 AM
Benzyl chloride	< 0.88	0.88		ug/m3	1	11/27/2013 2:43:00 AM
Bromodichloromethane	< 1.0	1.0		ug/m3	1	11/27/2013 2:43:00 AM
Bromoform	< 1.6	1.6		ug/m3	1	11/27/2013 2:43:00 AM
Bromomethane	< 0.59	0.59		ug/m3	1	11/27/2013 2:43:00 AM
Carbon disulfide	< 0.47	0.47		ug/m3	1	11/27/2013 2:43:00 AM
Carbon tetrachloride	0.64	0.26		ug/m3	1	11/27/2013 2:43:00 AM
Chlorobenzene	< 0.70	0.70		ug/m3	1	11/27/2013 2:43:00 AM
Chloroethane	< 0.40	0.40		ug/m3	1	11/27/2013 2:43:00 AM
Chloroform	< 0.74	0.74		ug/m3	1	11/27/2013 2:43:00 AM
Chloromethane	0.88	0.31		ug/m3	1	11/27/2013 2:43:00 AM
cis-1,2-Dichloroethene	< 0.60	0.60		ug/m3	1	11/27/2013 2:43:00 AM
cis-1,3-Dichloropropene	< 0.69	0.69		ug/m3	1	11/27/2013 2:43:00 AM
Cyclohexane	< 0.52	0.52		ug/m3	1	11/27/2013 2:43:00 AM
Dibromochloromethane	< 1.3	1.3		ug/m3	1	11/27/2013 2:43:00 AM
Ethyl acetate	0.44	0.92	J	ug/m3	1	11/27/2013 2:43:00 AM
Ethylbenzene	0.93	0.66		ug/m3	1	11/27/2013 2:43:00 AM
Freon 11	1.2	0.86		ug/m3	1	11/27/2013 2:43:00 AM
Freon 113	< 1.2	1.2		ug/m3	1	11/27/2013 2:43:00 AM
Freon 114	< 1.1	1.1		ug/m3	1	11/27/2013 2:43:00 AM

Qualifiers:

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B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: *11-Dec-13*

CLIENT:	HDR Engineering	**Client Sample ID:**	303-W-1A
Lab Order:	C1311058	**Tag Number:**	171,455
Project:	Aluminum Louvre	**Collection Date:**	11/18/2013
Lab ID:	C1311058-007A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		**TO-15**				Analyst: **RJP**
Freon 12	2.7	0.75		ug/m3	1	11/27/2013 2:43:00 AM
Heptane	2.7	0.62		ug/m3	1	11/27/2013 2:43:00 AM
Hexachloro-1,3-butadiene	< 1.6	1.6		ug/m3	1	11/27/2013 2:43:00 AM
Hexane	2.6	0.54		ug/m3	1	11/27/2013 2:43:00 AM
Isopropyl alcohol	< 0.37	0.37		ug/m3	1	11/27/2013 2:43:00 AM
m&p-Xylene	2.2	1.3		ug/m3	1	11/27/2013 2:43:00 AM
Methyl Butyl Ketone	< 1.2	1.2		ug/m3	1	11/27/2013 2:43:00 AM
Methyl Ethyl Ketone	1.6	0.90		ug/m3	1	11/27/2013 2:43:00 AM
Methyl Isobutyl Ketone	< 1.2	1.2		ug/m3	1	11/27/2013 2:43:00 AM
Methyl tert-butyl ether	< 0.55	0.55		ug/m3	1	11/27/2013 2:43:00 AM
Methylene chloride	0.88	0.53		ug/m3	1	11/27/2013 2:43:00 AM
o-Xylene	0.62	0.66	J	ug/m3	1	11/27/2013 2:43:00 AM
Propylene	< 0.26	0.26		ug/m3	1	11/27/2013 2:43:00 AM
Styrene	0.56	0.65	J	ug/m3	1	11/27/2013 2:43:00 AM
Tetrachloroethylene	0.69	1.0	J	ug/m3	1	11/27/2013 2:43:00 AM
Tetrahydrofuran	< 0.45	0.45		ug/m3	1	11/27/2013 2:43:00 AM
Toluene	6.1	0.57		ug/m3	1	11/27/2013 2:43:00 AM
trans-1,2-Dichloroethene	< 0.60	0.60		ug/m3	1	11/27/2013 2:43:00 AM
trans-1,3-Dichloropropene	< 0.69	0.69		ug/m3	1	11/27/2013 2:43:00 AM
Trichloroethene	0.76	0.22		ug/m3	1	11/27/2013 2:43:00 AM
Vinyl acetate	< 0.54	0.54		ug/m3	1	11/27/2013 2:43:00 AM
Vinyl Bromide	< 0.67	0.67		ug/m3	1	11/27/2013 2:43:00 AM
Vinyl chloride	< 0.10	0.10		ug/m3	1	11/27/2013 2:43:00 AM

Qualifiers:

**	Reporting Limit	.	Results reported are not blank corrected
B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK112628.D Vial: 47
Acq On : 27 Nov 2013 2:43 am Operator: RJP
Sample : C1311058-007A Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 27 07:39:44 2013 Quant Results File: AO15_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Oct 15 18:12:29 2013
Response via : Initial Calibration
DataAcq Meth : 1UG_T015

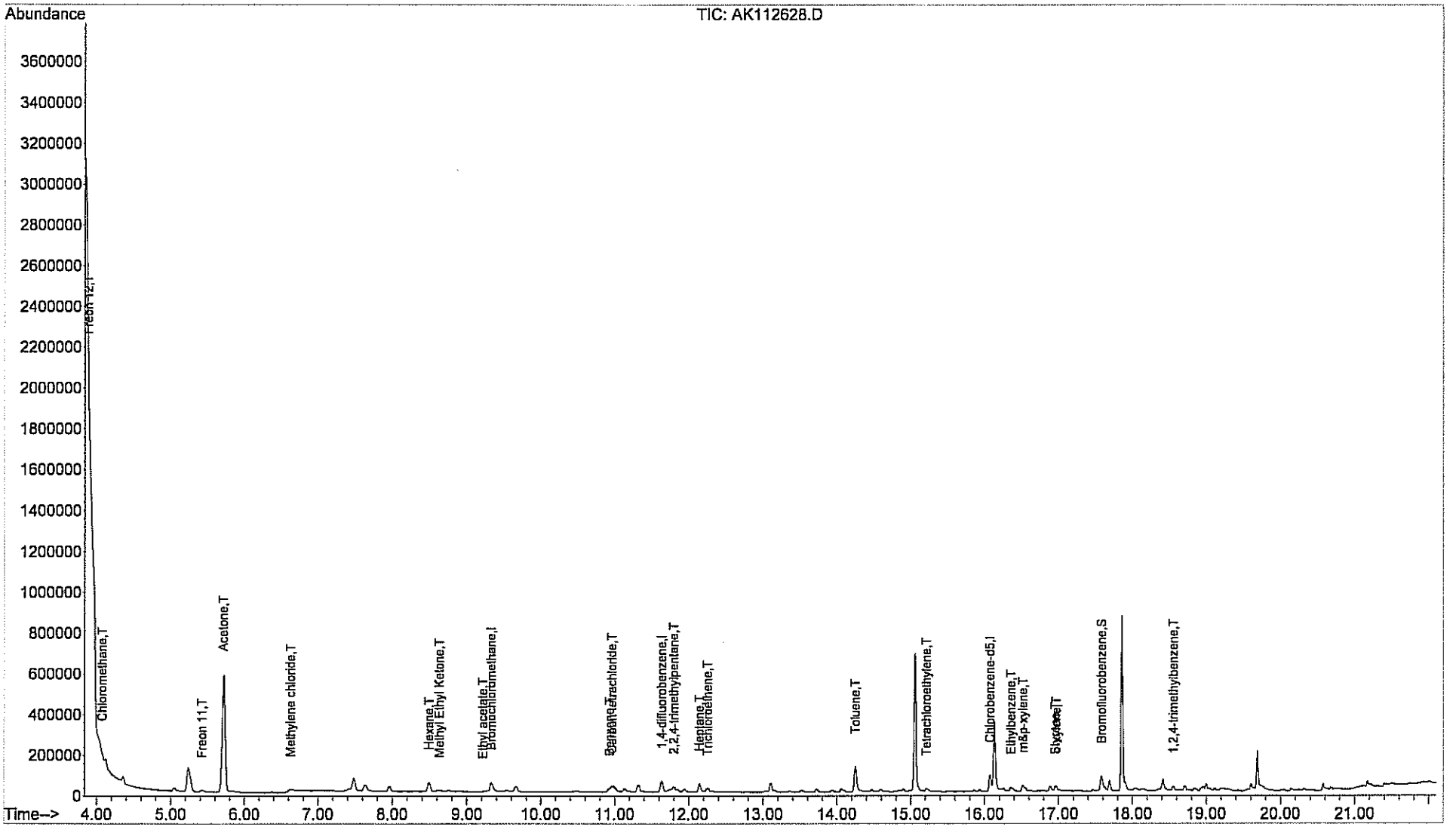
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane	9.33	128	23471	1.00	ppb		-0.03
34) 1,4-difluorobenzene	11.64	114	63182	1.00	ppb		-0.03
49) Chlorobenzene-d5	16.07	117	71713	1.00	ppb		-0.03
System Monitoring Compounds							
62) Bromofluorobenzene	17.58	95	34906	0.83	ppb		-0.03
Spiked Amount 1.000	Range 70 - 130		Recovery = 83.00%				
Target Compounds							Qvalue
4) Freon 12	3.89	85	41388	0.53	ppb		100
5) Chloromethane	4.08	50	7826	0.42	ppb		81
14) Freon 11	5.43	101	13047	0.21	ppb		98
15) Acetone	5.70	58	31322	4.84	ppb	#	1
20) Methylene chloride	6.64	84	3688	0.25	ppb		95
27) Methyl Ethyl Ketone	8.63	72	4795	0.54	ppb	#	100
29) Hexane	8.50	57	20124	0.73	ppb		91
30) Ethyl acetate	9.22	43	4132	0.12	ppb	#	73
37) Carbon tetrachloride	10.96	117	6024	0.10	ppb		96
38) Benzene	10.92	78	20508	0.30	ppb		92
41) 2,2,4-trimethylpentane	11.79	57	23410	0.29	ppb	#	50
42) Heptane	12.14	43	15863	0.64	ppb		90
43) Trichloroethene	12.26	130	4405	0.14	ppb		94
50) Toluene	14.25	92	63668	1.58	ppb		98
55) Tetrachloroethylene	15.21	164	3969	0.10	ppb		99
57) Ethylbenzene	16.36	91	16124	0.21	ppb		97
58) m&p-xylene	16.52	91	32096	0.49	ppb		99
59) Styrene	16.95	104	6819	0.13	ppb		79
61) o-xylene	16.97	91	13460	0.14	ppb		89
67) 1,2,4-trimethylbenzene	18.55	105	9671	0.15	ppb		93

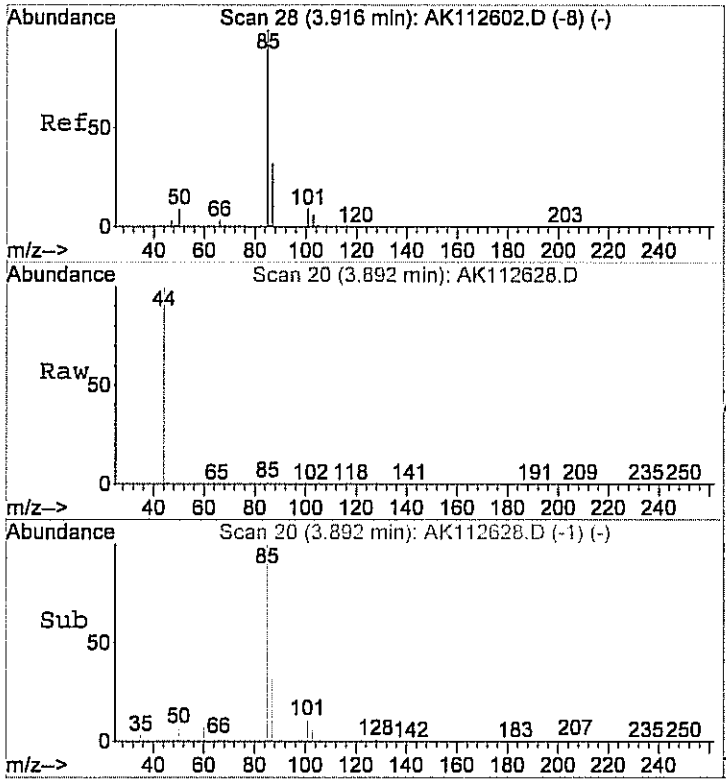
(#) = qualifier out of range (m) = manual integration (+) = signals summed
AK112628.D AO15_1UG.M Wed Dec 11 12:52:26 2013 MSD1 Page 1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK112628.D Vial: 47
Acq On : 27 Nov 2013 2:43 am Operator: RJP
Sample : C1311058-007A Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 29 11:02 2013 Quant Results File: AO15_1UG.RES

Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Wed Dec 11 12:48:42 2013
Response via : Initial Calibration

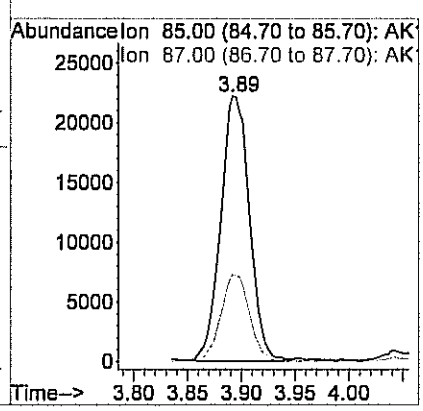


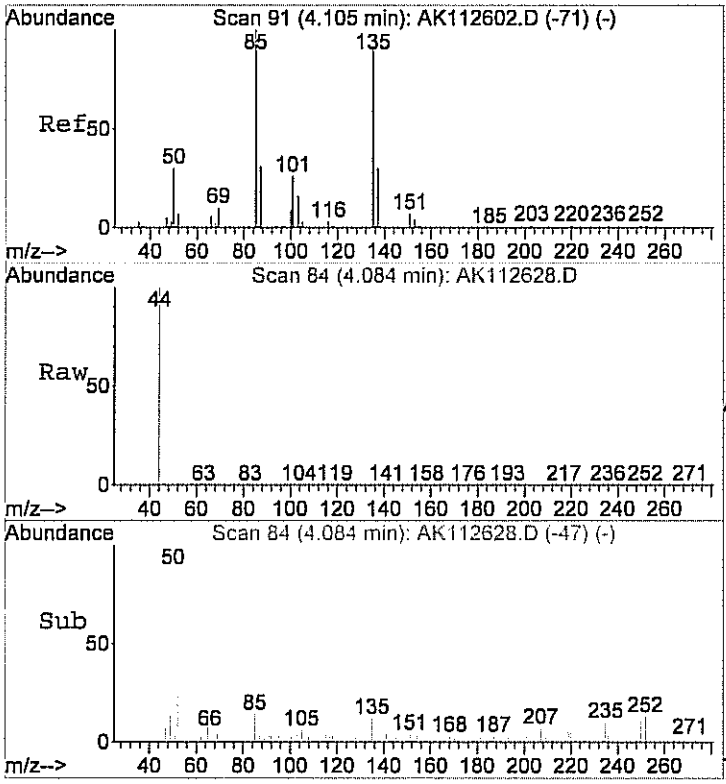


#4
Freon 12
Concen: 0.53 ppb
RT: 3.89 min Scan# 20
Delta R.T. -0.04 min
Lab File: AK112628.D
Acq: 27 Nov 2013 2:43 am

Tgt Ion: 85 Resp: 41388

Ion	Ratio	Lower	Upper
85	100		
87	32.7	12.8	52.8

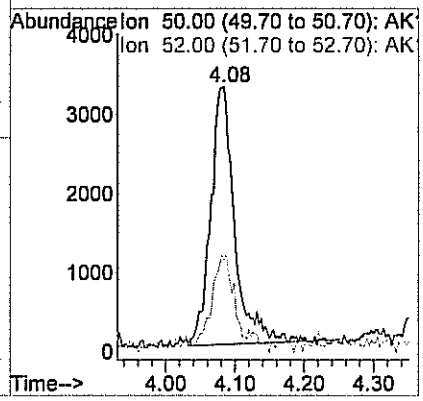


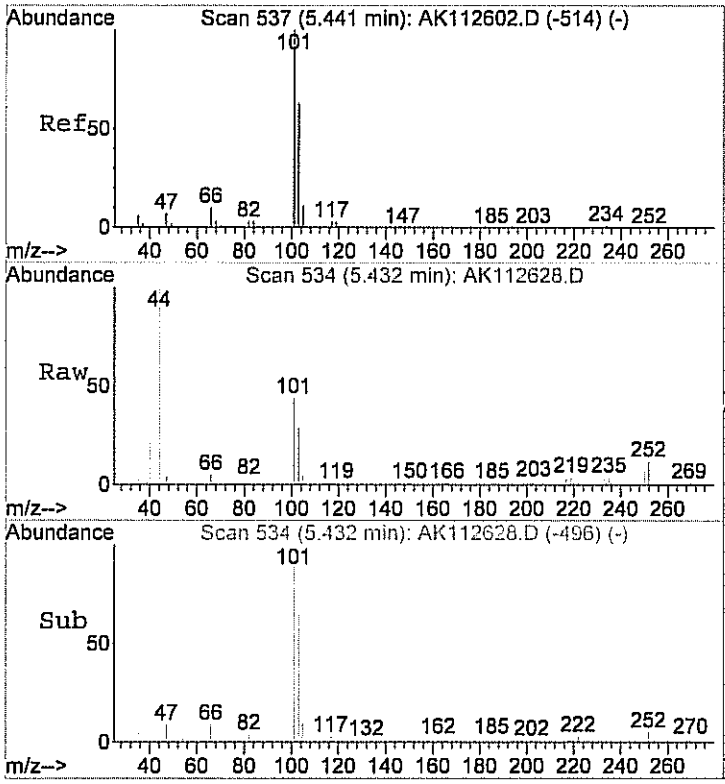


#5
Chloromethane
Concen: 0.42 ppb
RT: 4.08 min Scan# 84
Delta R.T. -0.04 min
Lab File: AK112628.D
Acq: 27 Nov 2013 2:43 am

Tgt Ion: 50 Resp: 7826

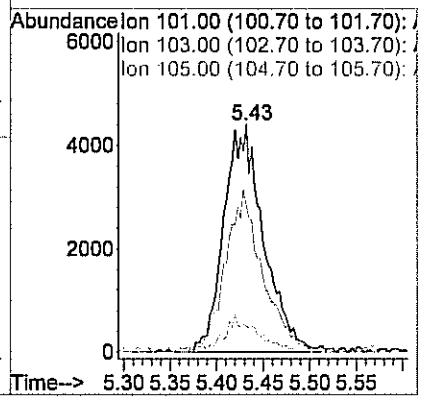
Ion	Ratio	Lower	Upper
50	100		
52	39.5	9.4	49.4

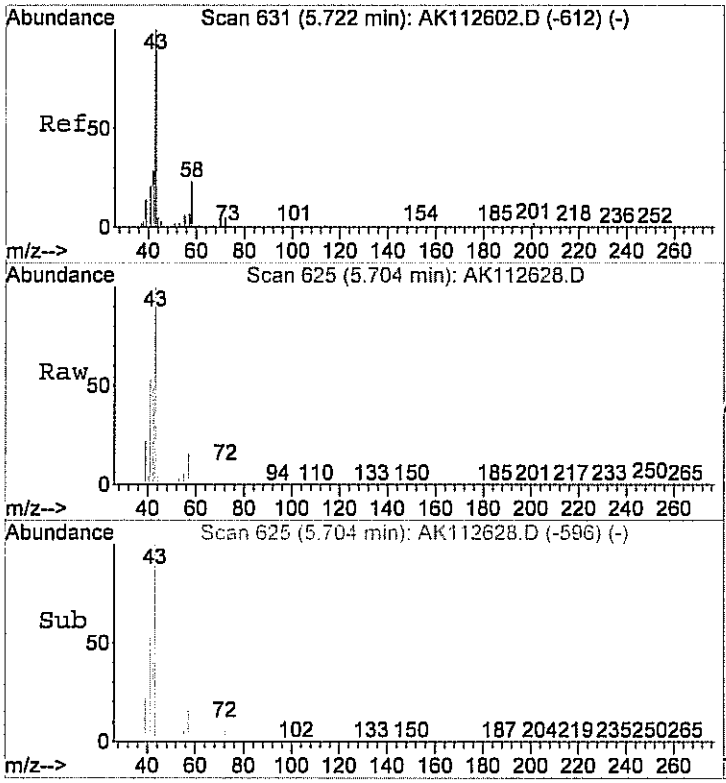




#14
Freon 11
Concen: 0.21 ppb
RT: 5.43 min Scan# 534
Delta R.T. -0.04 min
Lab File: AK112628.D
Acq: 27 Nov 2013 2:43 am

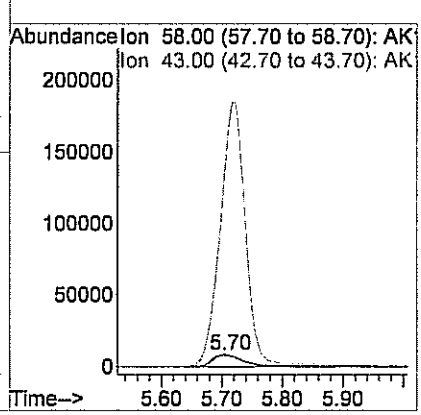
Tgt Ion:101	Resp:	13047	
Ion	Ratio	Lower	Upper
101	100		
103	67.0	46.0	86.0
105	13.3	0.0	31.7

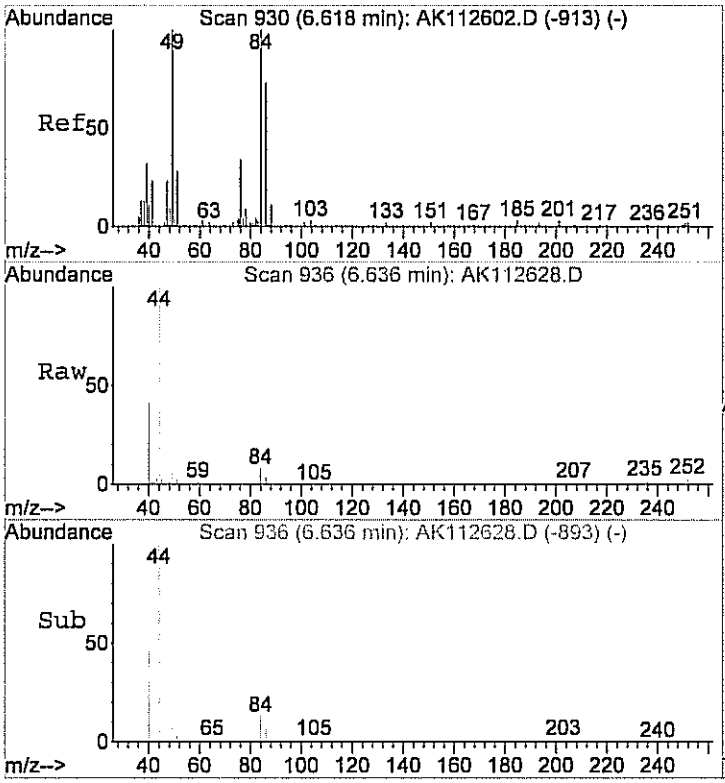




#15
Acetone
Concen: 4.84 ppb
RT: 5.70 min Scan# 625
Delta R.T. -0.06 min
Lab File: AK112628.D
Acq: 27 Nov 2013 2:43 am

Tgt Ion: 58	Resp:	31322	
Ion	Ratio	Lower	Upper
58	100		
43	1711.0	650.3	710.3#

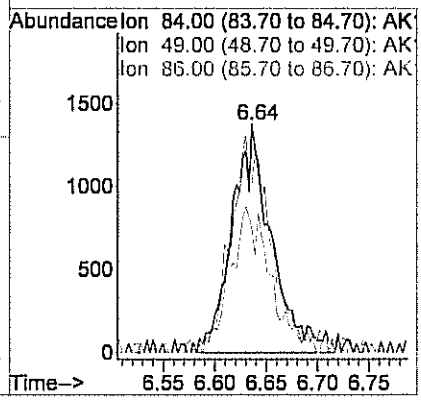


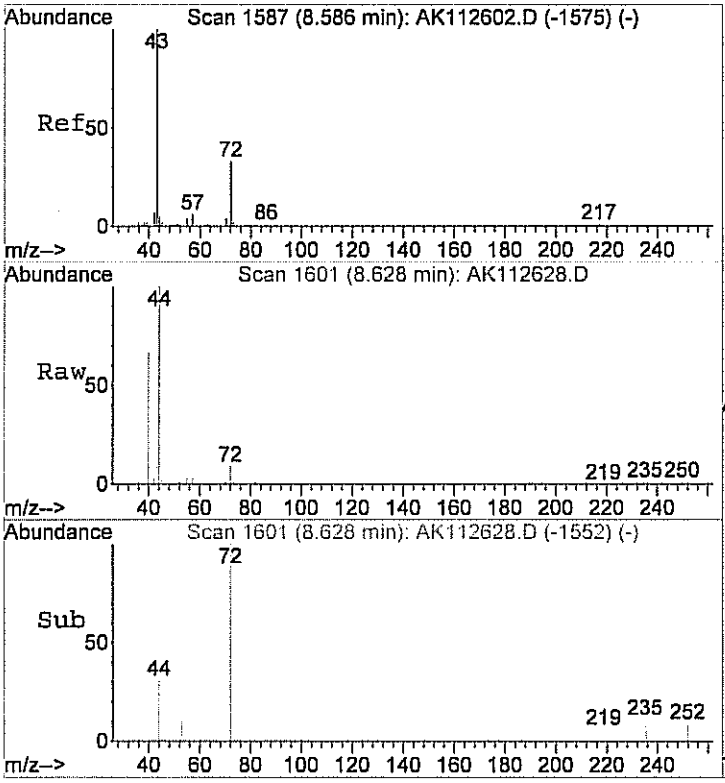


#20
Methylene chloride
Concen: 0.25 ppb
RT: 6.64 min Scan# 936
Delta R.T. -0.02 min
Lab File: AK112628.D
Acq: 27 Nov 2013 2:43 am

Tgt Ion: 84 Resp: 3688

Ion	Ratio	Lower	Upper
84	100		
49	94.8	82.2	122.2
86	64.7	45.4	85.4

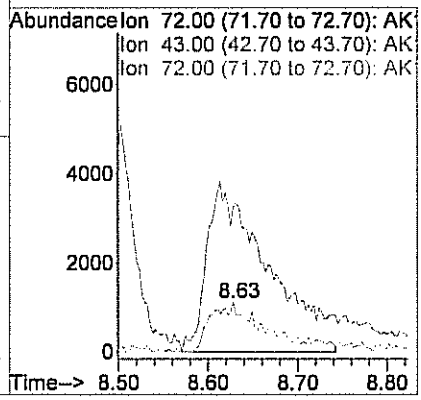


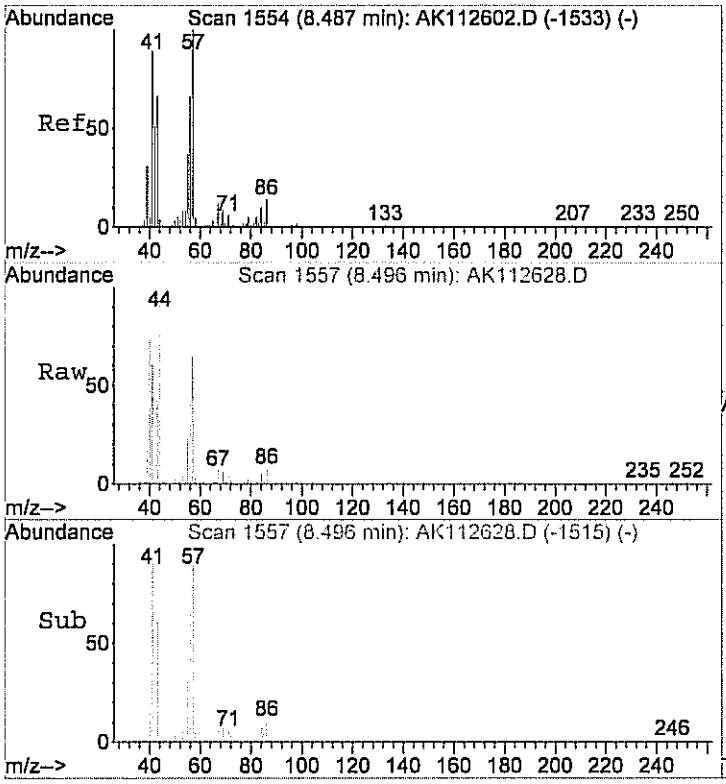


#27
Methyl Ethyl Ketone
Concen: 0.54 ppb
RT: 8.63 min Scan# 1601
Delta R.T. -0.00 min
Lab File: AK112628.D
Acq: 27 Nov 2013 2:43 am

Tgt Ion: 72 Resp: 4795

Ion	Ratio	Lower	Upper
72	100		
43	381.6	0.0	20.0#
72	100.0	80.0	120.0

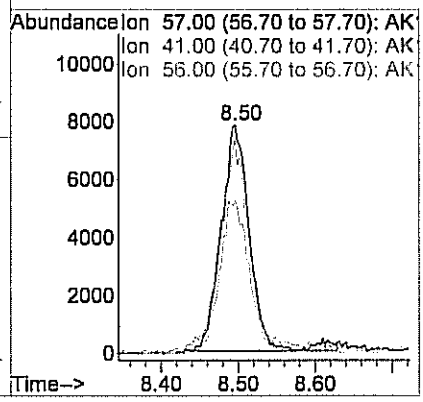


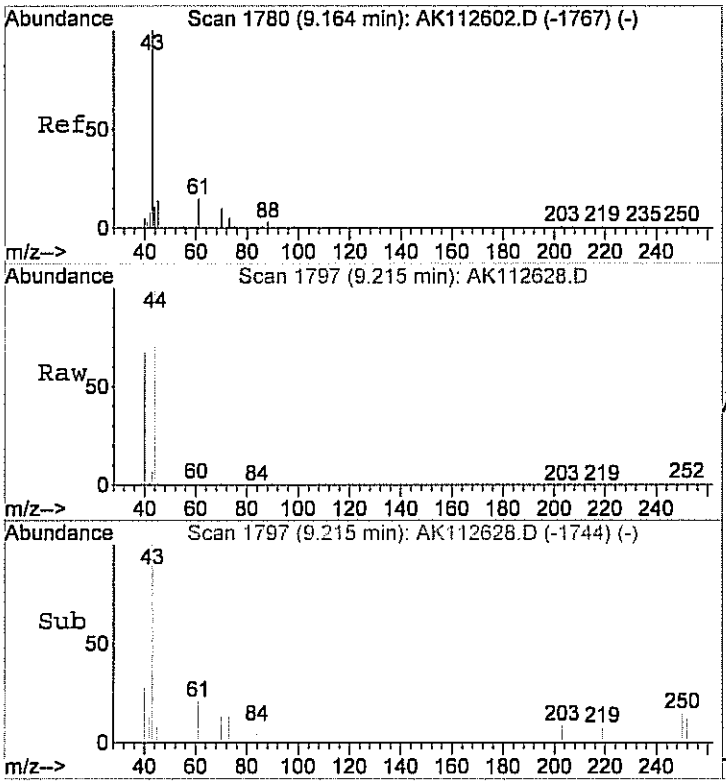


#29
Hexane
Concen: 0.73 ppb
RT: 8.50 min Scan# 1557
Delta R.T. -0.02 min
Lab File: AK112628.D
Acq: 27 Nov 2013 2:43 am

Tgt Ion: 57 Resp: 20124

Ion	Ratio	Lower	Upper
57	100		
41	95.9	68.6	108.6
56	71.5	43.7	83.7

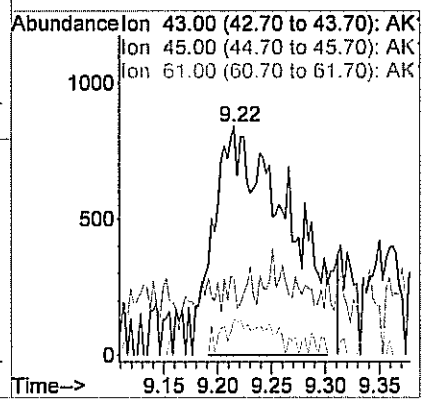


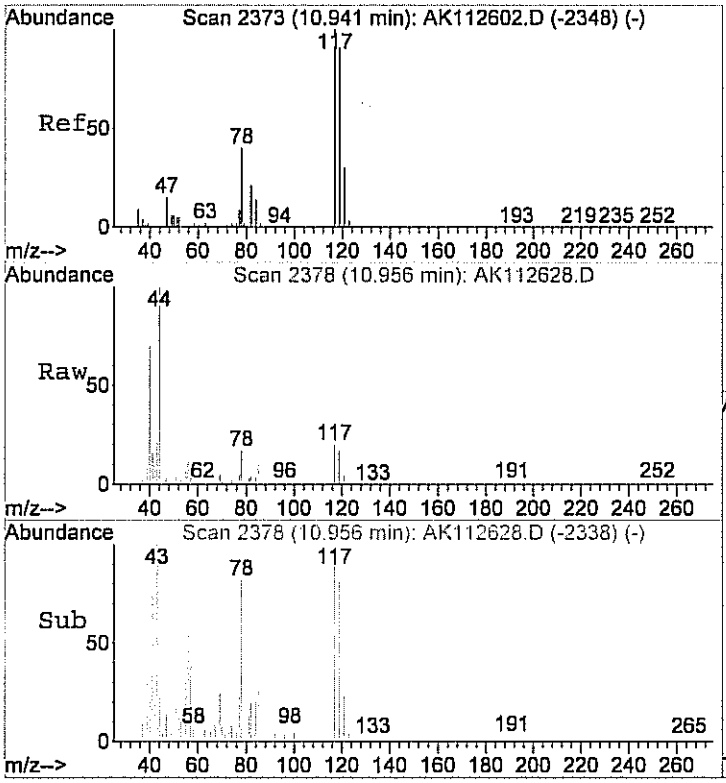


#30
Ethyl acetate
Concen: 0.12 ppb
RT: 9.22 min Scan# 1797
Delta R.T. 0.01 min
Lab File: AK112628.D
Acq: 27 Nov 2013 2:43 am

Tgt Ion: 43 Resp: 4132

Ion	Ratio	Lower	Upper
43	100		
45	0.0	0.0	36.4
61	8.8	0.0	35.5

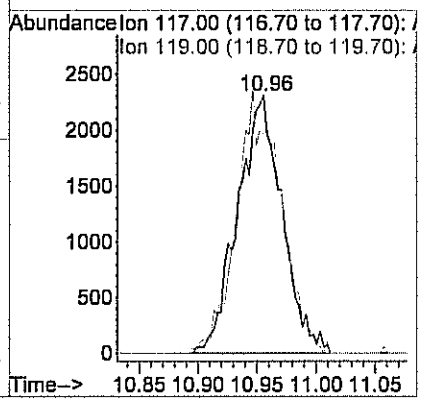


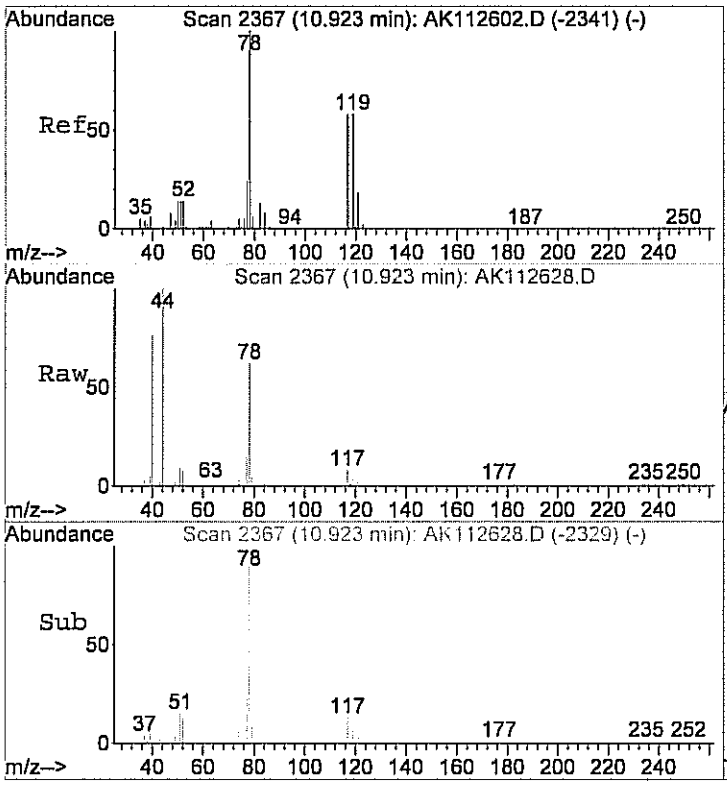


#37
Carbon tetrachloride
Concen: 0.10 ppb
RT: 10.96 min Scan# 2378
Delta R.T. -0.03 min
Lab File: AK112628.D
Acq: 27 Nov 2013 2:43 am

Tgt Ion:117 Resp: 6024

Ion	Ratio	Lower	Upper
117	100		
119	100.8	76.8	116.8

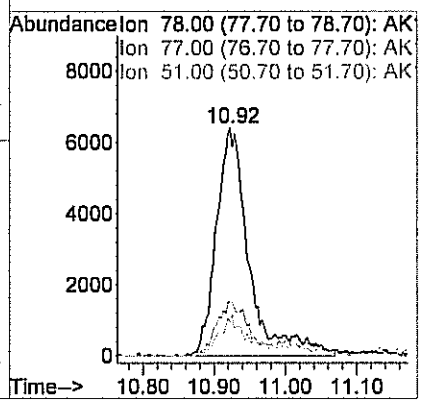


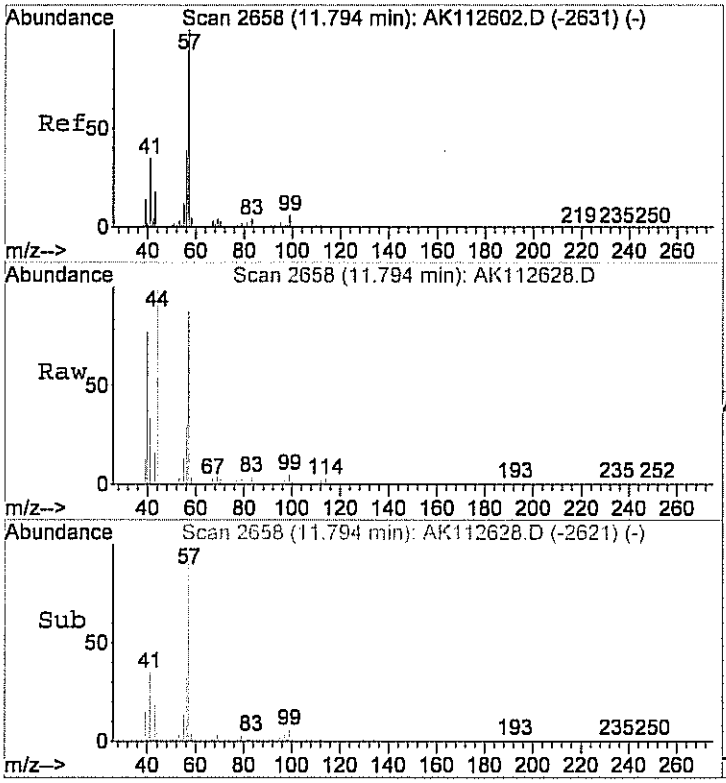


#38
Benzene
Concen: 0.30 ppb
RT: 10.92 min Scan# 2367
Delta R.T. -0.04 min
Lab File: AK112628.D
Acq: 27 Nov 2013 2:43 am

Tgt Ion: 78 Resp: 20508

Ion	Ratio	Lower	Upper
78	100		
77	31.3	6.7	46.7
51	20.2	0.0	37.6

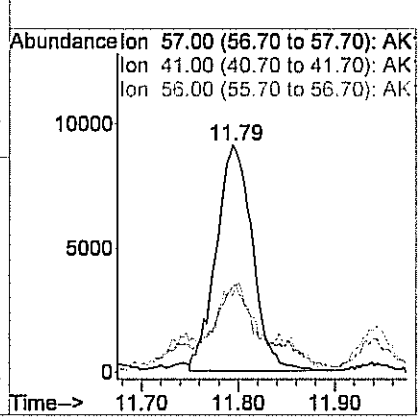


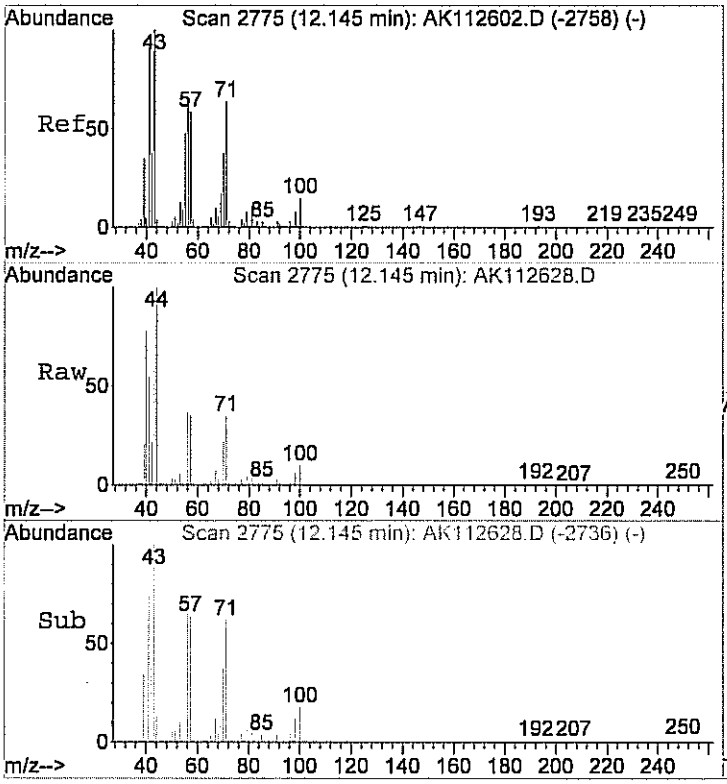


#41
2,2,4-trimethylpentane
Concen: 0.29 ppb
RT: 11.79 min Scan# 2658
Delta R.T. -0.04 min
Lab File: AK112628.D
Acq: 27 Nov 2013 2:43 am

Tgt Ion: 57 Resp: 23410

Ion	Ratio	Lower	Upper
57	100		
41	61.6	12.0	52.0#
56	64.4	16.8	56.8#

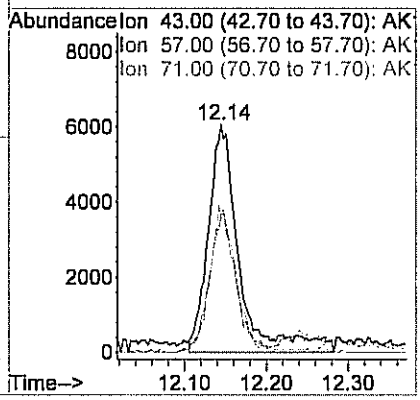


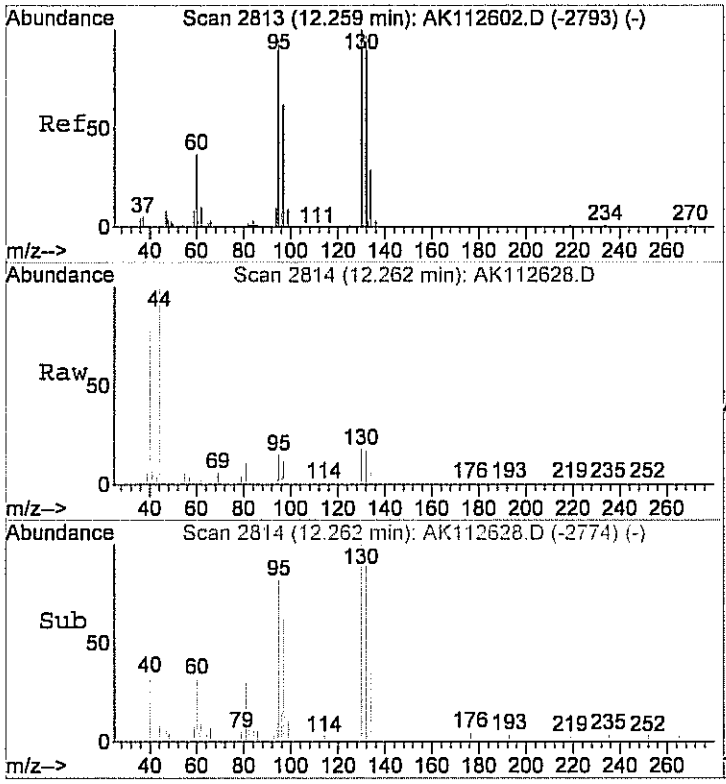


#42
Heptane
Concen: 0.64 ppb
RT: 12.14 min Scan# 2775
Delta R.T. -0.03 min
Lab File: AK112628.D
Acq: 27 Nov 2013 2:43 am

Tgt Ion: 43 Resp: 15863

Ion	Ratio	Lower	Upper
43	100		
57	53.2	40.9	80.9
71	54.3	41.8	81.8

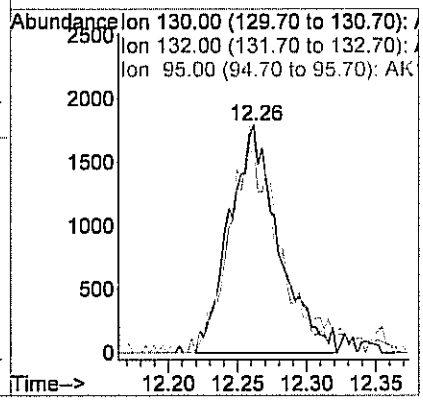


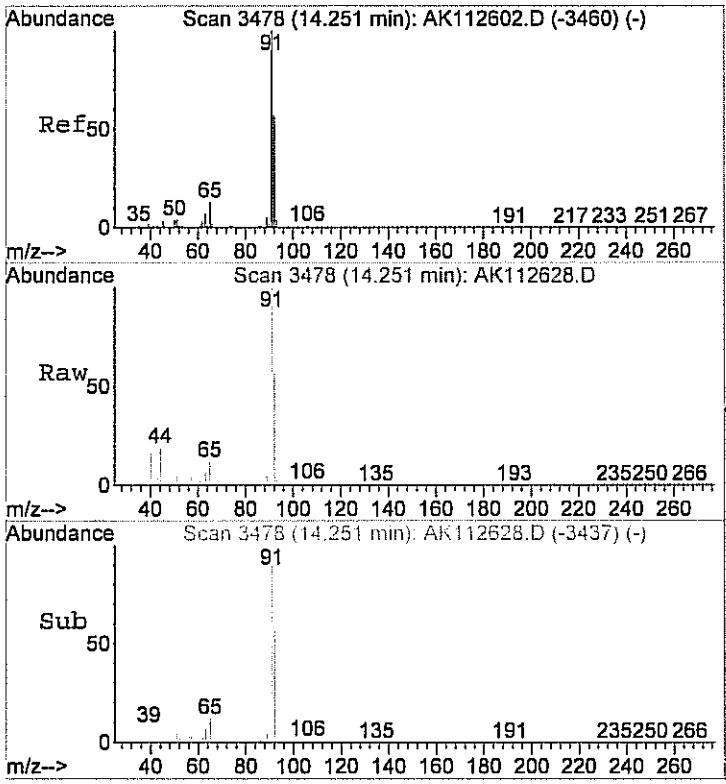


#43
Trichloroethene
Concen: 0.14 ppb
RT: 12.26 min Scan# 2814
Delta R.T. -0.03 min
Lab File: AK112628.D
Acq: 27 Nov 2013 2:43 am

Tgt Ion:130 Resp: 4405

Ion	Ratio	Lower	Upper
130	100		
132	97.0	77.0	117.0
95	107.7	76.9	116.9

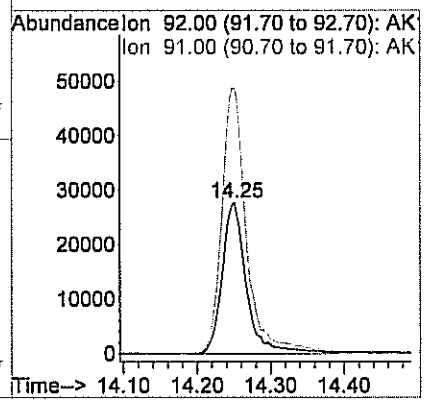


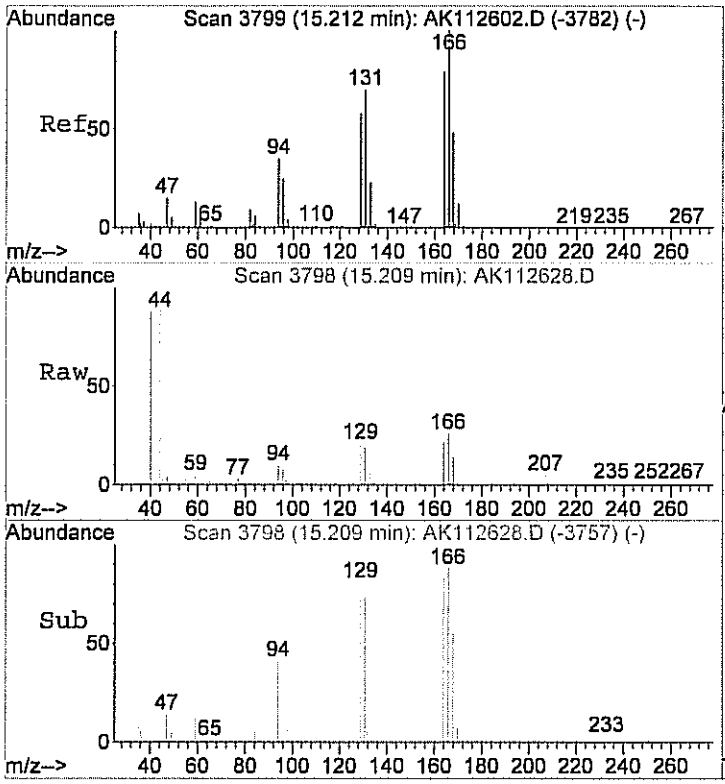


#50
Toluene
Concen: 1.58 ppb
RT: 14.25 min Scan# 3478
Delta R.T. -0.03 min
Lab File: AK112628.D
Acq: 27 Nov 2013 2:43 am

Tgt Ion: 92 Resp: 63668

Ion	Ratio	Lower	Upper
92	100		
91	179.2	156.6	196.6

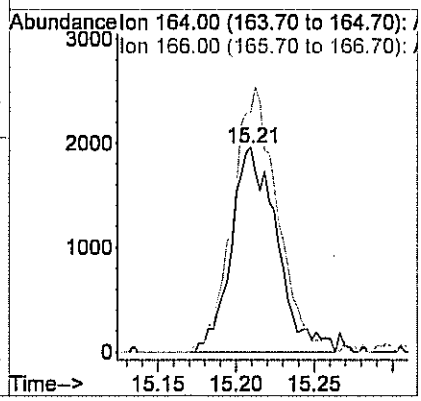


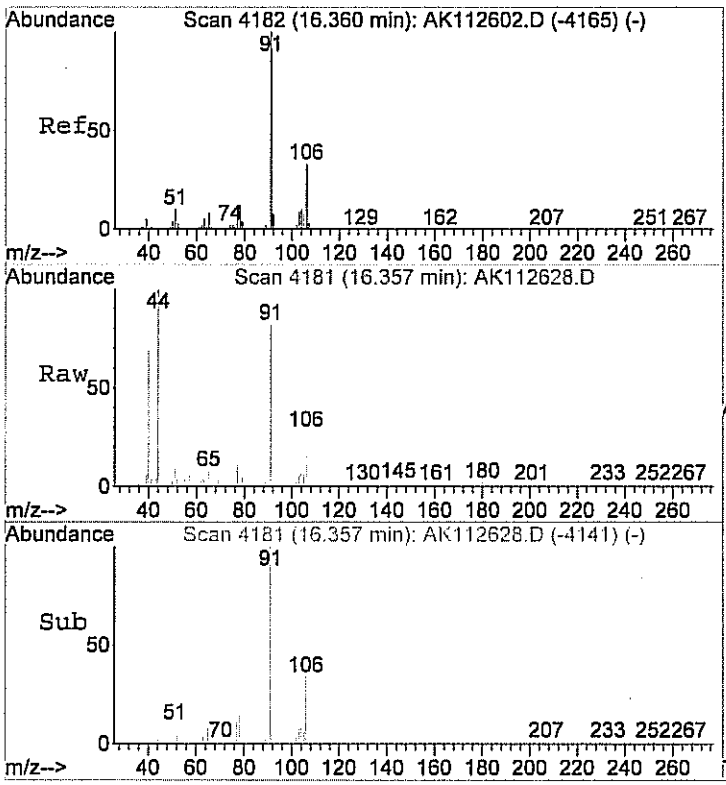


#55
Tetrachloroethylene
Concen: 0.10 ppb
RT: 15.21 min Scan# 3798
Delta R.T. -0.03 min
Lab File: AK112628.D
Acq: 27 Nov 2013 2:43 am

Tgt Ion:164 Resp: 3969

Ion	Ratio	Lower	Upper
164	100		
166	127.2	108.8	148.8

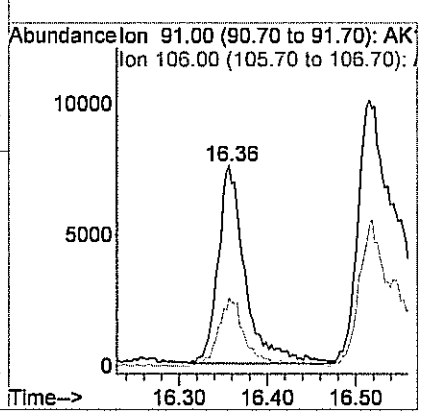


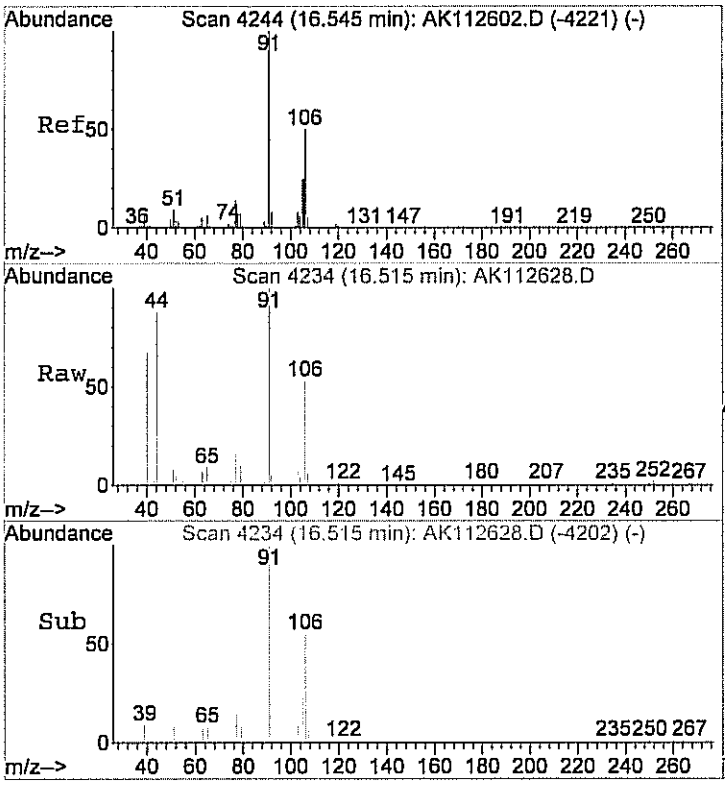


#57
Ethylbenzene
Concen: 0.21 ppb
RT: 16.36 min Scan# 4181
Delta R.T. -0.03 min
Lab File: AK112628.D
Acq: 27 Nov 2013 2:43 am

Tgt Ion: 91 Resp: 16124

Ion	Ratio	Lower	Upper
91	100		
106	34.3	12.8	52.8

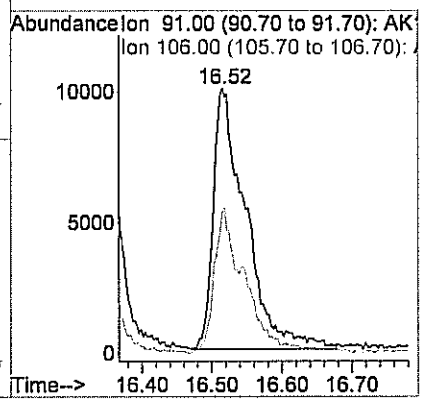


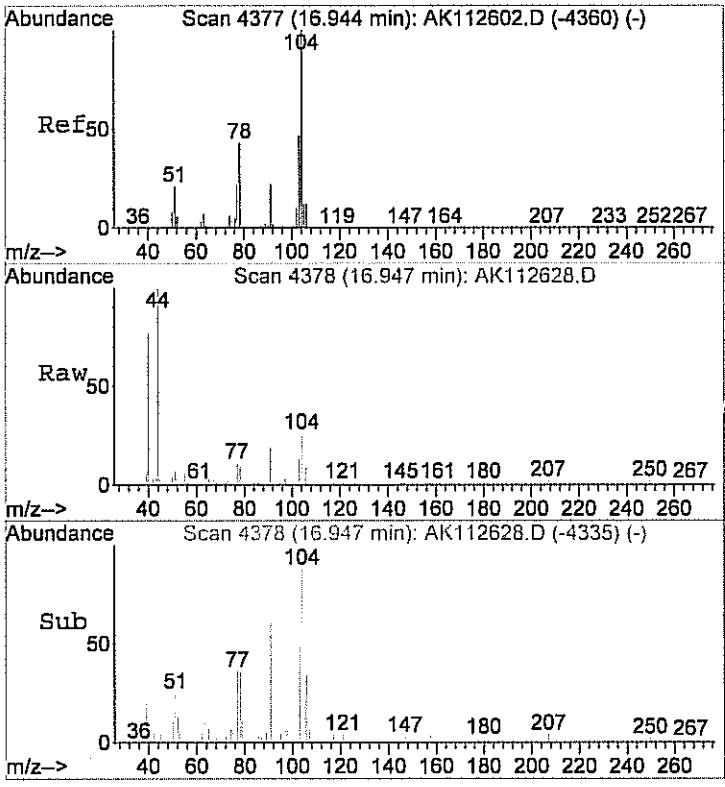


#58
m&p-xylene
Concen: 0.49 ppb
RT: 16.52 min Scan# 4234
Delta R.T. -0.05 min
Lab File: AK112628.D
Acq: 27 Nov 2013 2:43 am

Tgt Ion: 91 Resp: 32096

Ion	Ratio	Lower	Upper
91	100		
106	50.3	31.3	71.3

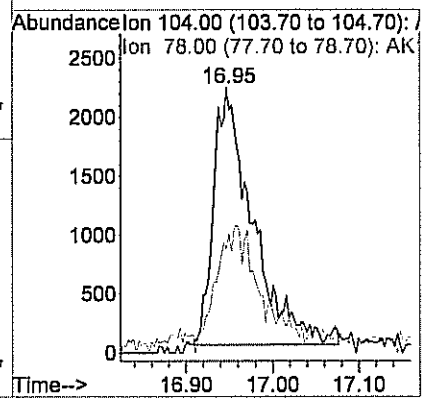


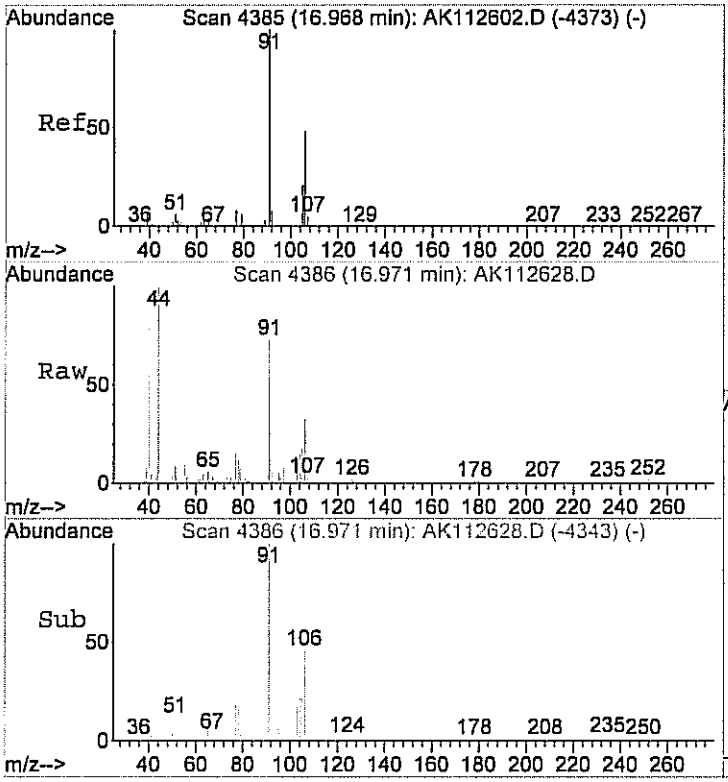


#59
Styrene
Concen: 0.13 ppb
RT: 16.95 min Scan# 4378
Delta R.T. -0.02 min
Lab File: AK112628.D
Acq: 27 Nov 2013 2:43 am

Tgt Ion:104 Resp: 6819

Ion	Ratio	Lower	Upper
104	100		
78	62.1	28.0	68.0

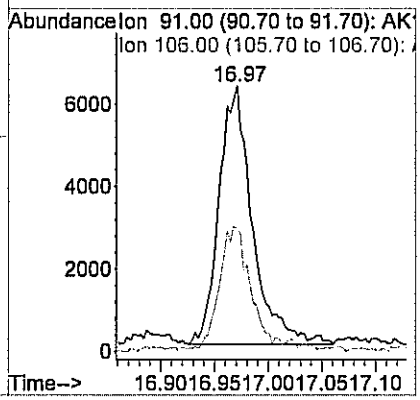


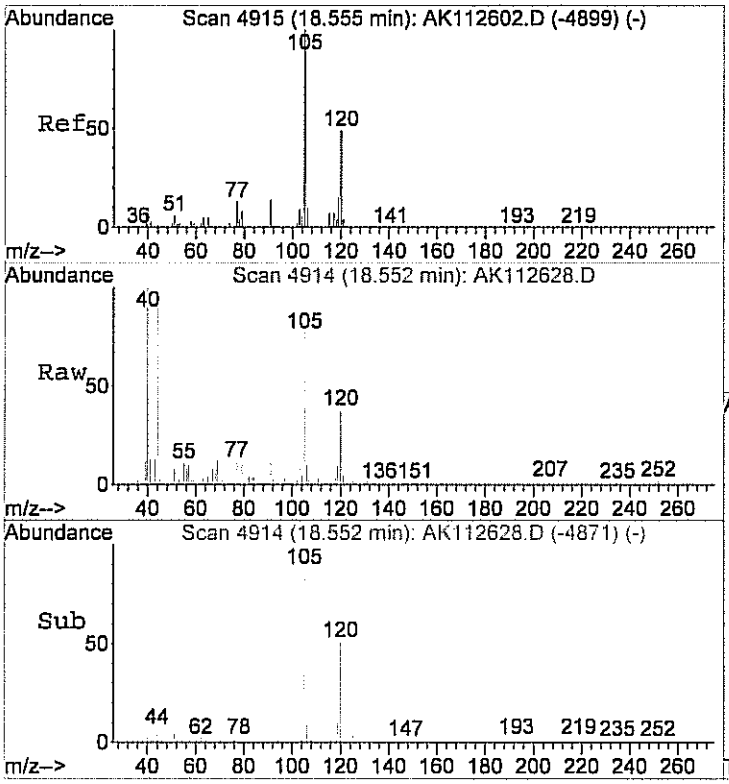


#61
o-xylene
Concen: 0.14 ppb
RT: 16.97 min Scan# 4386
Delta R.T. -0.02 min
Lab File: AK112628.D
Acq: 27 Nov 2013 2:43 am

Tgt Ion: 91 Resp: 13460

Ion	Ratio	Lower	Upper
91	100		
106	49.0	22.3	62.3

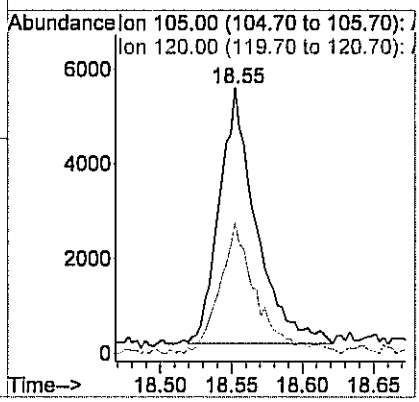




#67
1,2,4-trimethylbenzene
Concen: 0.15 ppb
RT: 18.55 min Scan# 4914
Delta R.T. -0.02 min
Lab File: AK112628.D
Acq: 27 Nov 2013 2:43 am

Tgt Ion:105 Resp: 9671

Ion	Ratio	Lower	Upper
105	100		
120	51.7	26.8	66.8



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK112721.D Vial: 21
Acq On : 27 Nov 2013 9:53 pm Operator: RJP
Sample : C1311058-007A 10X Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 29 10:56:12 2013 Quant Results File: AO15_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Oct 15 18:12:29 2013
Response via : Initial Calibration
DataAcq Meth : 1UG_T015

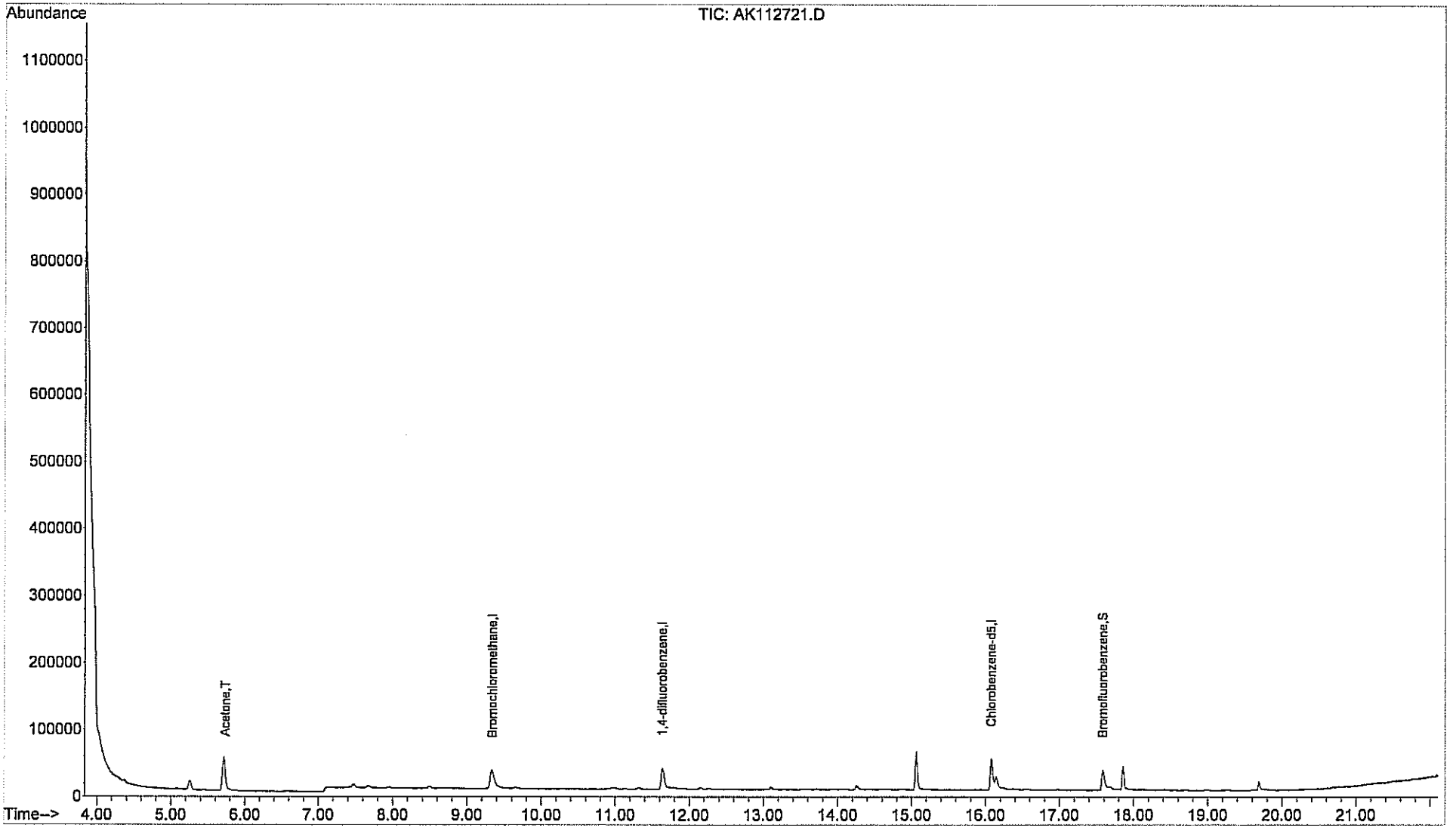
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.34	128	18867	1.00	ppb	-0.02
34) 1,4-difluorobenzene	11.64	114	43088	1.00	ppb	-0.03
49) Chlorobenzene-d5	16.08	117	44211	1.00	ppb	-0.02
System Monitoring Compounds						
62) Bromofluorobenzene	17.58	95	19844m M	0.76	ppb	-0.02
Spiked Amount 1.000	Range 70 - 130		Recovery = 76.00%			
Target Compounds						Qvalue
15) Acetone	5.74	58	3140	0.60	ppb	# 1

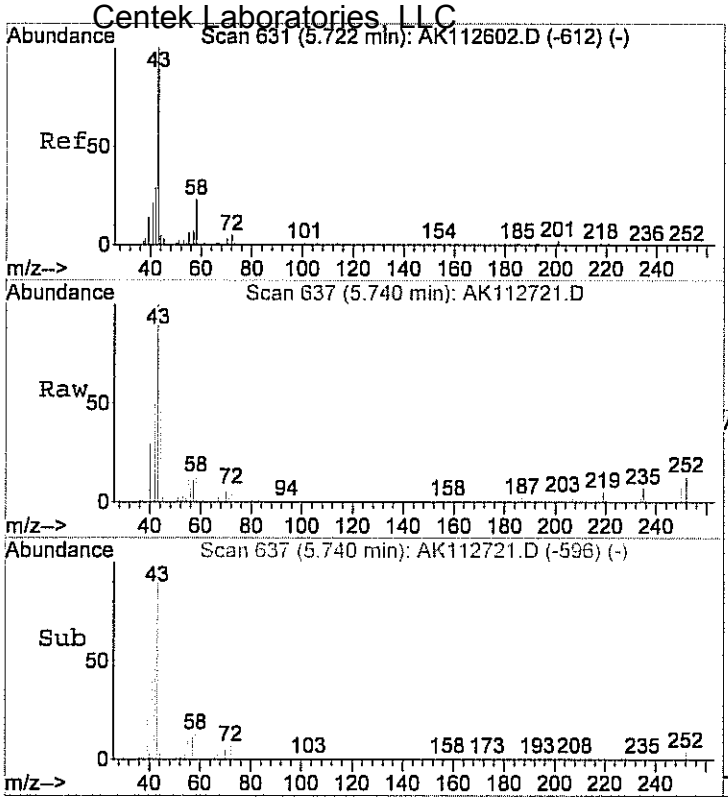
(#) = qualifier out of range (m) = manual integration (+) = signals summed
AK112721.D AO15_1UG.M Wed Dec 11 12:53:24 2013 MSD1 Page 1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK112721.D Vial: 21
Acq On : 27 Nov 2013 9:53 pm Operator: RJP
Sample : C1311058-007A 10X Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Dec 2 8:47 2013 Quant Results File: AO15_1UG.RES

Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Wed Dec 11 12:48:42 2013
Response via : Initial Calibration

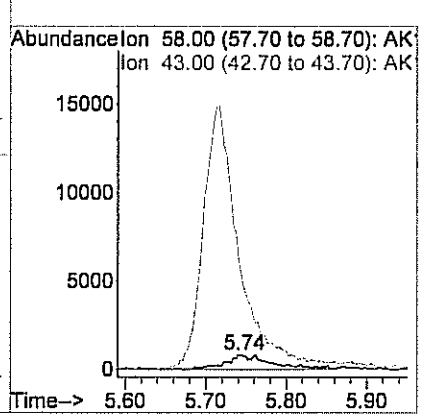




#15
Acetone
Concen: 0.60 ppb
RT: 5.74 min Scan# 637
Delta R.T. -0.03 min
Lab File: AK112721.D
Acq: 27 Nov 2013 9:53 pm

Tgt Ion: 58 Resp: 3140

Ion	Ratio	Lower	Upper
58	100		
43	1490.7	650.3	710.3#



Centek Laboratories, LLC

Date: *11-Dec-13*

CLIENT:	HDR Engineering	**Client Sample ID:**	303-W-SS
Lab Order:	C1311058	**Tag Number:**	133,384
Project:	Aluminum Louvre	**Collection Date:**	11/18/2013
Lab ID:	C1311058-008A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS		FLD				Analyst:
Lab Vacuum In	-7			"Hg		11/20/2013
Lab Vacuum Out	-30			"Hg		11/20/2013
1UG/M3 BY METHOD TO15		TO-15				Analyst: RJP
1,1,1-Trichloroethane	21	1.5		ppbV	10	11/28/2013 3:53:00 AM
1,1,2,2-Tetrachloroethane	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
1,1,2-Trichloroethane	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
1,1-Dichloroethane	0.69	0.15		ppbV	1	11/27/2013 6:38:00 AM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
1,2,4-Trichlorobenzene	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
1,2,4-Trimethylbenzene	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
1,2-Dibromoethane	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
1,2-Dichlorobenzene	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
1,2-Dichloroethane	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
1,2-Dichloropropane	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
1,3,5-Trimethylbenzene	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
1,3-butadiene	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
1,3-Dichlorobenzene	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
1,4-Dichlorobenzene	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
1,4-Dioxane	< 0.30	0.30		ppbV	1	11/27/2013 6:38:00 AM
2,2,4-trimethylpentane	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
4-ethyltoluene	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
Acetone	8.5	3.0		ppbV	10	11/28/2013 3:53:00 AM
Allyl chloride	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
Benzene	0.26	0.15		ppbV	1	11/27/2013 6:38:00 AM
Benzyl chloride	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
Bromodichloromethane	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
Bromoform	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
Bromomethane	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
Carbon disulfide	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
Carbon tetrachloride	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
Chlorobenzene	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
Chloroethane	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
Chloroform	0.43	0.15		ppbV	1	11/27/2013 6:38:00 AM
Chloromethane	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
cis-1,2-Dichloroethene	0.51	0.15		ppbV	1	11/27/2013 6:38:00 AM
cis-1,3-Dichloropropene	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
Cyclohexane	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
Dibromochloromethane	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
Ethyl acetate	< 0.25	0.25		ppbV	1	11/27/2013 6:38:00 AM

Qualifiers:

**	Reporting Limit	.	Results reported are not blank corrected
B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: *11-Dec-13*

CLIENT:	HDR Engineering	**Client Sample ID:**	303-W-SS
Lab Order:	C1311058	**Tag Number:**	133,384
Project:	Aluminum Louvre	**Collection Date:**	11/18/2013
Lab ID:	C1311058-008A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15		**TO-15**				Analyst: **RJP**
Ethylbenzene	0.11	0.15	J	ppbV	1	11/27/2013 6:38:00 AM
Freon 11	0.32	0.15		ppbV	1	11/27/2013 6:38:00 AM
Freon 113	0.12	0.15	J	ppbV	1	11/27/2013 6:38:00 AM
Freon 114	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
Freon 12	0.57	0.15		ppbV	1	11/27/2013 6:38:00 AM
Heptane	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
Hexachloro-1,3-butadiene	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
Hexane	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
Isopropyl alcohol	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
m&p-Xylene	0.30	0.30		ppbV	1	11/27/2013 6:38:00 AM
Methyl Butyl Ketone	< 0.30	0.30		ppbV	1	11/27/2013 6:38:00 AM
Methyl Ethyl Ketone	0.85	0.30		ppbV	1	11/27/2013 6:38:00 AM
Methyl Isobutyl Ketone	< 0.30	0.30		ppbV	1	11/27/2013 6:38:00 AM
Methyl tert-butyl ether	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
Methylene chloride	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
o-Xylene	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
Propylene	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
Styrene	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
Tetrachloroethylene	70	40		ppbV	270	12/2/2013 2:44:00 PM
Tetrahydrofuran	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
Toluene	0.65	0.15		ppbV	1	11/27/2013 6:38:00 AM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
trans-1,3-Dichloropropene	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
Trichloroethene	200	40		ppbV	270	12/2/2013 2:44:00 PM
Vinyl acetate	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
Vinyl Bromide	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
Vinyl chloride	< 0.15	0.15		ppbV	1	11/27/2013 6:38:00 AM
Surr: Bromofluorobenzene	94.0	70-130		%REC	1	11/27/2013 6:38:00 AM

Qualifiers:

**	Reporting Limit	.	Results reported are not blank corrected
B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: *11-Dec-13*

CLIENT:	HDR Engineering	**Client Sample ID:**	303-W-SS
Lab Order:	C1311058	**Tag Number:**	133,384
Project:	Aluminum Louvre	**Collection Date:**	11/18/2013
Lab ID:	C1311058-008A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15		**TO-15**				Analyst: **RJP**
1,1,1-Trichloroethane	120	8.3		ug/m3	10	11/28/2013 3:53:00 AM
1,1,2,2-Tetrachloroethane	< 1.0	1.0		ug/m3	1	11/27/2013 6:38:00 AM
1,1,2-Trichloroethane	< 0.83	0.83		ug/m3	1	11/27/2013 6:38:00 AM
1,1-Dichloroethane	2.8	0.62		ug/m3	1	11/27/2013 6:38:00 AM
1,1-Dichloroethene	< 0.60	0.60		ug/m3	1	11/27/2013 6:38:00 AM
1,2,4-Trichlorobenzene	< 1.1	1.1		ug/m3	1	11/27/2013 6:38:00 AM
1,2,4-Trimethylbenzene	< 0.75	0.75		ug/m3	1	11/27/2013 6:38:00 AM
1,2-Dibromoethane	< 1.2	1.2		ug/m3	1	11/27/2013 6:38:00 AM
1,2-Dichlorobenzene	< 0.92	0.92		ug/m3	1	11/27/2013 6:38:00 AM
1,2-Dichloroethane	< 0.62	0.62		ug/m3	1	11/27/2013 6:38:00 AM
1,2-Dichloropropane	< 0.70	0.70		ug/m3	1	11/27/2013 6:38:00 AM
1,3,5-Trimethylbenzene	< 0.75	0.75		ug/m3	1	11/27/2013 6:38:00 AM
1,3-butadiene	< 0.34	0.34		ug/m3	1	11/27/2013 6:38:00 AM
1,3-Dichlorobenzene	< 0.92	0.92		ug/m3	1	11/27/2013 6:38:00 AM
1,4-Dichlorobenzene	< 0.92	0.92		ug/m3	1	11/27/2013 6:38:00 AM
1,4-Dioxane	< 1.1	1.1		ug/m3	1	11/27/2013 6:38:00 AM
2,2,4-trimethylpentane	< 0.71	0.71		ug/m3	1	11/27/2013 6:38:00 AM
4-ethyltoluene	< 0.75	0.75		ug/m3	1	11/27/2013 6:38:00 AM
Acetone	21	7.2		ug/m3	10	11/28/2013 3:53:00 AM
Allyl chloride	< 0.48	0.48		ug/m3	1	11/27/2013 6:38:00 AM
Benzene	0.84	0.49		ug/m3	1	11/27/2013 6:38:00 AM
Benzyl chloride	< 0.88	0.88		ug/m3	1	11/27/2013 6:38:00 AM
Bromodichloromethane	< 1.0	1.0		ug/m3	1	11/27/2013 6:38:00 AM
Bromoform	< 1.6	1.6		ug/m3	1	11/27/2013 6:38:00 AM
Bromomethane	< 0.59	0.59		ug/m3	1	11/27/2013 6:38:00 AM
Carbon disulfide	< 0.47	0.47		ug/m3	1	11/27/2013 6:38:00 AM
Carbon tetrachloride	< 0.96	0.96		ug/m3	1	11/27/2013 6:38:00 AM
Chlorobenzene	< 0.70	0.70		ug/m3	1	11/27/2013 6:38:00 AM
Chloroethane	< 0.40	0.40		ug/m3	1	11/27/2013 6:38:00 AM
Chloroform	2.1	0.74		ug/m3	1	11/27/2013 6:38:00 AM
Chloromethane	< 0.31	0.31		ug/m3	1	11/27/2013 6:38:00 AM
cis-1,2-Dichloroethene	2.1	0.60		ug/m3	1	11/27/2013 6:38:00 AM
cis-1,3-Dichloropropene	< 0.69	0.69		ug/m3	1	11/27/2013 6:38:00 AM
Cyclohexane	< 0.52	0.52		ug/m3	1	11/27/2013 6:38:00 AM
Dibromochloromethane	< 1.3	1.3		ug/m3	1	11/27/2013 6:38:00 AM
Ethyl acetate	< 0.92	0.92		ug/m3	1	11/27/2013 6:38:00 AM
Ethylbenzene	0.49	0.66	J	ug/m3	1	11/27/2013 6:38:00 AM
Freon 11	1.8	0.86		ug/m3	1	11/27/2013 6:38:00 AM
Freon 113	0.93	1.2	J	ug/m3	1	11/27/2013 6:38:00 AM
Freon 114	< 1.1	1.1		ug/m3	1	11/27/2013 6:38:00 AM

Qualifiers:

**	Reporting Limit	.	Results reported are not blank corrected
B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: *11-Dec-13*

CLIENT:	HDR Engineering	**Client Sample ID:**	303-W-SS
Lab Order:	C1311058	**Tag Number:**	133,384
Project:	Aluminum Louvre	**Collection Date:**	11/18/2013
Lab ID:	C1311058-008A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15		**TO-15**				Analyst: **RJP**
Freon 12	2.9	0.75		ug/m3	1	11/27/2013 6:38:00 AM
Heptane	< 0.62	0.62		ug/m3	1	11/27/2013 6:38:00 AM
Hexachloro-1,3-butadiene	< 1.6	1.6		ug/m3	1	11/27/2013 6:38:00 AM
Hexane	< 0.54	0.54		ug/m3	1	11/27/2013 6:38:00 AM
Isopropyl alcohol	< 0.37	0.37		ug/m3	1	11/27/2013 6:38:00 AM
m&p-Xylene	1.3	1.3		ug/m3	1	11/27/2013 6:38:00 AM
Methyl Butyl Ketone	< 1.2	1.2		ug/m3	1	11/27/2013 6:38:00 AM
Methyl Ethyl Ketone	2.5	0.90		ug/m3	1	11/27/2013 6:38:00 AM
Methyl Isobutyl Ketone	< 1.2	1.2		ug/m3	1	11/27/2013 6:38:00 AM
Methyl tert-butyl ether	< 0.55	0.55		ug/m3	1	11/27/2013 6:38:00 AM
Methylene chloride	< 0.53	0.53		ug/m3	1	11/27/2013 6:38:00 AM
o-Xylene	< 0.66	0.66		ug/m3	1	11/27/2013 6:38:00 AM
Propylene	< 0.26	0.26		ug/m3	1	11/27/2013 6:38:00 AM
Styrene	< 0.65	0.65		ug/m3	1	11/27/2013 6:38:00 AM
Tetrachloroethylene	480	280		ug/m3	270	12/2/2013 2:44:00 PM
Tetrahydrofuran	< 0.45	0.45		ug/m3	1	11/27/2013 6:38:00 AM
Toluene	2.5	0.57		ug/m3	1	11/27/2013 6:38:00 AM
trans-1,2-Dichloroethene	< 0.60	0.60		ug/m3	1	11/27/2013 6:38:00 AM
trans-1,3-Dichloropropene	< 0.69	0.69		ug/m3	1	11/27/2013 6:38:00 AM
Trichloroethene	1100	220		ug/m3	270	12/2/2013 2:44:00 PM
Vinyl acetate	< 0.54	0.54		ug/m3	1	11/27/2013 6:38:00 AM
Vinyl Bromide	< 0.67	0.67		ug/m3	1	11/27/2013 6:38:00 AM
Vinyl chloride	< 0.39	0.39		ug/m3	1	11/27/2013 6:38:00 AM

Qualifiers:

**	Reporting Limit
B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
JN	Non-routine analyte. Quantitation estimated.
S	Spike Recovery outside accepted recovery limits
.	Results reported are not blank corrected
E	Value above quantitation range
J	Analyte detected at or below quantitation limits
ND	Not Detected at the Reporting Limit

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK112634.D Vial: 22
Acq On : 27 Nov 2013 6:38 am Operator: RJP
Sample : C1311058-008A Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 27 07:39:50 2013 Quant Results File: AO15_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Oct 15 18:12:29 2013
Response via : Initial Calibration
DataAcq Meth : 1UG_T015

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane	9.36	128	19561	1.00	ppb		0.00
34) 1,4-difluorobenzene	11.66	114	43996	1.00	ppb		-0.01
49) Chlorobenzene-d5	16.09	117	58276	1.00	ppb		-0.01
System Monitoring Compounds							
62) Bromofluorobenzene	17.58	95	32035	0.94	ppb		-0.02
Spiked Amount 1.000	Range 70 - 130		Recovery = 94.00%				
Target Compounds							Qvalue
4) Freon 12	3.88	85	37141	0.57	ppb		100
14) Freon 11	5.43	101	16465	0.32	ppb		99
15) Acetone	5.72	58	44069	8.16	ppb	#	16
18) Freon 113	6.36	101	4345	0.12	ppb		98
19) t-Butyl alcohol	6.58	59	5708	0.29	ppb	#	20
25) 1,1-dichloroethane	8.00	63	29949	0.69	ppb		99
27) Methyl Ethyl Ketone	8.61	72	6265	0.85	ppb	#	100
28) cis-1,2-dichloroethene	8.92	61	12070	0.51	ppb		99
31) Chloroform	9.52	83	22561	0.43	ppb		100
33) 1,2-dichloroethane	10.63	62	2314	0.08	ppb		99
35) 1,1,1-trichloroethane	10.33	97	474161	13.38	ppb		99
38) Benzene	10.95	78	11972	0.26	ppb		98
43) Trichloroethene	12.28	130	5989725	273.04	ppb		98
50) Toluene	14.26	92	21300	0.65	ppb		97
55) Tetrachloroethylene	15.22	164	2545315	75.16	ppb		98
57) Ethylbenzene	16.37	91	6438	0.11	ppb		95
58) m&p-xylene	16.53	91	15889	0.30	ppb		100

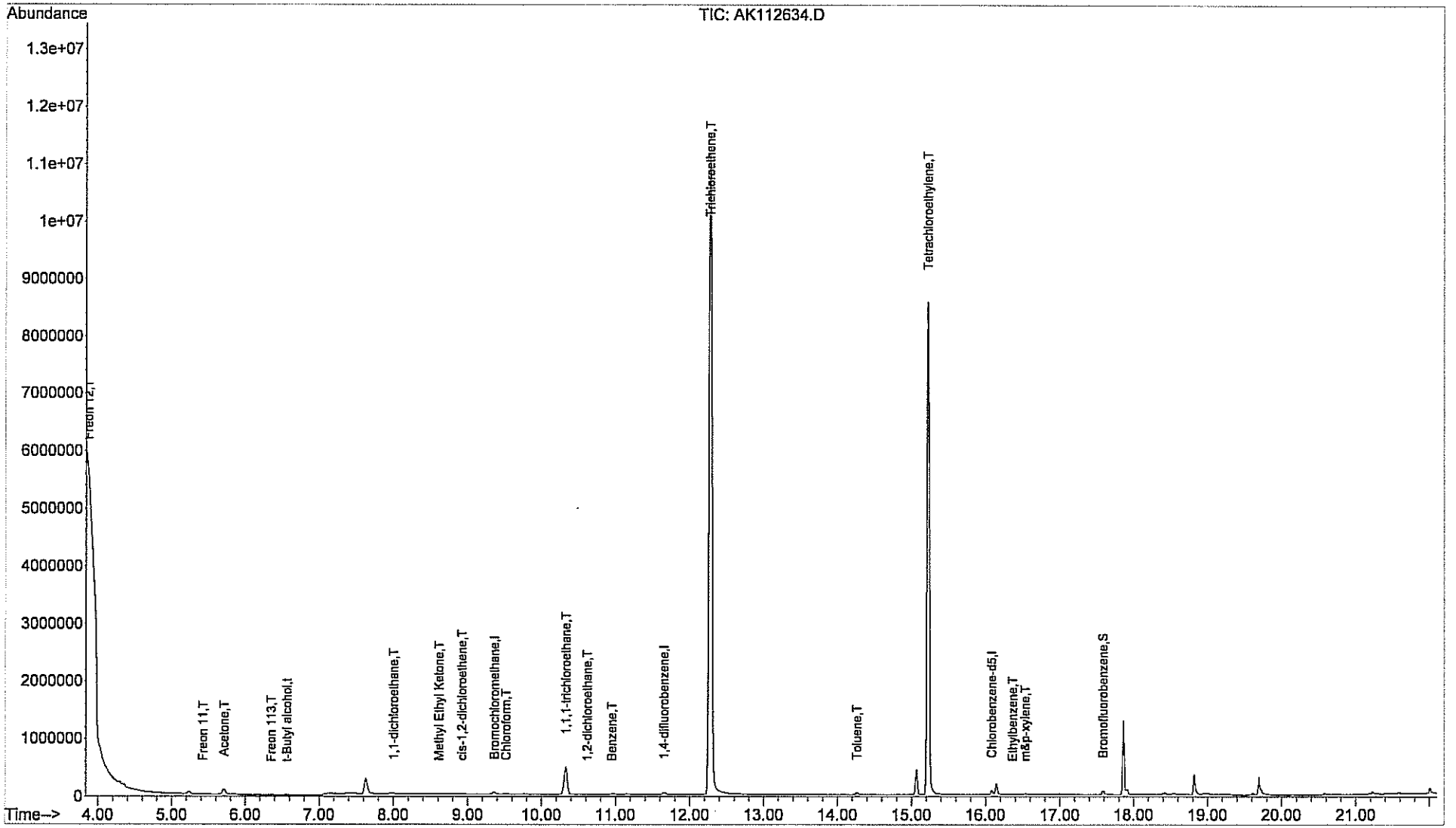
(#) = qualifier out of range (m) = manual integration (+) = signals summed

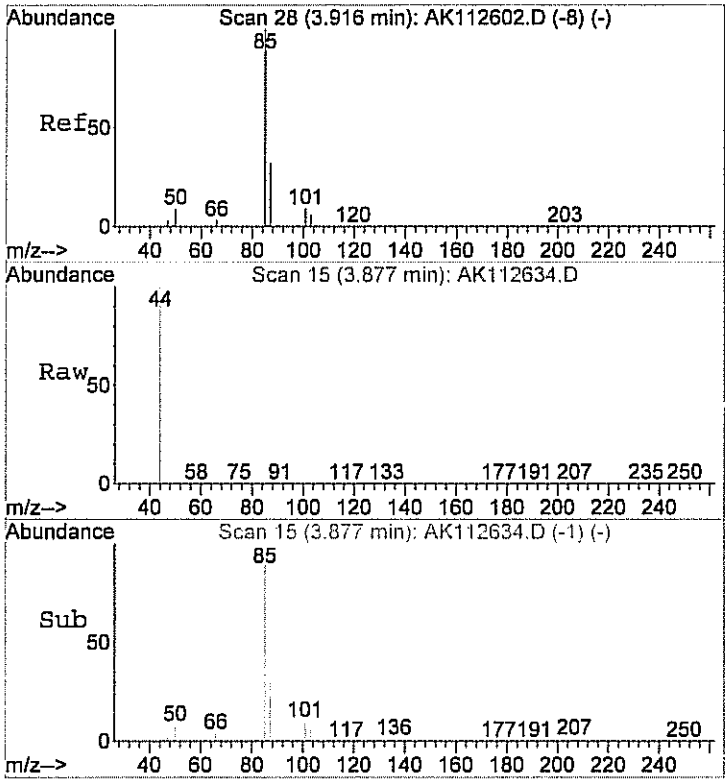
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK112634.D
Acq On : 27 Nov 2013 6:38 am
Sample : C1311058-008A
Misc : AO15_1UG
MS Integration Params: RTEINT.P
Quant Time: Nov 29 11:06 2013

Vial: 22
Operator: RJP
Inst : MSD #1
Multiplr: 1.00
Quant Results File: AO15_1UG.RES

Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Wed Dec 11 12:48:42 2013
Response via : Initial Calibration

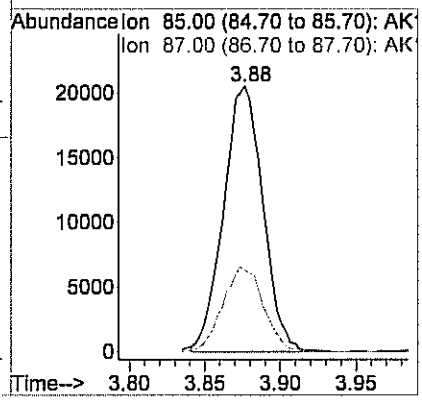


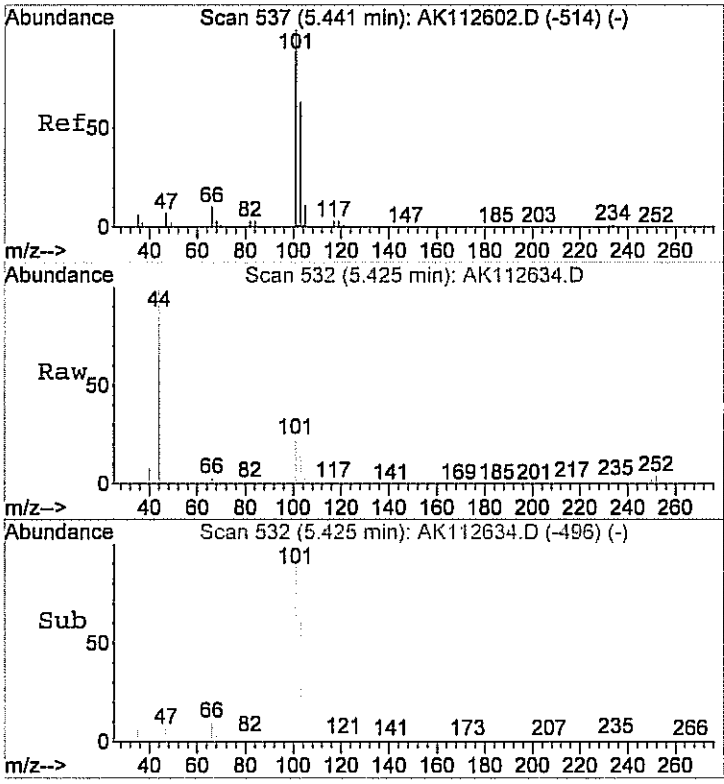


#4
Freon 12
Concen: 0.57 ppb
RT: 3.88 min Scan# 15
Delta R.T. -0.06 min
Lab File: AK112634.D
Acq: 27 Nov 2013 6:38 am

Tgt Ion: 85 Resp: 37141

Ion	Ratio	Lower	Upper
85	100		
87	32.8	12.8	52.8

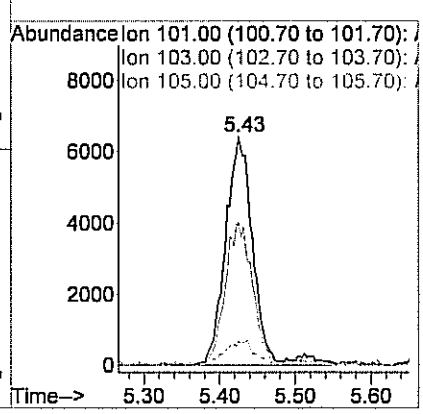


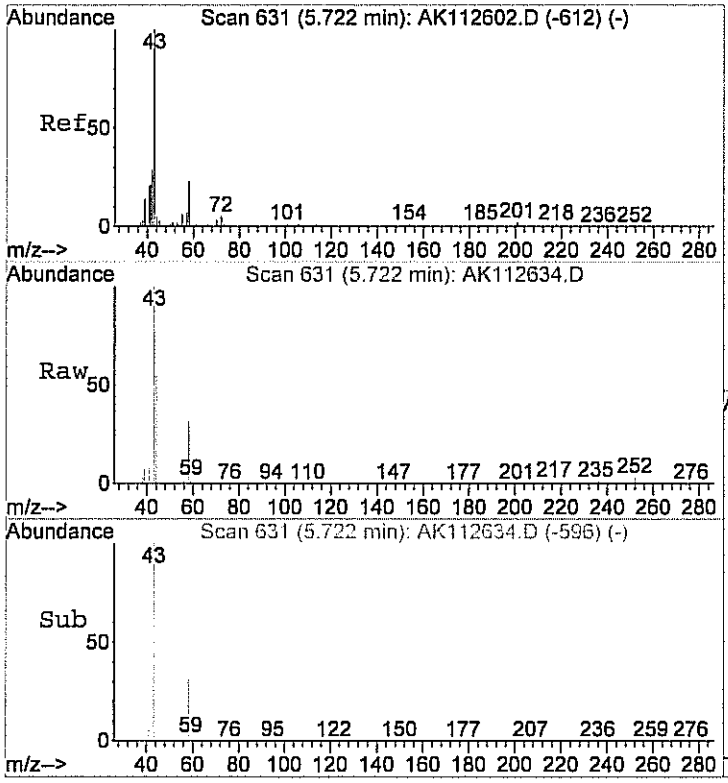


#14
Freon 11
Concen: 0.32 ppb
RT: 5.43 min Scan# 532
Delta R.T. -0.04 min
Lab File: AK112634.D
Acq: 27 Nov 2013 6:38 am

Tgt Ion:101 Resp: 16465

Ion	Ratio	Lower	Upper
101	100		
103	65.0	46.0	86.0
105	11.1	0.0	31.7

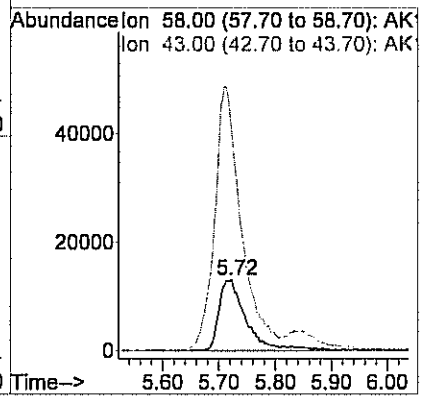


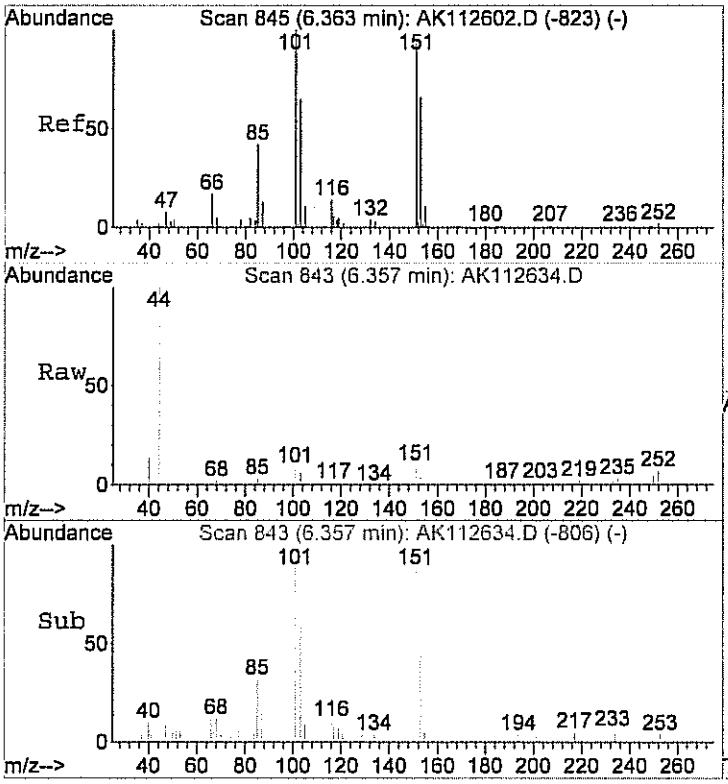


#15
Acetone
Concen: 8.16 ppb
RT: 5.72 min Scan# 631
Delta R.T. -0.05 min
Lab File: AK112634.D
Acq: 27 Nov 2013 6:38 am

Tgt Ion: 58 Resp: 44069

Ion	Ratio	Lower	Upper
58	100		
43	394.0	650.3	710.3#

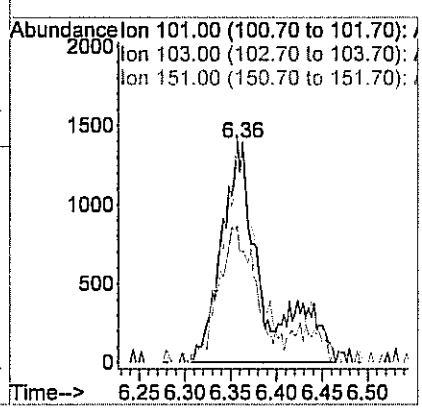


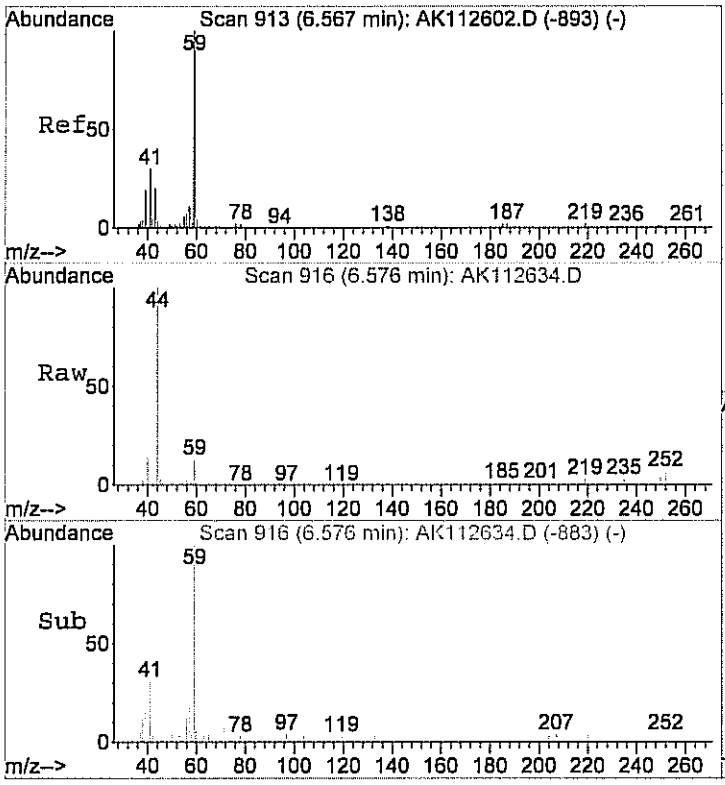


#18
Freon 113
Concen: 0.12 ppb
RT: 6.36 min Scan# 843
Delta R.T. -0.04 min
Lab File: AK112634.D
Acq: 27 Nov 2013 6:38 am

Tgt Ion:101 Resp: 4345

Ion	Ratio	Lower	Upper
101	100		
103	67.5	45.6	85.6
151	101.8	79.4	119.4

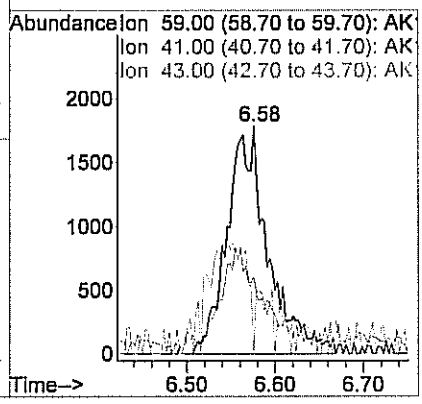


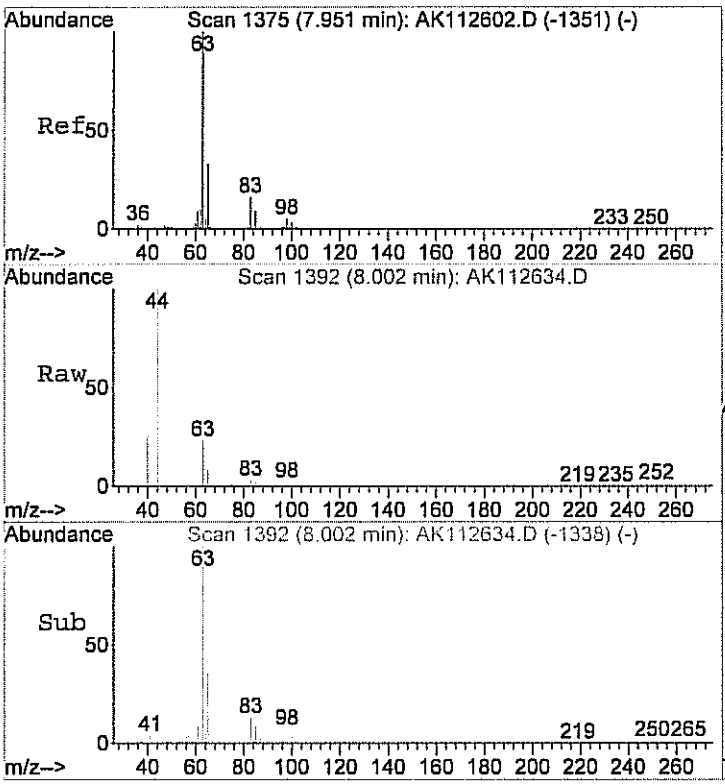


#19
t-Butyl alcohol
Concen: 0.29 ppb
RT: 6.58 min Scan# 916
Delta R.T. -0.05 min
Lab File: AK112634.D
Acq: 27 Nov 2013 6:38 am

Tgt Ion: 59 Resp: 5708

Ion	Ratio	Lower	Upper
59	100		
41	0.0	64.4	107.4#
43	9.5	14.8	24.6#

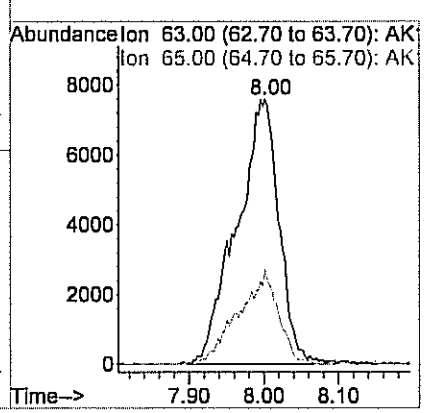


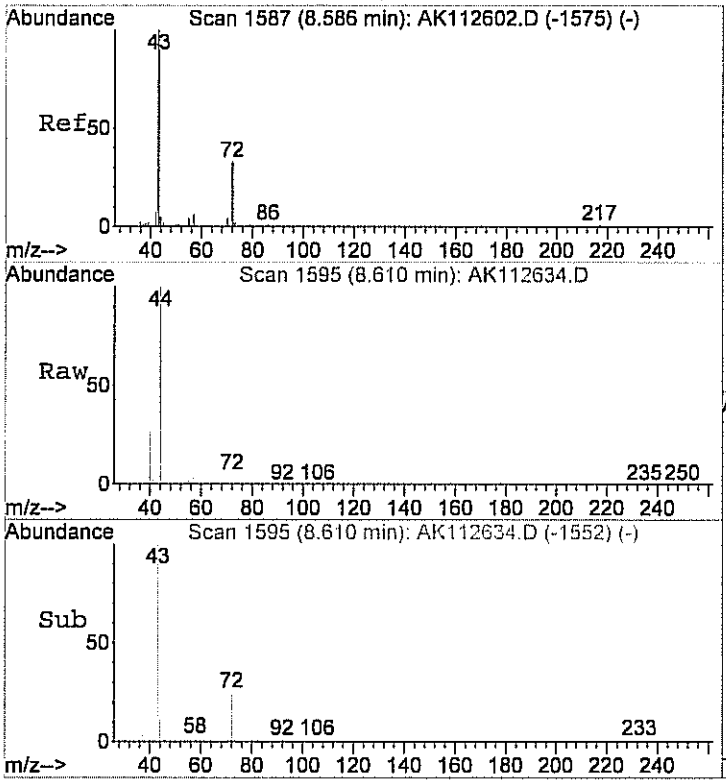


#25
1,1-dichloroethane
Concen: 0.69 ppb
RT: 8.00 min Scan# 1392
Delta R.T. 0.01 min
Lab File: AK112634.D
Acq: 27 Nov 2013 6:38 am

Tgt Ion: 63 Resp: 29949

Ion	Ratio	Lower	Upper
63	100		
65	33.2	12.8	52.8

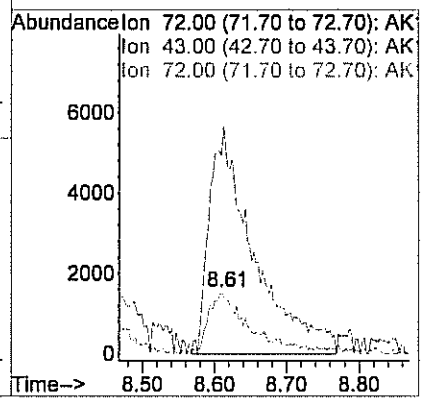


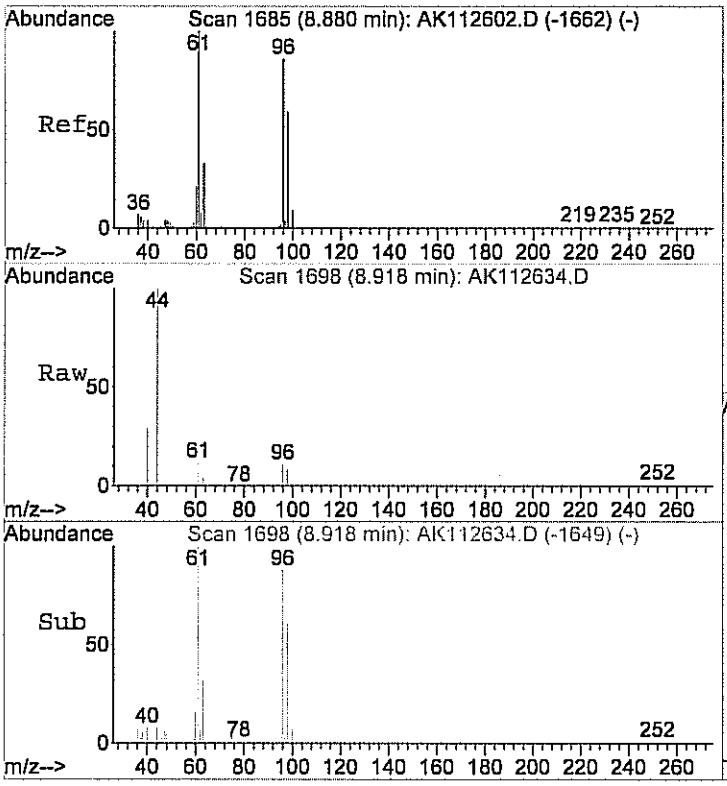


#27
Methyl Ethyl Ketone
Concen: 0.85 ppb
RT: 8.61 min Scan# 1595
Delta R.T. -0.02 min
Lab File: AK112634.D
Acq: 27 Nov 2013 6:38 am

Tgt Ion: 72 Resp: 6265

Ion	Ratio	Lower	Upper
72	100		
43	387.0	0.0	20.0#
72	100.0	80.0	120.0

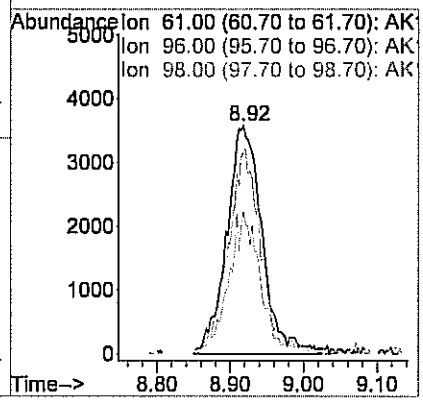


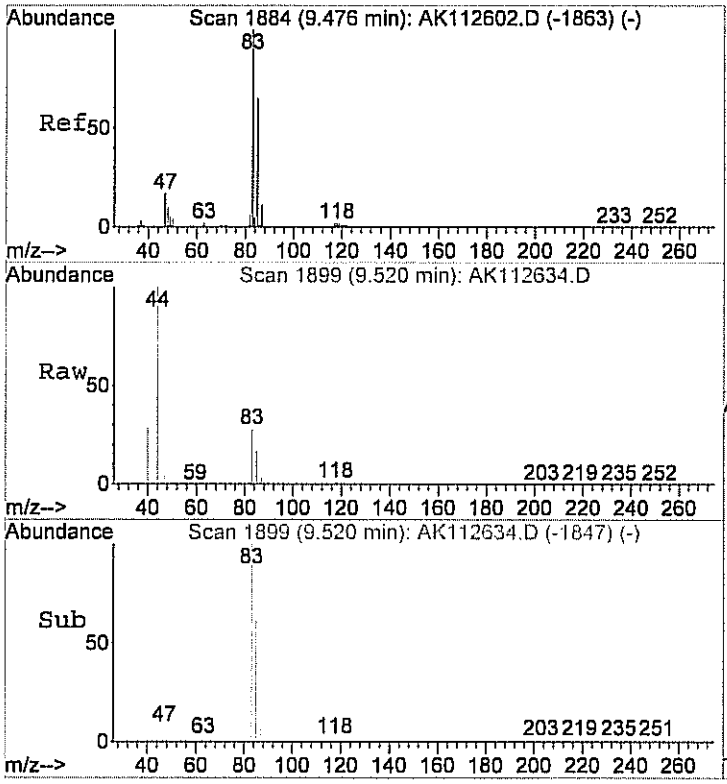


#28
cis-1,2-dichloroethene
Concen: 0.51 ppb
RT: 8.92 min Scan# 1698
Delta R.T. -0.00 min
Lab File: AK112634.D
Acq: 27 Nov 2013 6:38 am

Tgt Ion: 61 Resp: 12070

Ion	Ratio	Lower	Upper
61	100		
96	83.9	64.3	104.3
98	55.6	34.2	74.2

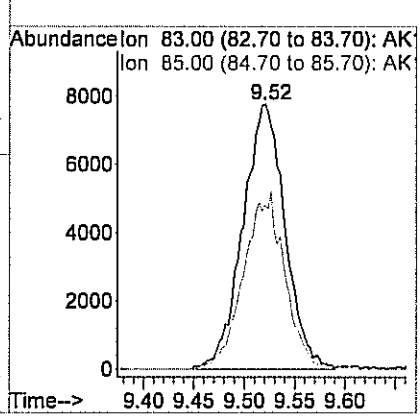


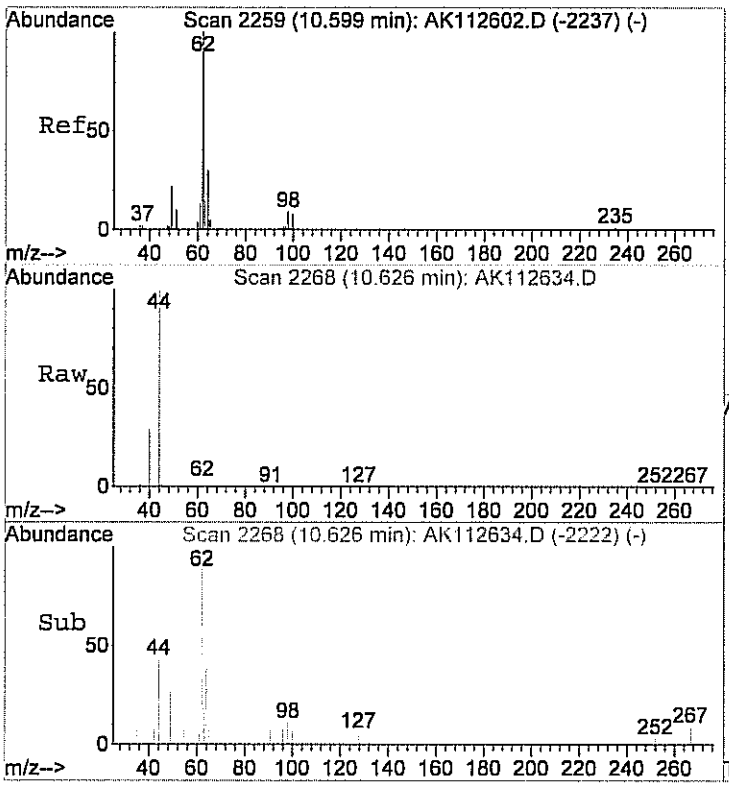


#31
Chloroform
Concen: 0.43 ppb
RT: 9.52 min Scan# 1899
Delta R.T. 0.00 min
Lab File: AK112634.D
Acq: 27 Nov 2013 6:38 am

Tgt Ion: 83 Resp: 22561

Ion	Ratio	Lower	Upper
83	100		
85	65.6	45.7	85.7

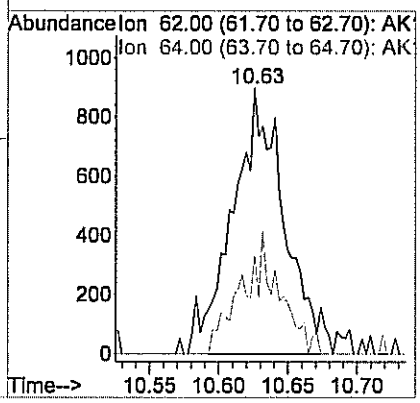


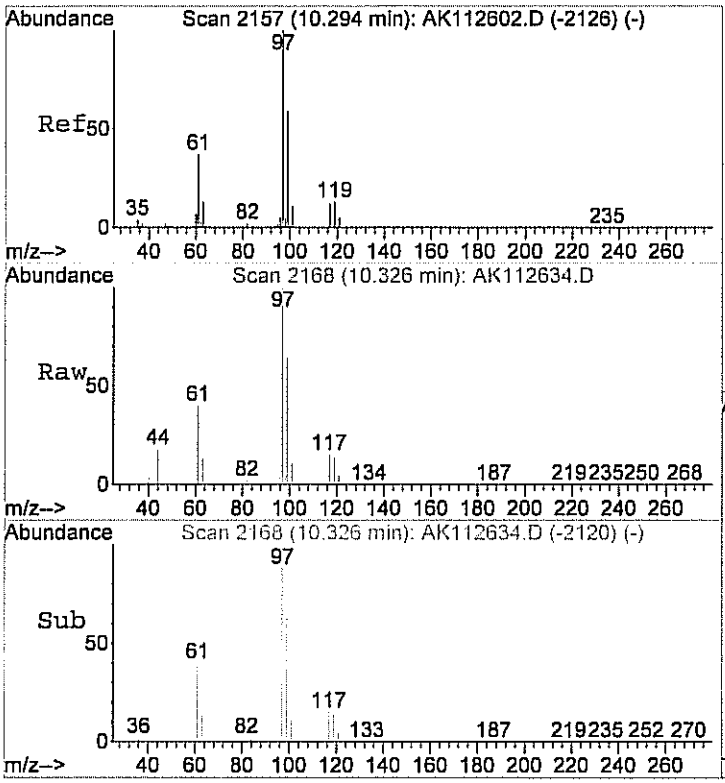


#33
1,2-dichloroethane
Concen: 0.08 ppb
RT: 10.63 min Scan# 2268
Delta R.T. -0.01 min
Lab File: AK112634.D
Acq: 27 Nov 2013 6:38 am

Tgt Ion: 62 Resp: 2314

Ion	Ratio	Lower	Upper
62	100		
64	32.8	13.4	53.4

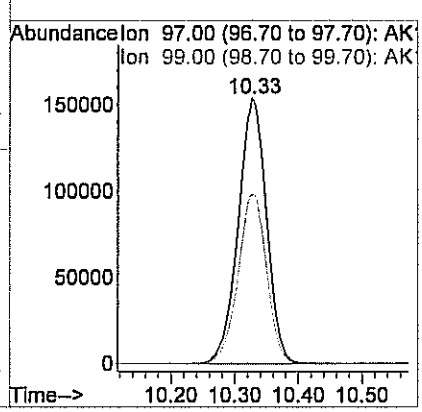


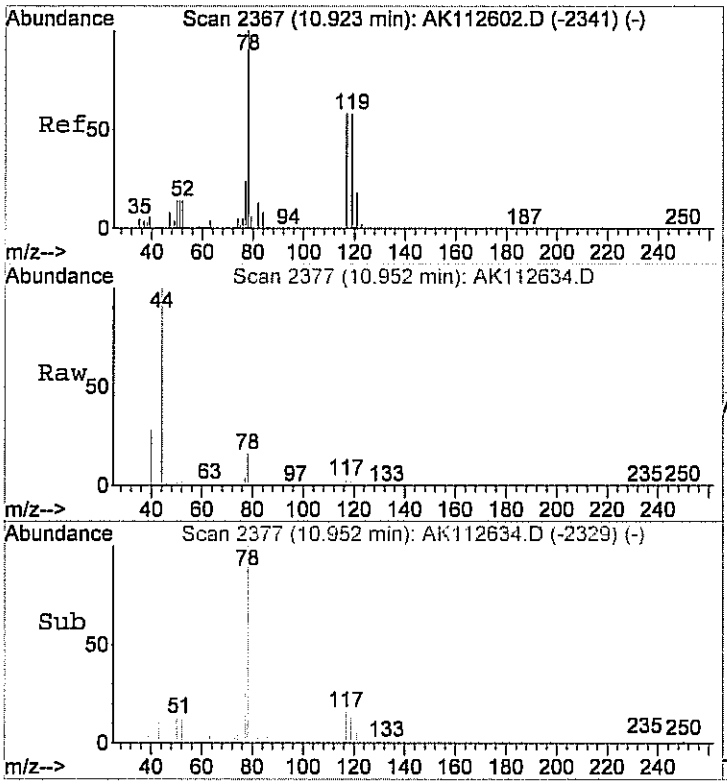


#35
1,1,1-trichloroethane
Concen: 13.38 ppb
RT: 10.33 min Scan# 2168
Delta R.T. -0.01 min
Lab File: AK112634.D
Acq: 27 Nov 2013 6:38 am

Tgt Ion: 97 Resp: 474161

Ion	Ratio	Lower	Upper
97	100		
99	64.8	45.3	85.3

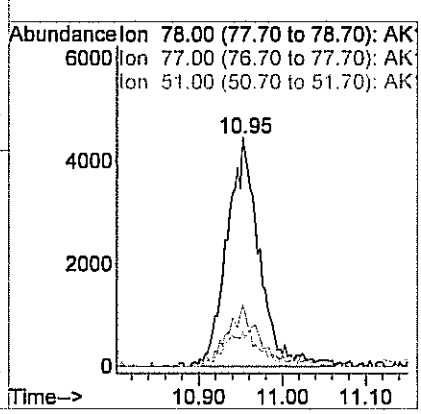


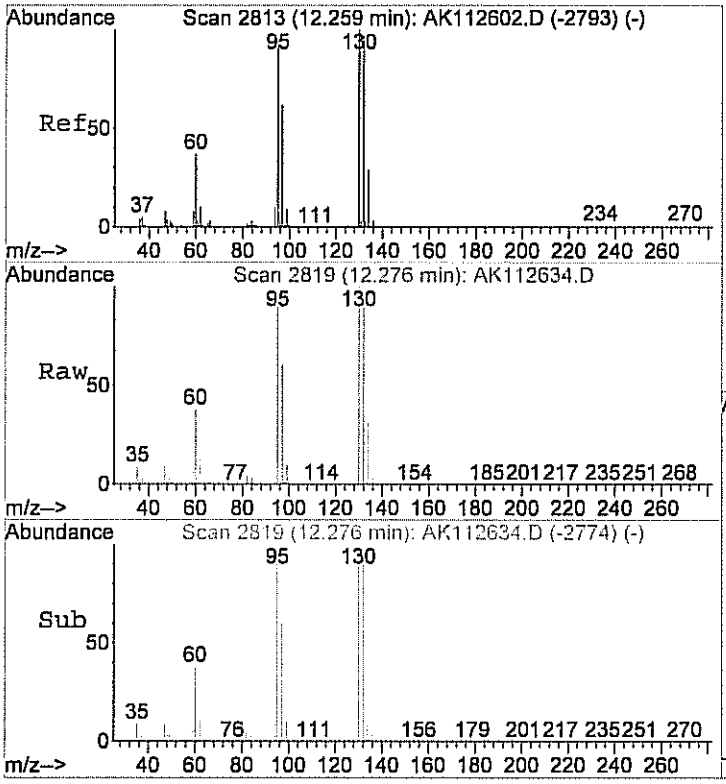


#38
Benzene
Concen: 0.26 ppb
RT: 10.95 min Scan# 2377
Delta R.T. -0.01 min
Lab File: AK112634.D
Acq: 27 Nov 2013 6:38 am

Tgt Ion: 78 Resp: 11972

Ion	Ratio	Lower	Upper
78	100		
77	27.3	6.7	46.7
51	15.7	0.0	37.6

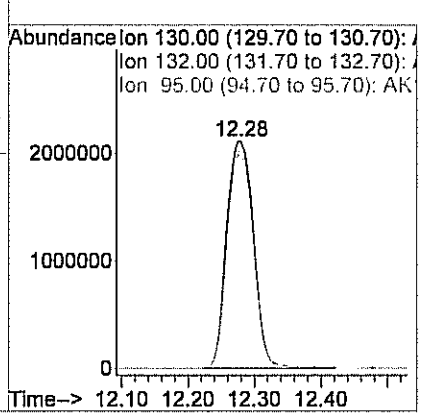


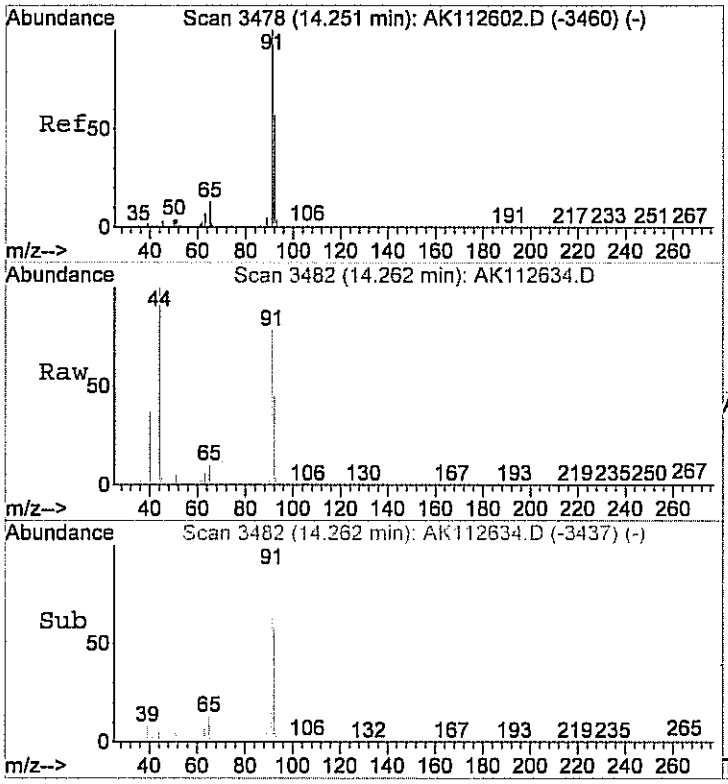


#43
Trichloroethene
Concen: 273.04 ppb
RT: 12.28 min Scan# 2819
Delta R.T. -0.02 min
Lab File: AK112634.D
Acq: 27 Nov 2013 6:38 am

Tgt Ion:130 Resp: 5989725

Ion	Ratio	Lower	Upper
130	100		
132	95.7	77.0	117.0
95	93.9	76.9	116.9

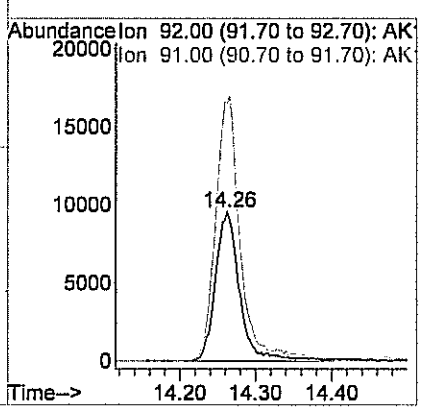


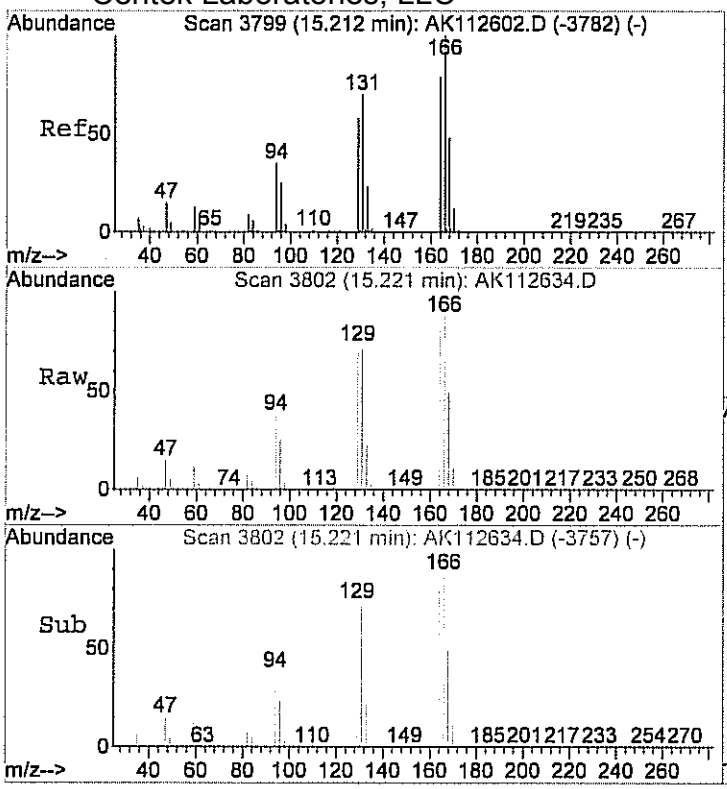


#50
Toluene
Concen: 0.65 ppb
RT: 14.26 min Scan# 3482
Delta R.T. -0.02 min
Lab File: AK112634.D
Acq: 27 Nov 2013 6:38 am

Tgt Ion: 92 Resp: 21300

Ion	Ratio	Lower	Upper
92	100		
91	180.8	156.6	196.6

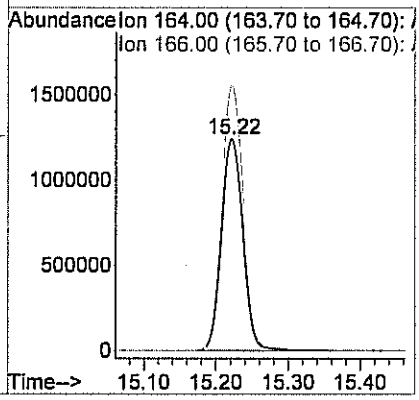


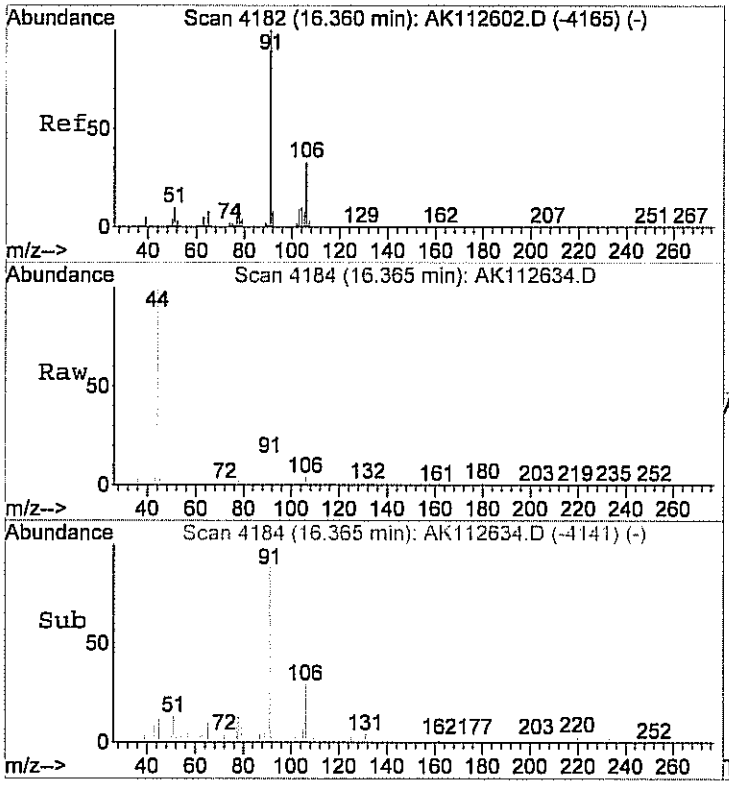


#55
Tetrachloroethylene
Concen: 75.16 ppb
RT: 15.22 min Scan# 3802
Delta R.T. -0.02 min
Lab File: AK112634.D
Acq: 27 Nov 2013 6:38 am

Tgt Ion:164 Resp: 2545315

Ion	Ratio	Lower	Upper
164	100		
166	126.0	108.8	148.8

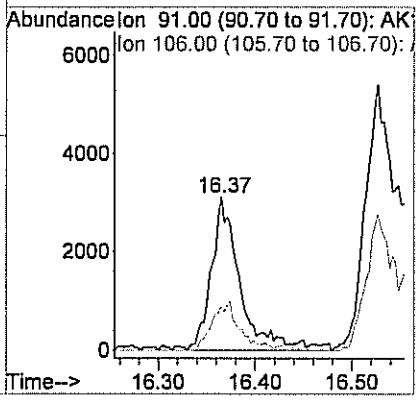


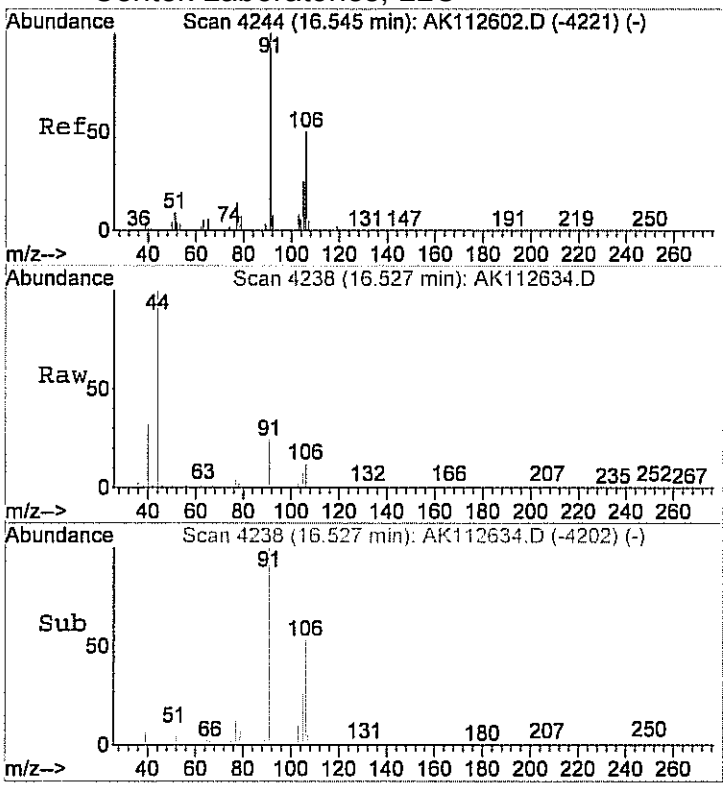


#57
Ethylbenzene
Concen: 0.11 ppb
RT: 16.37 min Scan# 4184
Delta R.T. -0.02 min
Lab File: AK112634.D
Acq: 27 Nov 2013 6:38 am

Tgt Ion: 91 Resp: 6438

Ion	Ratio	Lower	Upper
91	100		
106	29.7	12.8	52.8

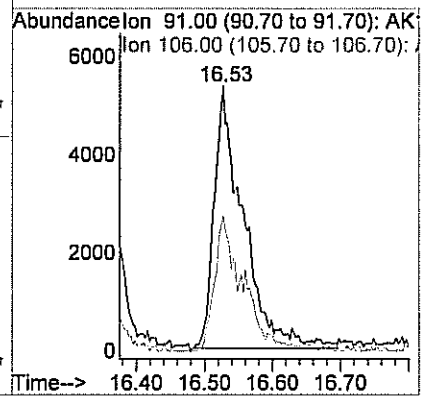




#58
m&p-xylene
Concen: 0.30 ppb
RT: 16.53 min Scan# 4238
Delta R.T. -0.04 min
Lab File: AK112634.D
Acq: 27 Nov 2013 6:38 am

Tgt Ion: 91 Resp: 15889

Ion	Ratio	Lower	Upper
91	100		
106	51.1	31.3	71.3



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK112731.D Vial: 31
Acq On : 28 Nov 2013 3:53 am Operator: RJP
Sample : C1311058-008A 10X Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 29 10:56:22 2013 Quant Results File: AO15_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Oct 15 18:12:29 2013
Response via : Initial Calibration
DataAcq Meth : 1UG_T015

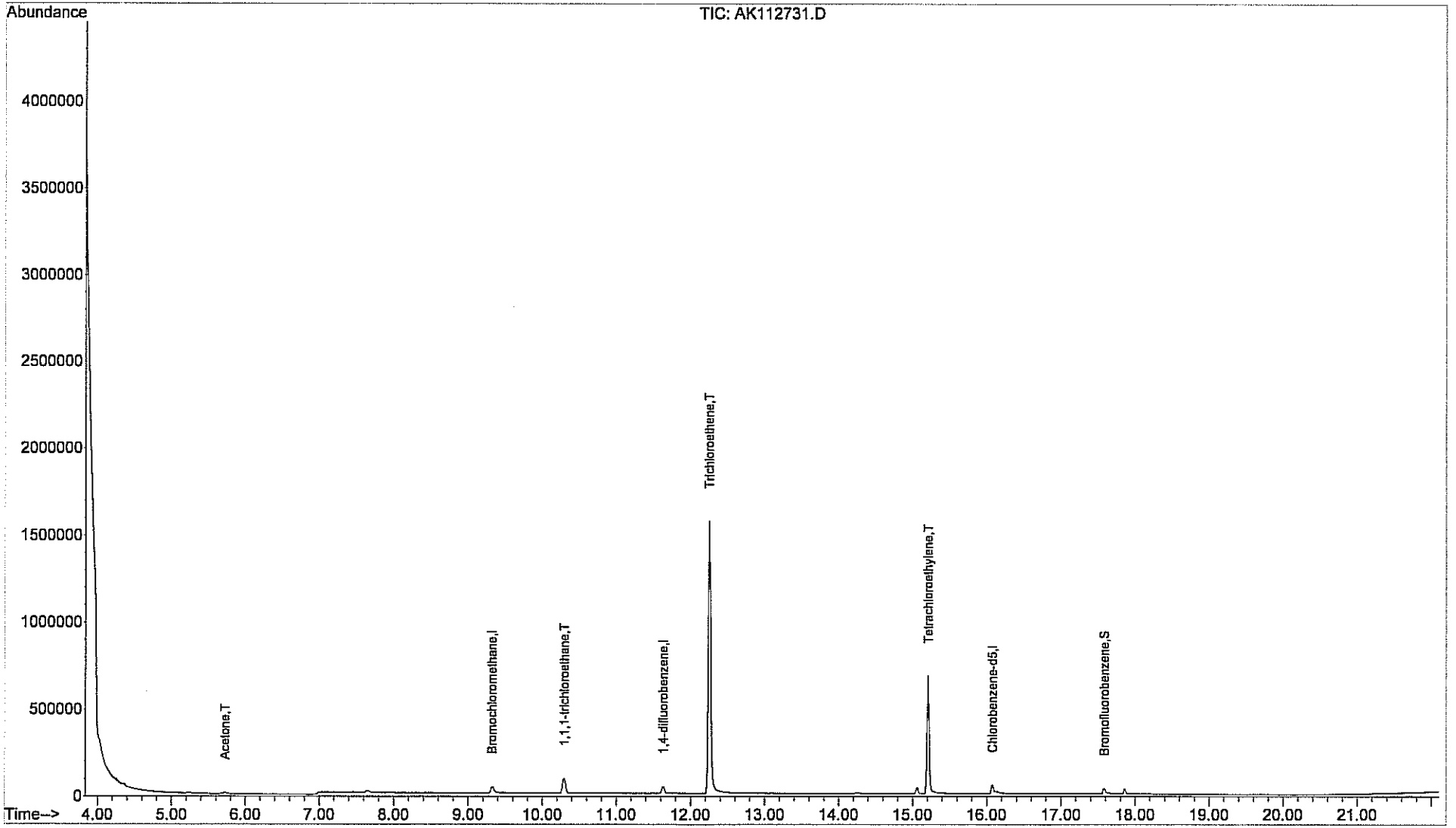
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.32	128	18936	1.00	ppb	-0.04
34) 1,4-difluorobenzene	11.63	114	45390	1.00	ppb	-0.03
49) Chlorobenzene-d5	16.08	117	43721	1.00	ppb	-0.02
System Monitoring Compounds						
62) Bromofluorobenzene	17.58	95	19853m	0.77	ppb	-0.02
Spiked Amount 1.000	Range 70 - 130		Recovery = 77.00%			
Target Compounds						Qvalue
15) Acetone	5.72	58	4458	0.85	ppb	# 23
35) 1,1,1-trichloroethane	10.30	97	77329	2.11	ppb	98
43) Trichloroethene	12.26	130	689755	30.48	ppb	100
55) Tetrachloroethylene	15.21	164	190510	7.50	ppb	98

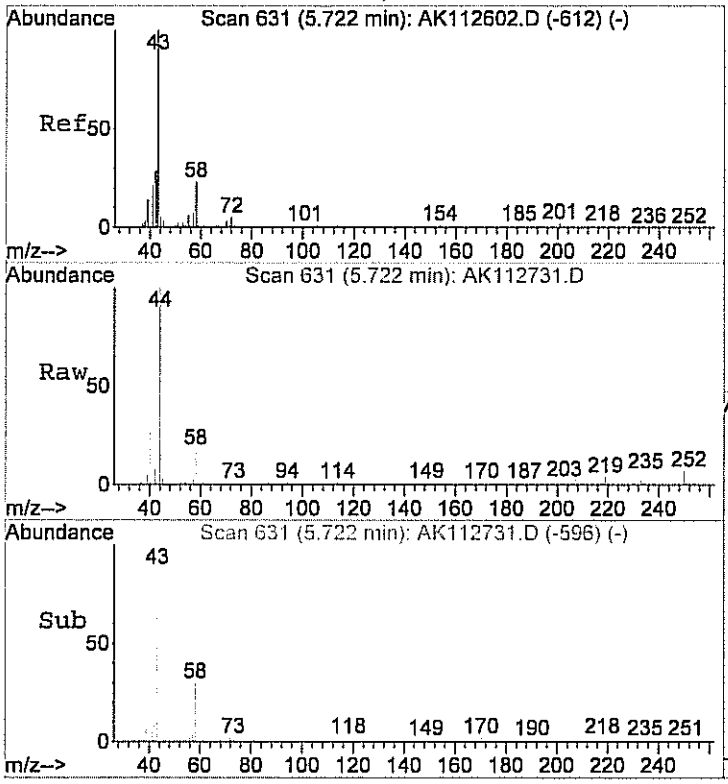
(#) = qualifier out of range (m) = manual integration (+) = signals summed
AK112731.D AO15_1UG.M Wed Dec 11 12:54:01 2013 MSD1 Page 1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK112731.D Vial: 31
Acq On : 28 Nov 2013 3:53 am Operator: RJP
Sample : C1311058-008A 10X Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Dec 2 8:39 2013 Quant Results File: AO15_1UG.RES

Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Wed Dec 11 12:48:42 2013
Response via : Initial Calibration

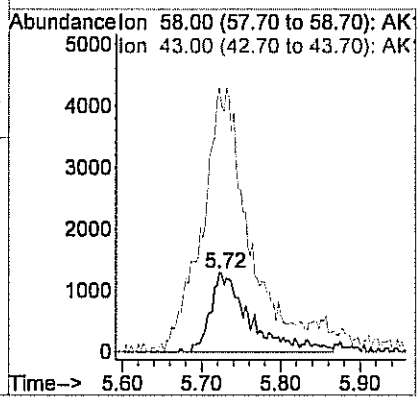


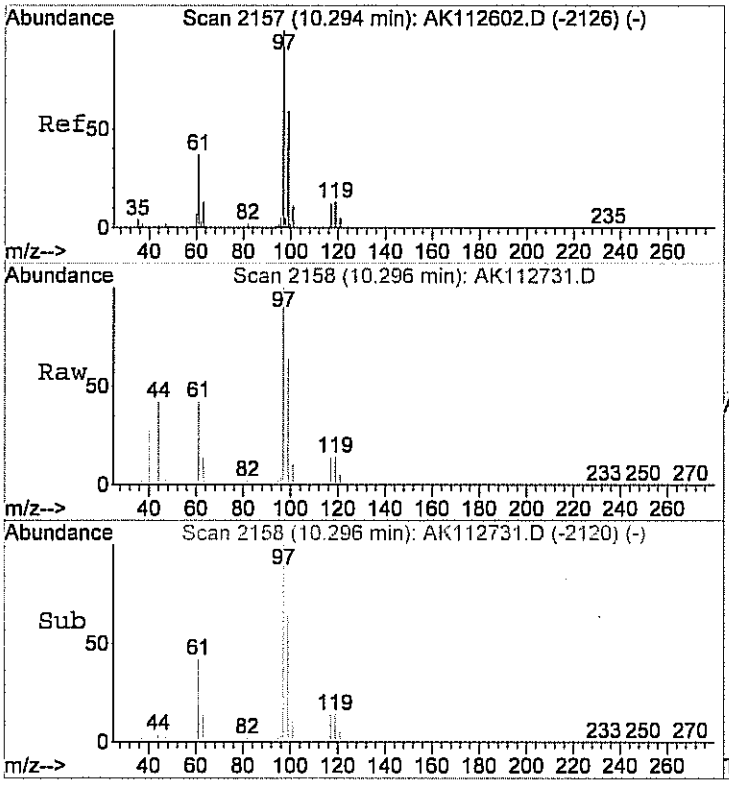


#15
Acetone
Concen: 0.85 ppb
RT: 5.72 min Scan# 631
Delta R.T. -0.05 min
Lab File: AK112731.D
Acq: 28 Nov 2013 3:53 am

Tgt Ion: 58 Resp: 4458

Ion	Ratio	Lower	Upper
58	100		
43	417.0	650.3	710.3#

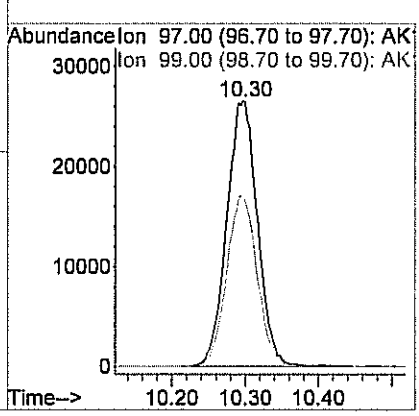


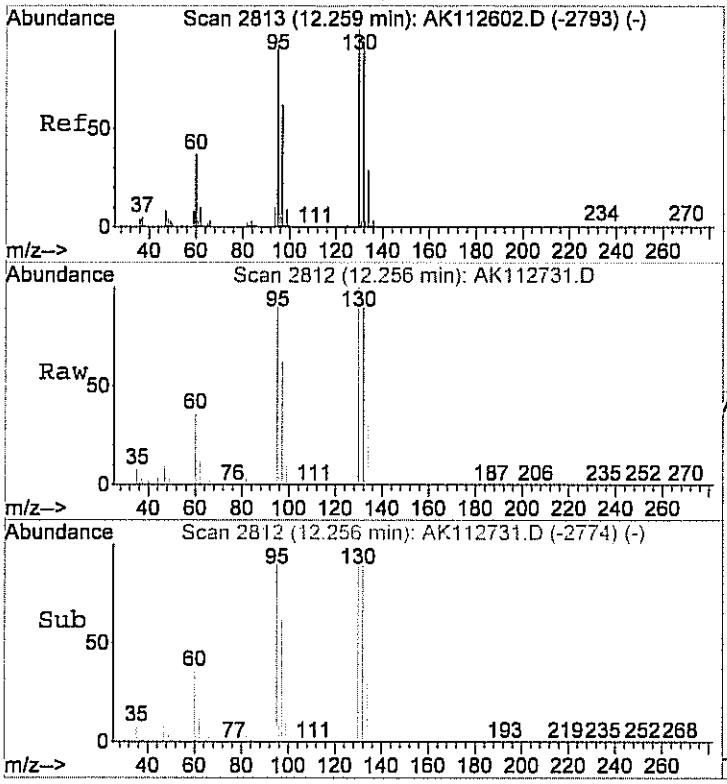


#35
1,1,1-trichloroethane
Concen: 2.11 ppb
RT: 10.30 min Scan# 2158
Delta R.T. -0.04 min
Lab File: AK112731.D
Acq: 28 Nov 2013 3:53 am

Tgt Ion: 97 Resp: 77329

Ion	Ratio	Lower	Upper
97	100		
99	64.1	45.3	85.3

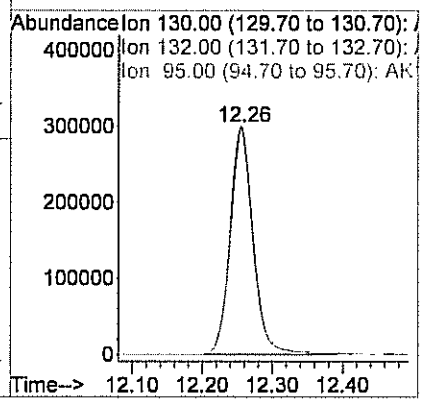


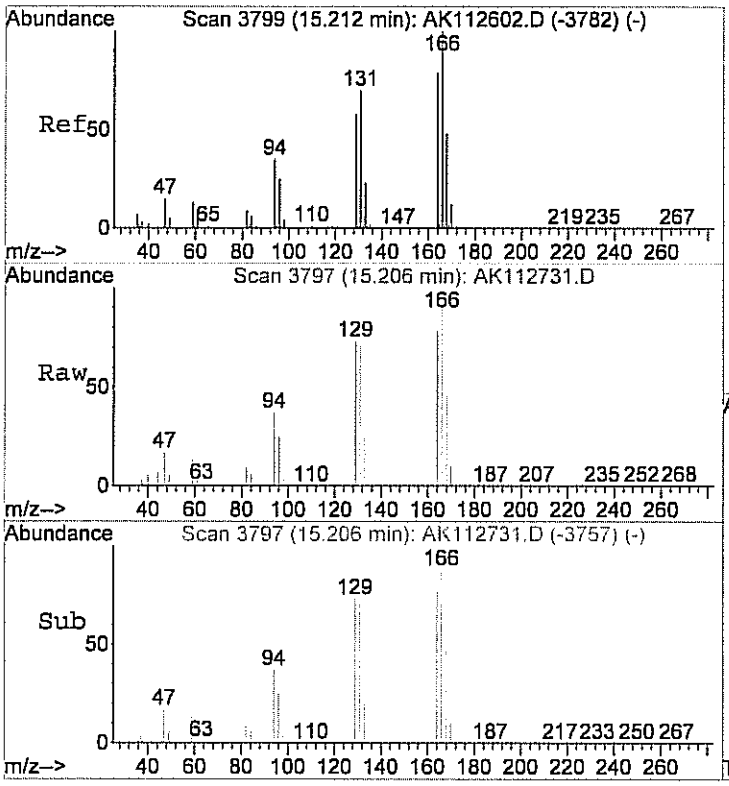


#43
Trichloroethene
Concen: 30.48 ppb
RT: 12.26 min Scan# 2812
Delta R.T. -0.04 min
Lab File: AK112731.D
Acq: 28 Nov 2013 3:53 am

Tgt Ion:130 Resp: 689755

Ion	Ratio	Lower	Upper
130	100		
132	97.0	77.0	117.0
95	96.0	76.9	116.9

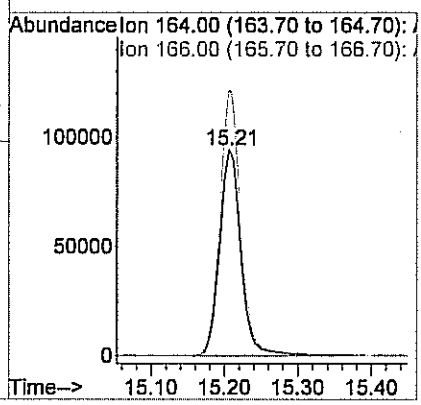




#55
Tetrachloroethylene
Concen: 7.50 ppb
RT: 15.21 min Scan# 3797
Delta R.T. -0.03 min
Lab File: AK112731.D
Acq: 28 Nov 2013 3:53 am

Tgt Ion:164 Resp: 190510

Ion	Ratio	Lower	Upper
164	100		
166	127.0	108.8	148.8



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK120206.D Vial: 6
Acq On : 2 Dec 2013 2:44 pm Operator: RJP
Sample : C1311058-008A 270X Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Dec 02 15:11:48 2013 Quant Results File: AO15_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Oct 15 18:12:29 2013
Response via : Initial Calibration
DataAcq Meth : 1UG_T015

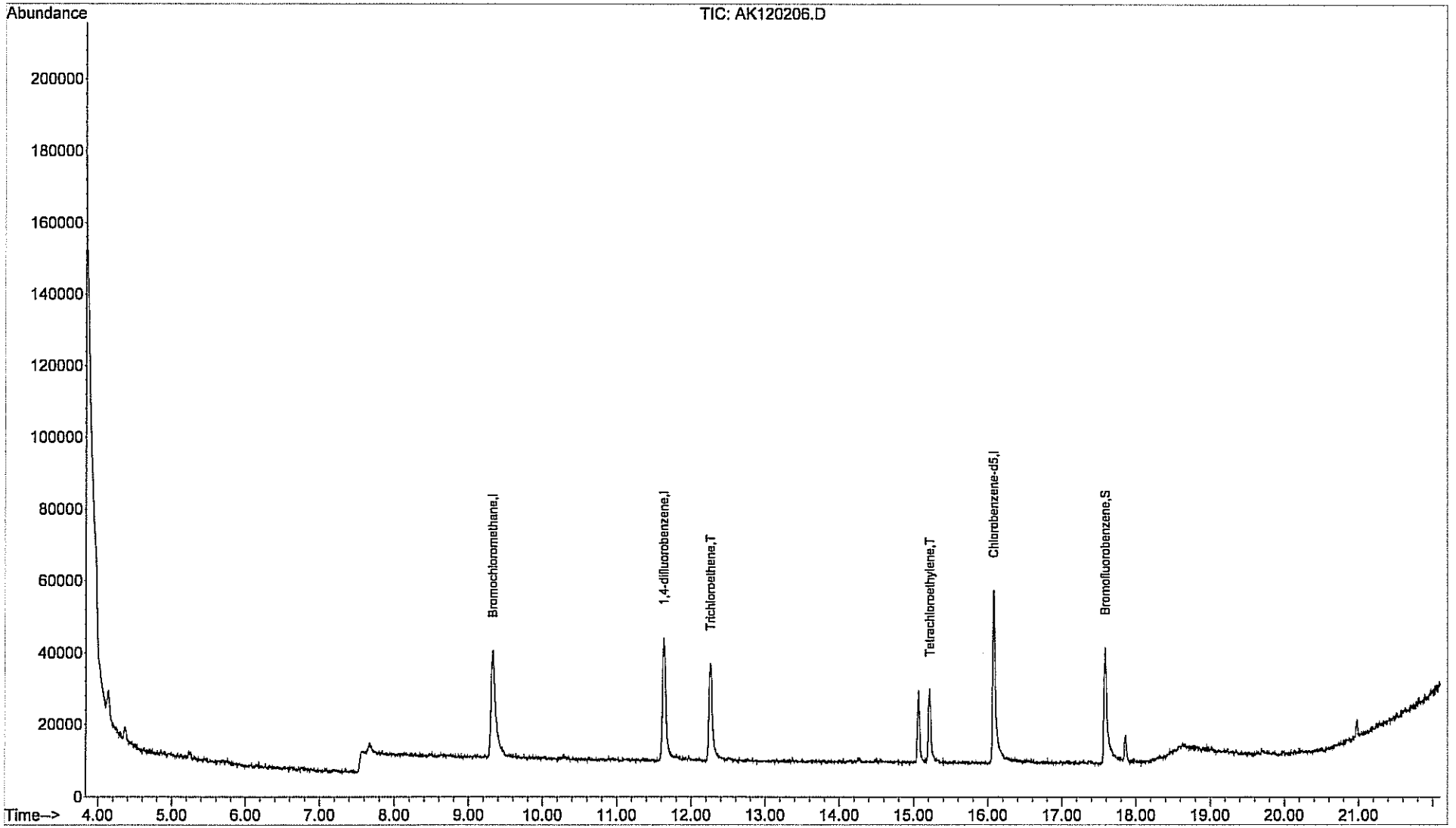
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.33	128	19418	1.00	ppb	-0.03
34) 1,4-difluorobenzene	11.64	114	44919	1.00	ppb	-0.03
49) Chlorobenzene-d5	16.08	117	44298	1.00	ppb	-0.02
System Monitoring Compounds						
62) Bromofluorobenzene	17.58	95	20837m	0.80	ppb	-0.02
Spiked Amount 1.000	Range 70 - 130		Recovery = 80.00%			
Target Compounds						Qvalue
43) Trichloroethene	12.26	130	16488m	0.74	ppb	
55) Tetrachloroethylene	15.21	164	6748m	0.26	ppb	

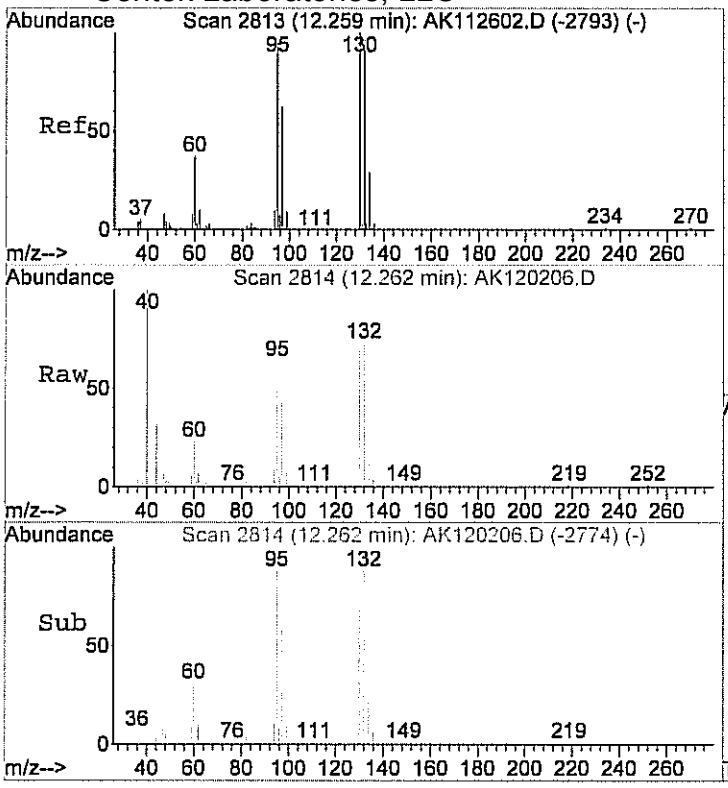
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK120206.D Vial: 6
Acq On : 2 Dec 2013 2:44 pm Operator: RJP
Sample : C1311058-008A 270X Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Dec 2 15:12 2013 Quant Results File: AO15_1UG.RES

Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Wed Dec 11 12:48:42 2013
Response via : Initial Calibration

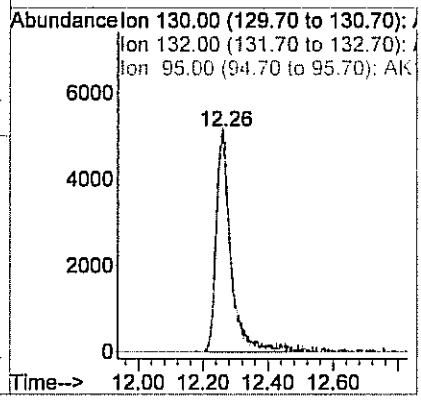


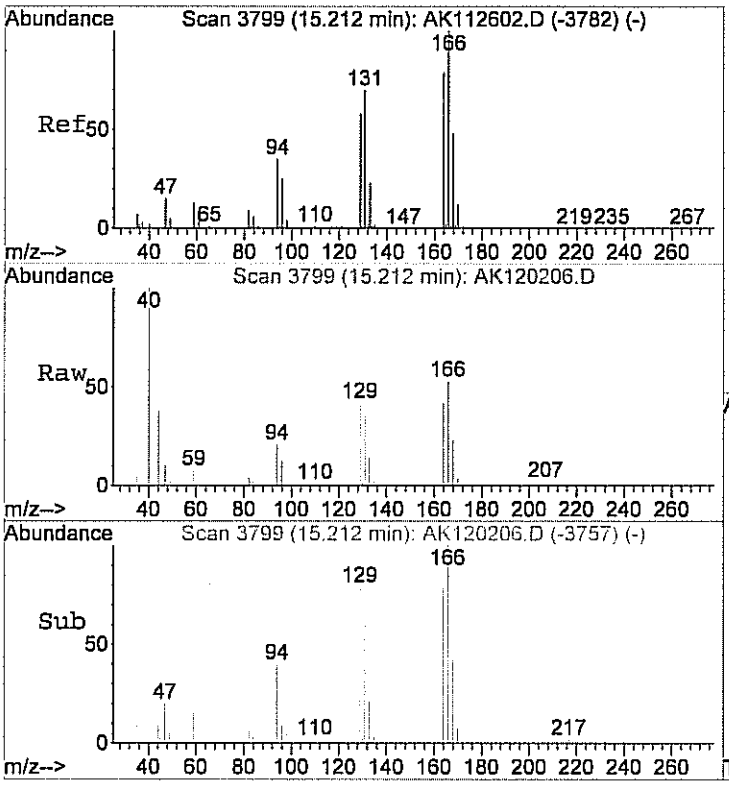


#43
Trichloroethene
Concen: 0.74 ppb m
RT: 12.26 min Scan# 2814
Delta R.T. -0.03 min
Lab File: AK120206.D
Acq: 2 Dec 2013 2:44 pm

Tgt Ion:130 Resp: 16488

Ion	Ratio	Lower	Upper
130	100		
132	93.0	77.0	117.0
95	95.6	76.9	116.9

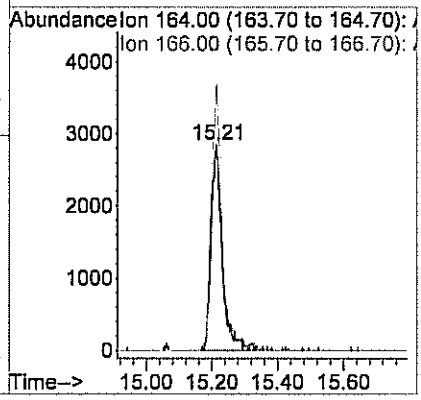




#55
Tetrachloroethylene
Concen: 0.26 ppb m
RT: 15.21 min Scan# 3799
Delta R.T. -0.03 min
Lab File: AK120206.D
Acq: 2 Dec 2013 2:44 pm

Tgt Ion:164 Resp: 6748

Ion	Ratio	Lower	Upper
164	100		
166	121.1	108.8	148.8



GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

STANDARDS DATA

GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

INITIAL CALIBRATION

Response Factor Report MSD #1

Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Oct 15 18:12:29 2013
Response via : Initial Calibration

Calibration Files
0.04 =AK101513.D 0.10 =AK101512.D 0.15 =AK101511.D
0.30 =AK101510.D 0.50 =AK101509.D 0.75 =AK101508.D

		Compound	0.04	0.10	0.15	0.30	0.50	0.75	Avg	%RSD
1)	I	Bromochloromethane	----------ISTD----------							
2)	T	Freon 22			2.177	2.131	2.028	1.887	2.032	4.57
3)	T	Propylene			0.862	0.843	0.767	0.770	0.815	4.03
4)	T	Freon 12			3.457	3.465	3.384	3.181	3.349	2.84
5)	T	Chloromethane			0.884	0.818	0.778	0.682	0.791	10.81
6)	T	Freon 114			2.235	2.136	2.107	1.999	2.134	6.81
7)	T	Vinyl Chloride	0.820	0.644	0.706	0.707	0.667	0.620	0.684	8.91
8)	T	1,3-butadiene			0.586	0.587	0.534	0.509	0.539	6.81
9)	T	Bromomethane			0.934	0.968	0.960	0.865	0.916	4.16
10)	T	Ethanol			0.220	0.232	0.215	0.157	0.189	15.18
11)	T	Acrolein			0.221	0.189	0.183	0.172	0.177	11.59
12)	T	Chloroethane			0.367	0.346	0.344	0.311	0.333	5.54
13)	T	Vinyl Bromide			0.886	0.903	0.854	0.788	0.842	4.46
14)	T	Freon 11			2.792	2.718	2.596	2.420	2.591	4.64
15)	T	Acetone			0.326	0.319	0.275	0.240	0.276	11.61
16)	T	Isopropyl alcoh			0.944	0.850	0.672	0.633	0.725	15.17
17)	T	1,1-dichloroeth			0.909	0.841	0.770	0.768	0.803	6.06
18)	T	Freon 113			1.962	1.923	1.849	1.752	1.846	3.77
19)	T	t-Butyl alcohol			1.317	1.168	0.972	0.908	0.991	16.43
20)	T	Methylene chlor			0.688	0.686	0.666	0.587	0.640	5.72
21)	T	Allyl chloride			0.947	0.867	0.754	0.808	0.812	7.91
22)	T	Carbon disulfid			2.412	2.382	2.063	1.955	2.099	8.93
23)	T	trans-1,2-dichl			0.993	1.005	1.426	0.963	1.146	18.71
24)	T	methyl tert-but			1.783	1.707	1.785	1.914	1.928	8.82
25)	T	1,1-dichloroeth			2.317	2.278	2.239	2.110	2.231	2.74
26)	T	Vinyl acetate			1.456	1.267	1.250	1.282	1.381	8.10
27)	T	Methyl Ethyl Ke			0.349	0.349	0.301	0.348	0.376	13.93
28)	T	cis-1,2-dichlor			1.157	1.222	1.186	1.143	1.213	3.96
29)	T	Hexane			1.026	1.014	1.038	1.124	1.178	14.15
30)	T	Ethyl acetate			1.359	1.455	1.297	1.463	1.505	10.07
31)	T	Chloroform			2.769	2.824	2.713	2.559	2.708	2.90
32)	T	Tetrahydrofuran			0.686	0.762	0.670	0.627	0.707	6.26
33)	T	1,2-dichloroeth			1.446	1.483	1.449	1.354	1.436	2.54
34)	I	1,4-difluorobenzene	----------ISTD----------							
35)	T	1,1,1-trichloro			0.857	0.840	0.836	0.760	0.806	4.33
36)	T	Cyclohexane			0.316	0.336	0.343	0.349	0.378	12.81
37)	T	Carbon tetrachl	1.075	0.981	1.051	1.031	1.002	0.923	0.990	4.96
38)	T	Benzene			1.074	1.080	1.065	1.012	1.067	2.34
39)	T	Methyl methacry			0.192	0.201	0.171	0.185	0.205	14.16
40)	T	1,4-dioxane			0.128	0.112	0.114	0.102	0.114	8.63
41)	T	2,2,4-trimethyl			1.102	1.158	1.205	1.190	1.286	11.13
42)	T	Heptane			0.349	0.319	0.348	0.362	0.390	14.26
43)	T	Trichloroethene	0.474	0.472	0.474	0.484	0.510	0.479	0.499	4.97
44)	T	1,2-dichloropro			0.395	0.434	0.433	0.415	0.431	4.11
45)	T	Bromodichlorome			0.925	0.966	0.968	0.902	0.945	2.43
46)	T	cis-1,3-dichlor			0.383	0.418	0.414	0.436	0.460	13.42
47)	T	trans-1,3-dichl			0.324	0.332	0.331	0.340	0.356	8.55
48)	T	1,1,2-trichloro			0.525	0.554	0.548	0.524	0.545	2.48
49)	I	Chlorobenzene-d5	----------ISTD----------							
50)	T	Toluene			0.464	0.506	0.507	0.531	0.561	13.07
51)	T	Methyl Isobutyl			0.502	0.480	0.415	0.430	0.454	8.75

(#) = Out of Range ### Number of calibration levels exceeded format ###

Response Factor Report MSD #1

Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Oct 15 18:12:29 2013
Response via : Initial Calibration

Calibration Files
0.04 =AK101513.D 0.10 =AK101512.D 0.15 =AK101511.D
0.30 =AK101510.D 0.50 =AK101509.D 0.75 =AK101508.D

		Compound	0.04	0.10	0.15	0.30	0.50	0.75	Avg	%RSD
52)	T	Dibromochlorome			0.984	1.020	0.985	0.952	0.966	2.90
53)	T	Methyl Butyl Ke			0.440	0.357	0.315	0.372	0.373	9.80
54)	T	1,2-dibromoetha			0.678	0.715	0.705	0.671	0.700	2.64
55)	T	Tetrachloroethy	0.717	0.558	0.574	0.606	0.576	0.536	0.581	8.77
56)	T	Chlorobenzene			0.929	0.963	0.943	0.919	0.957	3.43
57)	T	Ethylbenzene			0.845	0.928	0.920	0.964	1.047	15.91
58)	T	m&p-xylene			0.686	0.747	0.731	0.825	0.907	20.87
59)	T	Styrene			0.497	0.546	0.603	0.686	0.716	22.35
60)	T	Bromoform			1.026	1.065	1.058	0.975	1.024	2.78
61)	T	o-xylene			1.047	1.187	1.235	1.293	1.360	14.66
62)	S	Bromofluorobenz	0.501	0.515	0.520	0.551	0.576	0.611	0.587	10.83
63)	T	1,1,2,2-tetrach			1.290	1.310	1.266	1.200	1.236	3.64
64)	T	2-Chlorotoluene			1.357	1.188	1.174	1.346	1.397	12.40
65)	T	4-ethyltoluene			0.786	0.851	0.874	1.013	1.145	27.82
66)	T	1,3,5-trimethyl			0.958	0.969	1.205	1.334	1.337	20.35
67)	T	1,2,4-trimethyl			0.825	0.795	0.668	0.746	0.915	23.24
68)	T	1,3-dichloroben			0.618	0.740	0.791	0.844	0.864	17.08
69)	T	benzyl chloride			0.519	0.622	0.664	0.612	0.703	18.42
70)	T	1,4-dichloroben			0.698	0.779	0.813	0.825	0.881	15.16
71)	T	1,2,3-trimethyl			0.837	0.837	0.933	1.017	1.177	27.21
72)	T	1,2-dichloroben			0.863	0.736	0.853	0.881	0.938	13.59
73)	T	1,2,4-trichloro			0.465	0.389	0.423	0.374	0.456	14.42
74)	T	Naphthalene			0.902	0.755	0.684	0.709	0.877	22.99
75)	T	Hexachloro-1,3-			0.904	0.949	0.981	0.982	1.015	7.25

(#) = Out of Range ### Number of calibration levels exceeded format ###

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK101504.D Vial: 2
Acq On : 15 Oct 2013 12:20 pm Operator: RJP
Sample : A1UG_2.0 Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 14:45:01 2013 Quant Results File: AO15_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Oct 15 14:43:46 2013
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AK101507.D
DataAcq Meth : 1UG_TO15

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane	9.35	128	31784	1.00	ppb		-0.01
34) 1,4-difluorobenzene	11.66	114	100452	1.00	ppb		0.00
49) Chlorobenzene-d5	16.10	117	107131	1.00	ppb		0.00
System Monitoring Compounds							
62) Bromofluorobenzene	17.59	95	72535	1.09	ppb		0.00
Spiked Amount 1.000	Range 70 - 130		Recovery = 109.00%				
Target Compounds							Qvalue
2) Freon 22	3.88	51	124097	1.88	ppb	#	100
3) Propylene	3.88	41	52372	1.97	ppb	#	100
4) Freon 12	3.93	85	207900	1.91	ppb		99
5) Chloromethane	4.12	50	48107m	1.59	ppb		
6) Freon 114	4.12	85	127634	1.63	ppb		91
7) Vinyl Chloride	4.30	62	40532	1.70	ppb		100
8) 1,3-butadiene	4.40	39	31458	1.82	ppb		72
9) Bromomethane	4.72	94	56570	2.03	ppb		96
10) Ethanol	5.06	45	11518	2.27	ppb	#	66
11) Acrolein	5.60	56	10476m	2.14	ppb		
12) Chloroethane	4.88	64	19903	1.89	ppb		98
13) Vinyl Bromide	5.20	106	51772	1.92	ppb		99
14) Freon 11	5.46	101	158407	1.88	ppb		97
15) Acetone	5.72	58	17176	2.15	ppb	#	100
16) Isopropyl alcohol	5.84	45	42340	1.97	ppb	#	100
17) 1,1-dichloroethene	6.20	96	49086	1.91	ppb		90
18) Freon 113	6.39	101	114297	1.90	ppb		97
19) t-Butyl alcohol	6.57	59	55700	1.98	ppb	#	98
20) Methylene chloride	6.65	84	38630	1.89	ppb		92
21) Allyl chloride	6.63	41	49048	1.94	ppb		93
22) Carbon disulfide	6.79	76	124491	1.93	ppb		96
23) trans-1,2-dichloroethene	7.56	61	93366	2.77	ppb		99
24) methyl tert-butyl ether	7.68	73	136088	2.06	ppb		89
25) 1,1-dichloroethane	7.98	63	139439	1.93	ppb		98
26) Vinyl acetate	8.03	43	97698	2.26	ppb		95
27) Methyl Ethyl Ketone	8.59	72	29389	2.54	ppb	#	1
28) cis-1,2-dichloroethene	8.91	61	81481	2.06	ppb		99
29) Hexane	8.52	57	92252	2.42	ppb		81
30) Ethyl acetate	9.17	43	109612	2.32	ppb		89
31) Chloroform	9.51	83	169158	1.92	ppb		100
32) Tetrahydrofuran	9.82	42	46329	2.12	ppb	#	58
33) 1,2-dichloroethane	10.63	62	91737	1.99	ppb		99
35) 1,1,1-trichloroethane	10.32	97	156018	1.97	ppb		99
36) Cyclohexane	11.04	56	90748	2.30	ppb		86
37) Carbon tetrachloride	10.98	117	189859	1.95	ppb		99
38) Benzene	10.95	78	218140	2.06	ppb		96
39) Methyl methacrylate	12.58	41	52179	2.54	ppb		94
40) 1,4-dioxane	12.71	88	25815	2.46	ppb	#	1
41) 2,2,4-trimethylpentane	11.82	57	301499	2.29	ppb		92
42) Heptane	12.17	43	94725	2.46	ppb		96
43) Trichloroethene	12.29	130	107394	2.11	ppb		99
44) 1,2-dichloropropane	12.39	63	89067	2.04	ppb		100
45) Bromodichloromethane	12.71	83	191129	2.02	ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK101504.D Vial: 2
Acq On : 15 Oct 2013 12:20 pm Operator: RJP
Sample : A1UG_2.0 Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 14:45:01 2013 Quant Results File: AO15_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Oct 15 14:43:46 2013
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AK101507.D
DataAcq Meth : 1UG_TO15

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46)	cis-1,3-dichloropropene	13.50	75	115055	2.53	ppb	99
47)	trans-1,3-dichloropropene	14.22	75	82431	2.31	ppb	97
48)	1,1,2-trichloroethane	14.50	97	111322	2.05	ppb	98
50)	Toluene	14.27	92	145423	2.41	ppb	98
51)	Methyl Isobutyl Ketone	13.49	43	111041	2.46	ppb	75
52)	Dibromochloromethane	15.15	129	201904	1.99	ppb	97
53)	Methyl Butyl Ketone	14.75	43	78461m	2.01	ppb	
54)	1,2-dibromoethane	15.40	107	154786	2.11	ppb	98
55)	Tetrachloroethylene	15.24	164	120397	2.04	ppb	100
56)	Chlorobenzene	16.14	112	215395	2.17	ppb	99
57)	Ethylbenzene	16.38	91	285943	2.57	ppb	100
58)	m&p-xylene	16.56	91	512006	5.13	ppb	98
59)	Styrene	16.96	104	201846	2.49	ppb	93
60)	Bromoform	17.06	173	219011	2.04	ppb	99
61)	o-xylene	16.99	91	343269	2.23	ppb	93
63)	1,1,2,2-tetrachloroethane	17.39	83	258738	2.02	ppb	99
64)	2-Chlorotoluene	18.01	91	366015m	2.35	ppb	
65)	4-ethyltoluene	18.13	105	351152m	2.87	ppb	
66)	1,3,5-trimethylbenzene	18.18	105	358838	2.28	ppb	89
67)	1,2,4-trimethylbenzene	18.57	105	279711	3.04	ppb	98
68)	1,3-dichlorobenzene	18.82	146	228642	2.41	ppb	98
69)	benzyl chloride	18.88	91	195382m	2.64	ppb	
70)	1,4-dichlorobenzene	18.93	146	237908	2.60	ppb	100
71)	1,2,3-trimethylbenzene	18.97	105	355573	2.74	ppb	97
72)	1,2-dichlorobenzene	19.20	146	238541	2.33	ppb	99
73)	1,2,4-trichlorobenzene	20.76	180	123983	2.82	ppb	100
74)	Naphthalene	20.91	128	283851	3.49	ppb	99
75)	Hexachloro-1,3-butadiene	20.99	225	238767	2.15	ppb	99

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

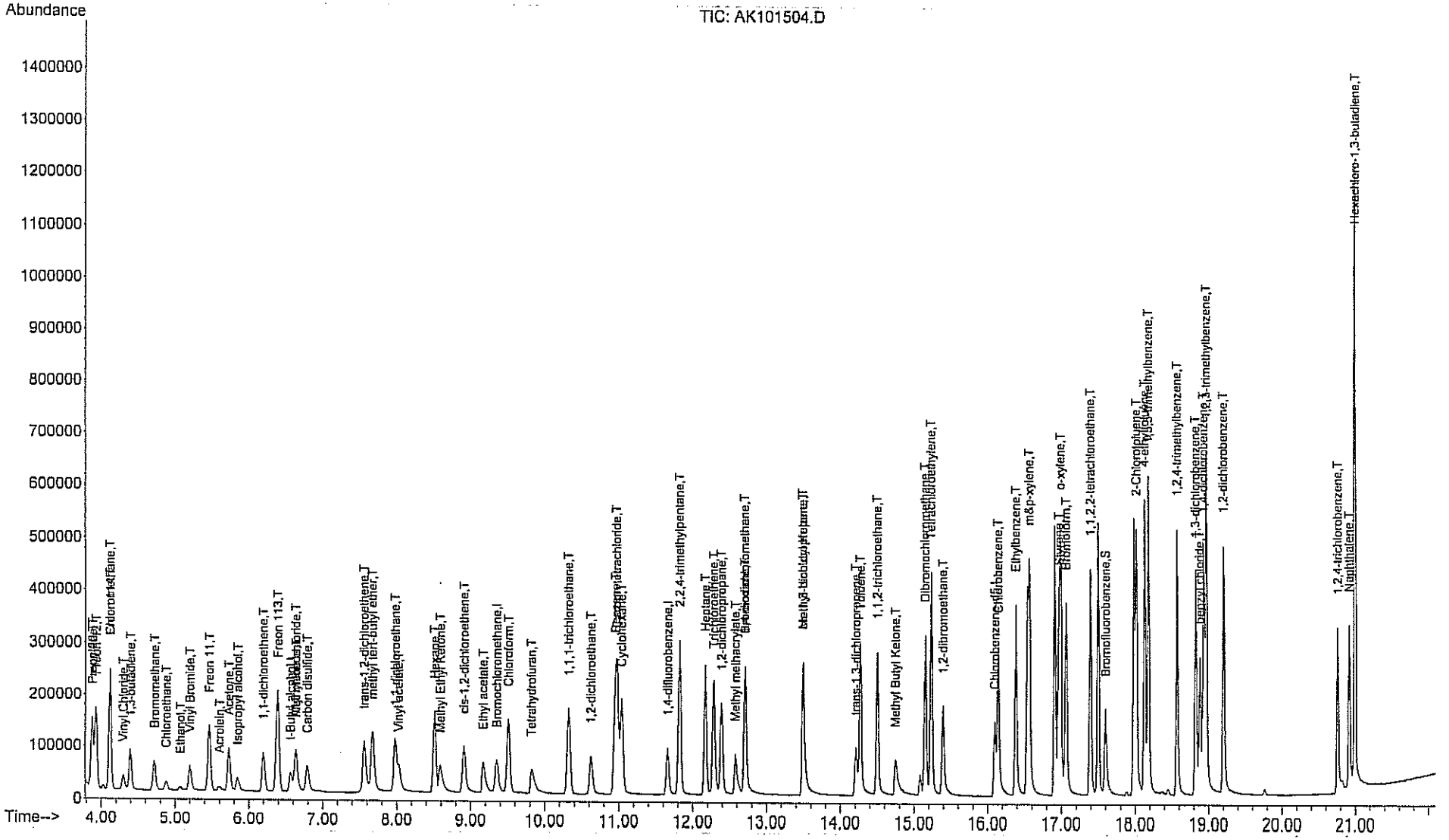
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK101504.D
Acq On : 15 Oct 2013 12:20 pm
Sample : A1UG_2.0
Misc : AO15_1UG
MS Integration Params: RTEINT.P
Quant Time: Oct 15 17:11 2013

Vial: 2
Operator: RJP
Inst : MSD #1
Multiplr: 1.00

Quant Results File: AO15_1UG.RES

Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Oct 15 18:12:29 2013
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AK101507.D



AK101504.D AO15_1UG.M Sun Nov 17 10:17:33 2013 MSD1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK101505.D Vial: 3
Acq On : 15 Oct 2013 12:57 pm Operator: RJP
Sample : A1UG_1.5 Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 14:44:36 2013 Quant Results File: AO15_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Oct 15 14:43:46 2013
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AK101507.D
DataAcq Meth : 1UG_T015

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane	9.36	128	31538	1.00	ppb		0.00
34) 1,4-difluorobenzene	11.66	114	100619	1.00	ppb		0.00
49) Chlorobenzene-d5	16.10	117	105272	1.00	ppb		0.00
System Monitoring Compounds							
62) Bromofluorobenzene	17.60	95	69023	1.06	ppb		0.00
Spiked Amount 1.000	Range 70 - 130		Recovery = 106.00%				
Target Compounds							Qvalue
2) Freon 22	3.88	51	94328	1.44	ppb	#	100
3) Propylene	3.89	41	38522	1.46	ppb	#	100
4) Freon 12	3.93	85	156584	1.45	ppb		99
5) Chloromethane	4.12	50	34249	1.14	ppb		98
6) Freon 114	4.12	85	96897	1.25	ppb		92
7) Vinyl Chloride	4.30	62	30533	1.29	ppb		97
8) 1,3-butadiene	4.40	39	24258	1.41	ppb		76
9) Bromomethane	4.72	94	44030	1.59	ppb		92
10) Ethanol	5.07	45	7864	1.56	ppb	#	68
11) Acrolein	5.60	56	7764m	1.60	ppb		
12) Chloroethane	4.88	64	15417	1.48	ppb		95
13) Vinyl Bromide	5.20	106	38879	1.46	ppb		99
14) Freon 11	5.47	101	119365	1.43	ppb		98
15) Acetone	5.74	58	13255	1.67	ppb	#	100
16) Isopropyl alcohol	5.85	45	32407	1.52	ppb	#	100
17) 1,1-dichloroethene	6.20	96	36999	1.45	ppb		90
18) Freon 113	6.40	101	85560	1.43	ppb		97
19) t-Butyl alcohol	6.58	59	41493	1.48	ppb	#	97
20) Methylene chloride	6.65	84	29619	1.46	ppb		92
21) Allyl chloride	6.63	41	36880	1.47	ppb		93
22) Carbon disulfide	6.79	76	93368	1.46	ppb		97
23) trans-1,2-dichloroethene	7.57	61	44254m	1.32	ppb		
24) methyl tert-butyl ether	7.68	73	100979	1.54	ppb		82
25) 1,1-dichloroethane	7.98	63	105635	1.47	ppb		99
26) Vinyl acetate	8.04	43	71589	1.67	ppb		94
27) Methyl Ethyl Ketone	8.60	72	20693	1.80	ppb	#	1
28) cis-1,2-dichloroethene	8.91	61	59580	1.52	ppb		99
29) Hexane	8.52	57	65991	1.74	ppb		84
30) Ethyl acetate	9.18	43	81099	1.73	ppb		92
31) Chloroform	9.51	83	127162	1.45	ppb		100
32) Tetrahydrofuran	9.84	42	33811	1.56	ppb		63
33) 1,2-dichloroethane	10.63	62	68389	1.50	ppb		99
35) 1,1,1-trichloroethane	10.33	97	117868	1.48	ppb		100
36) Cyclohexane	11.05	56	63518	1.60	ppb		87
37) Carbon tetrachloride	10.98	117	143142	1.47	ppb		99
38) Benzene	10.96	78	160964	1.52	ppb		97
39) Methyl methacrylate	12.58	41	35318	1.72	ppb		96
40) 1,4-dioxane	12.72	88	16754	1.60	ppb	#	1
41) 2,2,4-trimethylpentane	11.83	57	212673	1.61	ppb		93
42) Heptane	12.18	43	67497	1.75	ppb		98
43) Trichloroethene	12.29	130	77979	1.53	ppb		98
44) 1,2-dichloropropane	12.39	63	67110	1.54	ppb		100
45) Bromodichloromethane	12.71	83	141873	1.50	ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK101505.D Vial: 3
Acq On : 15 Oct 2013 12:57 pm Operator: RJP
Sample : A1UG_1.5 Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 14:44:36 2013 Quant Results File: AO15_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Oct 15 14:43:46 2013
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AK101507.D
DataAcq Meth : 1UG_T015

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46)	cis-1,3-dichloropropene	13.50	75	77953	1.71	ppb	99
47)	trans-1,3-dichloropropene	14.22	75	57983	1.62	ppb	97
48)	1,1,2-trichloroethane	14.50	97	82805	1.52	ppb	98
50)	Toluene	14.28	92	100888	1.70	ppb	98
51)	Methyl Isobutyl Ketone	13.50	43	68238	1.54	ppb	75
52)	Dibromochloromethane	15.16	129	148242	1.48	ppb	97
53)	Methyl Butyl Ketone	14.76	43	55570m	1.45	ppb	
54)	1,2-dibromoethane	15.40	107	112809	1.56	ppb	98
55)	Tetrachloroethylene	15.24	164	89137	1.54	ppb	98
56)	Chlorobenzene	16.14	112	157609	1.62	ppb	99
57)	Ethylbenzene	16.38	91	191084	1.75	ppb	99
58)	m&p-xylene	16.57	91	348175	3.55	ppb	98
59)	Styrene	16.96	104	138358	1.74	ppb	95
60)	Bromoform	17.06	173	161569	1.53	ppb	98
61)	o-xylene	16.99	91	245445	1.63	ppb	94
63)	1,1,2,2-tetrachloroethane	17.40	83	191530	1.52	ppb	99
64)	2-Chlorotoluene	18.02	91	234885m	1.53	ppb	
65)	4-ethyltoluene	18.13	105	237330m	1.97	ppb	
66)	1,3,5-trimethylbenzene	18.18	105	247887	1.61	ppb	90
67)	1,2,4-trimethylbenzene	18.57	105	177027	1.96	ppb	97
68)	1,3-dichlorobenzene	18.83	146	159305	1.71	ppb	99
69)	benzyl chloride	18.88	91	133034m	1.83	ppb	
70)	1,4-dichlorobenzene	18.94	146	159967	1.78	ppb	99
71)	1,2,3-trimethylbenzene	18.97	105	241322	1.89	ppb	98
72)	1,2-dichlorobenzene	19.20	146	169419	1.69	ppb	99
73)	1,2,4-trichlorobenzene	20.76	180	80057	1.86	ppb	100
74)	Naphthalene	20.92	128	145075m	1.81	ppb	
75)	Hexachloro-1,3-butadiene	20.99	225	172853	1.59	ppb	99

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

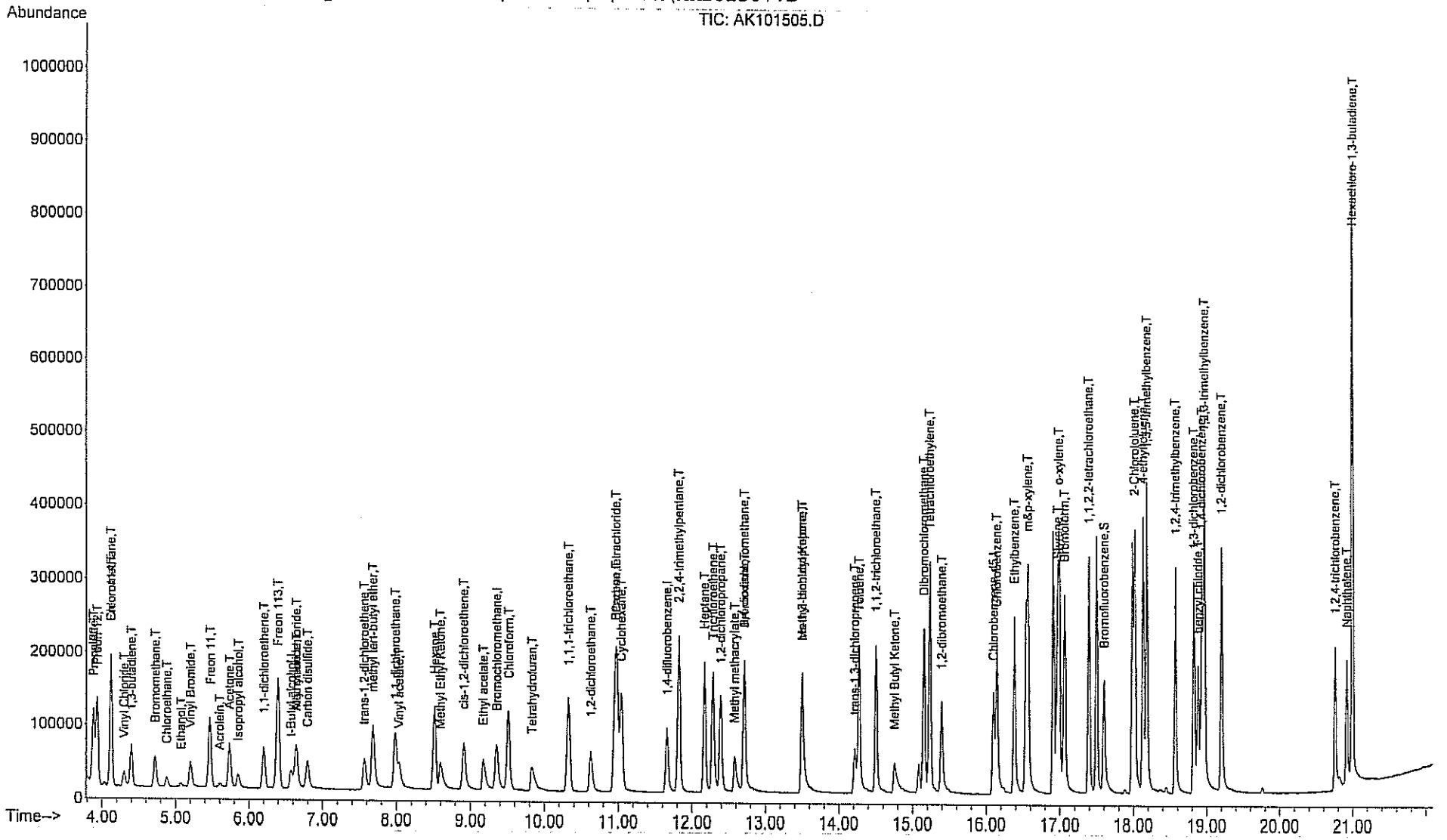
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK101505.D
Acq On : 15 Oct 2013 12:57 pm
Sample : A1UG_1.5
Misc : AO15_1UG
MS Integration Params: RTEINT.P
Quant Time: Oct 15 17:11 2013

Vial: 3
Operator: RJP
Inst : MSD #1
Multiplr: 1.00

Quant Results File: AO15_1UG.RES

Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Oct 15 18:12:29 2013
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AK101507.D



AK101505.D AO15_1UG.M Sun Nov 17 10:17:36 2013 MSD1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK101506.D Vial: 4
Acq On : 15 Oct 2013 1:34 pm Operator: RJP
Sample : A1UG_1.25 Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 14:44:10 2013 Quant Results File: AO15_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Oct 15 14:43:46 2013
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AK101507.D
DataAcq Meth : 1UG_T015

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane	9.36	128	31016	1.00	ppb		0.00
34) 1,4-difluorobenzene	11.66	114	96145	1.00	ppb		0.00
49) Chlorobenzene-d5	16.10	117	102717	1.00	ppb		0.00
System Monitoring Compounds							
62) Bromofluorobenzene	17.60	95	66189	1.04	ppb		0.00
Spiked Amount 1.000	Range 70 - 130		Recovery = 104.00%				
Target Compounds							Qvalue
2) Freon 22	3.88	51	78691	1.22	ppb	#	100
3) Propylene	3.88	41	31565	1.22	ppb	#	100
4) Freon 12	3.93	85	129597	1.22	ppb		100
5) Chloromethane	4.12	50	28998	0.98	ppb		100
6) Freon 114	4.12	85	81273	1.06	ppb		92
7) Vinyl Chloride	4.30	62	25357	1.09	ppb		99
8) 1,3-butadiene	4.40	39	20183	1.19	ppb		73
9) Bromomethane	4.73	94	35127	1.29	ppb		96
10) Ethanol	5.09	45	6873	1.39	ppb	#	71
11) Acrolein	5.62	56	6380m	1.33	ppb		
12) Chloroethane	4.88	64	12891	1.25	ppb		96
13) Vinyl Bromide	5.21	106	32261	1.23	ppb		98
14) Freon 11	5.47	101	99707	1.21	ppb		98
15) Acetone	5.74	58	9702m	1.24	ppb		
16) Isopropyl alcohol	5.87	45	26035	1.24	ppb	#	100
17) 1,1-dichloroethene	6.21	96	30414	1.21	ppb		89
18) Freon 113	6.40	101	70127	1.19	ppb		95
19) t-Butyl alcohol	6.59	59	34760	1.26	ppb	#	100
20) Methylene chloride	6.65	84	24155	1.21	ppb		94
21) Allyl chloride	6.64	41	30288	1.23	ppb		91
22) Carbon disulfide	6.80	76	78723	1.25	ppb		96
23) trans-1,2-dichloroethene	7.57	61	49332m	1.50	ppb		
24) methyl tert-butyl ether	7.70	73	73021	1.13	ppb		95
25) 1,1-dichloroethane	7.99	63	86282	1.22	ppb		99
26) Vinyl acetate	8.05	43	52977	1.26	ppb		96
27) Methyl Ethyl Ketone	8.62	72	14865	1.32	ppb	#	58
28) cis-1,2-dichloroethene	8.91	61	47523	1.23	ppb		98
29) Hexane	8.52	57	46096	1.24	ppb		93
30) Ethyl acetate	9.20	43	58587	1.27	ppb		90
31) Chloroform	9.52	83	105230	1.22	ppb		100
32) Tetrahydrofuran	9.86	42	29131m	1.36	ppb		
33) 1,2-dichloroethane	10.64	62	55589	1.24	ppb		100
35) 1,1,1-trichloroethane	10.33	97	96448	1.27	ppb		99
36) Cyclohexane	11.05	56	49428	1.31	ppb		89
37) Carbon tetrachloride	10.98	117	117262	1.26	ppb		100
38) Benzene	10.96	78	131455	1.30	ppb		97
39) Methyl methacrylate	12.59	41	25145	1.28	ppb		91
40) 1,4-dioxane	12.76	88	12675m	1.26	ppb		
41) 2,2,4-trimethylpentane	11.83	57	169597	1.34	ppb		93
42) Heptane	12.18	43	52741	1.43	ppb		97
43) Trichloroethene	12.29	130	64073	1.31	ppb		99
44) 1,2-dichloropropane	12.40	63	53528	1.28	ppb		99
45) Bromodichloromethane	12.71	83	115889	1.28	ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK101506.D Vial: 4
Acq On : 15 Oct 2013 1:34 pm Operator: RJP
Sample : A1UG_1.25 Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 14:44:10 2013 Quant Results File: AO15_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Oct 15 14:43:46 2013
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AK101507.D
DataAcq Meth : 1UG_TO15

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46) cis-1,3-dichloropropene	13.50	75	57856	1.33	ppb	98
47) trans-1,3-dichloropropene	14.22	75	44691	1.31	ppb	98
48) 1,1,2-trichloroethane	14.51	97	67394	1.30	ppb	100
50) Toluene	14.27	92	76758	1.33	ppb	100
51) Methyl Isobutyl Ketone	13.51	43	54356	1.26	ppb	76
52) Dibromochloromethane	15.16	129	122326	1.25	ppb	98
53) Methyl Butyl Ketone	14.76	43	49514m	1.32	ppb	
54) 1,2-dibromoethane	15.40	107	90366	1.28	ppb	99
55) Tetrachloroethylene	15.24	164	72652	1.28	ppb	99
56) Chlorobenzene	16.15	112	124793	1.31	ppb	98
57) Ethylbenzene	16.38	91	145227	1.36	ppb	99
58) m&p-xylene	16.57	91	266245	2.78	ppb	100
59) Styrene	16.97	104	105147	1.35	ppb	96
60) Bromoform	17.06	173	130534	1.27	ppb	99
61) o-xylene	16.99	91	195959	1.33	ppb	96
63) 1,1,2,2-tetrachloroethane	17.40	83	155073	1.26	ppb	100
64) 2-Chlorotoluene	18.02	91	188335m	1.26	ppb	
65) 4-ethyltoluene	18.13	105	169775m	1.45	ppb	
66) 1,3,5-trimethylbenzene	18.18	105	198034m	1.31	ppb	
67) 1,2,4-trimethylbenzene	18.57	105	128120	1.45	ppb	98
68) 1,3-dichlorobenzene	18.83	146	122589	1.35	ppb	98
69) benzyl chloride	18.89	91	98402m	1.39	ppb	
70) 1,4-dichlorobenzene	18.94	146	120581	1.38	ppb	98
71) 1,2,3-trimethylbenzene	18.97	105	178042	1.43	ppb	96
72) 1,2-dichlorobenzene	19.20	146	131624	1.34	ppb	98
73) 1,2,4-trichlorobenzene	20.76	180	60261	1.43	ppb	99
74) Naphthalene	20.92	128	113498	1.46	ppb	99
75) Hexachloro-1,3-butadiene	20.99	225	136381	1.28	ppb	99

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

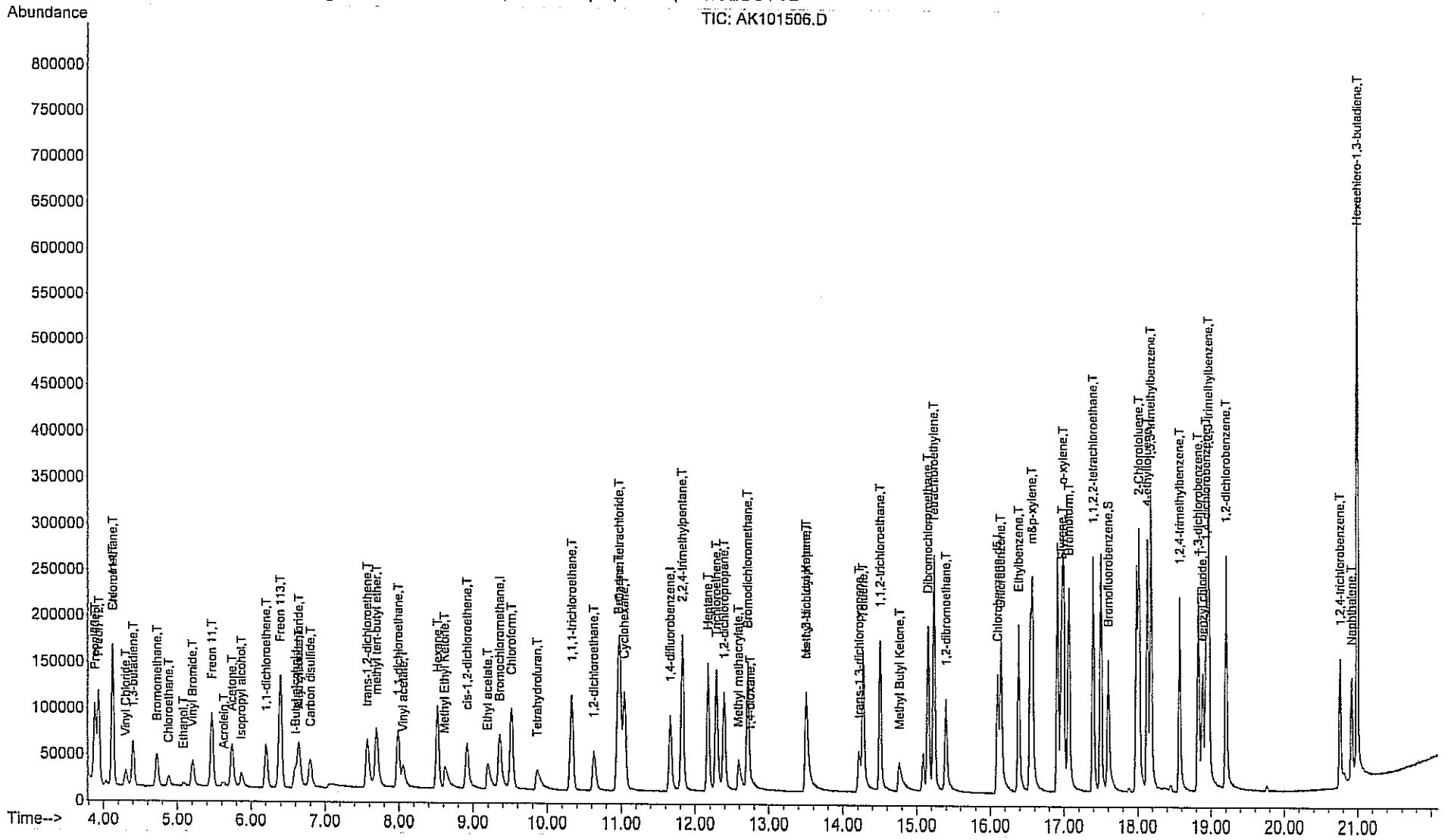
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK101506.D
Acq On : 15 Oct 2013 1:34 pm
Sample : A1UG_1.25
Misc : AO15_1UG
MS Integration Params: RTEINT.P
Quant Time: Oct 15 16:34 2013

Vial: 4
Operator: RJP
Inst : MSD #1
Multiplr: 1.00

Quant Results File: AO15_1UG.RES

Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Oct 15 18:12:29 2013
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AK101507.D



AK101506.D AO15_1UG.M Sun Nov 17 10:17:39 2013 MSD1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK101507.D Vial: 5
Acq On : 15 Oct 2013 2:10 pm Operator: RJP
Sample : A1UG_1.0 Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 14:43:58 2013 Quant Results File: AO15_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Oct 15 14:43:46 2013
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AK101507.D
DataAcq Meth : 1UG_T015

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane	9.36	128	30215	1.00	ppb		0.00
34) 1,4-difluorobenzene	11.67	114	96193	1.00	ppb		0.00
49) Chlorobenzene-d5	16.10	117	100845	1.00	ppb		0.00
System Monitoring Compounds							
62) Bromofluorobenzene	17.60	95	62723	1.00	ppb		0.00
Spiked Amount 1.000	Range 70 - 130		Recovery = 100.00%				
Target Compounds							Qvalue
2) Freon 22	3.89	51	62240	0.99	ppb	#	100
3) Propylene	3.89	41	24936	0.99	ppb	#	100
4) Freon 12	3.93	85	102162	0.99	ppb		99
5) Chloromethane	4.12	50	28412	0.99	ppb		97
6) Freon 114	4.13	85	73736	0.99	ppb		95
7) Vinyl Chloride	4.30	62	22441	0.99	ppb		98
8) 1,3-butadiene	4.41	39	17238m	1.05	ppb		
9) Bromomethane	4.73	94	26463	1.00	ppb		97
10) Ethanol	5.11	45	5024	1.04	ppb		84
11) Acrolein	5.64	56	4774m	1.03	ppb		
12) Chloroethane	4.88	64	9896	0.99	ppb		94
13) Vinyl Bromide	5.21	106	25390	0.99	ppb		100
14) Freon 11	5.47	101	79062	0.99	ppb		97
15) Acetone	5.77	58	7449m	0.98	ppb		
16) Isopropyl alcohol	5.89	45	20570	1.00	ppb	#	100
17) 1,1-dichloroethene	6.21	96	24197	0.99	ppb		90
18) Freon 113	6.40	101	56538	0.99	ppb		97
19) t-Butyl alcohol	6.63	59	27630	1.03	ppb	#	100
20) Methylene chloride	6.66	84	19226	0.99	ppb		95
21) Allyl chloride	6.64	41	23804	0.99	ppb		93
22) Carbon disulfide	6.80	76	61063	0.99	ppb		98
23) trans-1,2-dichloroethene	7.58	61	33287m	1.04	ppb		
24) methyl tert-butyl ether	7.72	73	62737	1.00	ppb		90
25) 1,1-dichloroethane	7.99	63	68132	0.99	ppb		97
26) Vinyl acetate	8.07	43	41575	1.01	ppb		96
27) Methyl Ethyl Ketone	8.63	72	11325	1.03	ppb	#	1
28) cis-1,2-dichloroethene	8.92	61	37208	0.99	ppb		99
29) Hexane	8.52	57	35844	0.99	ppb		94
30) Ethyl acetate	9.21	43	45846	1.02	ppb		90
31) Chloroform	9.52	83	82768	0.99	ppb		99
32) Tetrahydrofuran	9.87	42	21586m	1.04	ppb		
33) 1,2-dichloroethane	10.64	62	43310	0.99	ppb		100
35) 1,1,1-trichloroethane	10.33	97	76195	1.00	ppb		99
36) Cyclohexane	11.05	56	37941	1.00	ppb		87
37) Carbon tetrachloride	10.99	117	93235	1.00	ppb		100
38) Benzene	10.96	78	101970	1.00	ppb		97
39) Methyl methacrylate	12.60	41	18180	0.92	ppb		93
40) 1,4-dioxane	12.79	88	10291m	1.02	ppb		
41) 2,2,4-trimethylpentane	11.83	57	126459	1.00	ppb		96
42) Heptane	12.18	43	36936	1.00	ppb		97
43) Trichloroethene	12.29	130	48942	1.00	ppb		99
44) 1,2-dichloropropane	12.40	63	42016	1.01	ppb		99
45) Bromodichloromethane	12.72	83	90850	1.00	ppb		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK101507.D Vial: 5
Acq On : 15 Oct 2013 2:10 pm Operator: RJP
Sample : A1UG_1.0 Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 14:43:58 2013 Quant Results File: AO15_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Oct 15 14:43:46 2013
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AK101507.D
DataAcq Meth : 1UG_T015

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46)	cis-1,3-dichloropropene	13.51	75	43688	1.00	ppb	99
47)	trans-1,3-dichloropropene	14.22	75	34053	1.00	ppb	96
48)	1,1,2-trichloroethane	14.51	97	52188	1.00	ppb	98
50)	Toluene	14.28	92	56890	1.00	ppb	99
51)	Methyl Isobutyl Ketone	13.53	43	43680	1.03	ppb	74
52)	Dibromochloromethane	15.16	129	95944	1.00	ppb	96
53)	Methyl Butyl Ketone	14.78	43	40081m	1.09	ppb	
54)	1,2-dibromoethane	15.40	107	69489	1.00	ppb	99
55)	Tetrachloroethylene	15.24	164	55766	1.00	ppb	100
56)	Chlorobenzene	16.15	112	93580	1.00	ppb	97
57)	Ethylbenzene	16.39	91	104873	1.00	ppb	99
58)	m&p-xylene	16.57	91	188276	2.01	ppb	98
59)	Styrene	16.97	104	76478	1.00	ppb	94
60)	Bromoform	17.07	173	101275	1.00	ppb	98
61)	o-xylene	16.99	91	145052	1.00	ppb	95
63)	1,1,2,2-tetrachloroethane	17.40	83	120757	1.00	ppb	99
64)	2-Chlorotoluene	18.02	91	146376m	1.00	ppb	
65)	4-ethyltoluene	18.13	105	118254m	1.03	ppb	
66)	1,3,5-trimethylbenzene	18.18	105	145533m	0.98	ppb	
67)	1,2,4-trimethylbenzene	18.57	105	86857	1.00	ppb	98
68)	1,3-dichlorobenzene	18.83	146	89492	1.00	ppb	98
69)	benzyl chloride	18.89	91	69428m	1.00	ppb	
70)	1,4-dichlorobenzene	18.94	146	88031	1.02	ppb	99
71)	1,2,3-trimethylbenzene	18.97	105	122396	1.00	ppb	99
72)	1,2-dichlorobenzene	19.21	146	96410	1.00	ppb	99
73)	1,2,4-trichlorobenzene	20.76	180	44638m	1.08	ppb	
74)	Naphthalene	20.92	128	84532m	1.10	ppb	
75)	Hexachloro-1,3-butadiene	20.99	225	104437	1.00	ppb	98

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

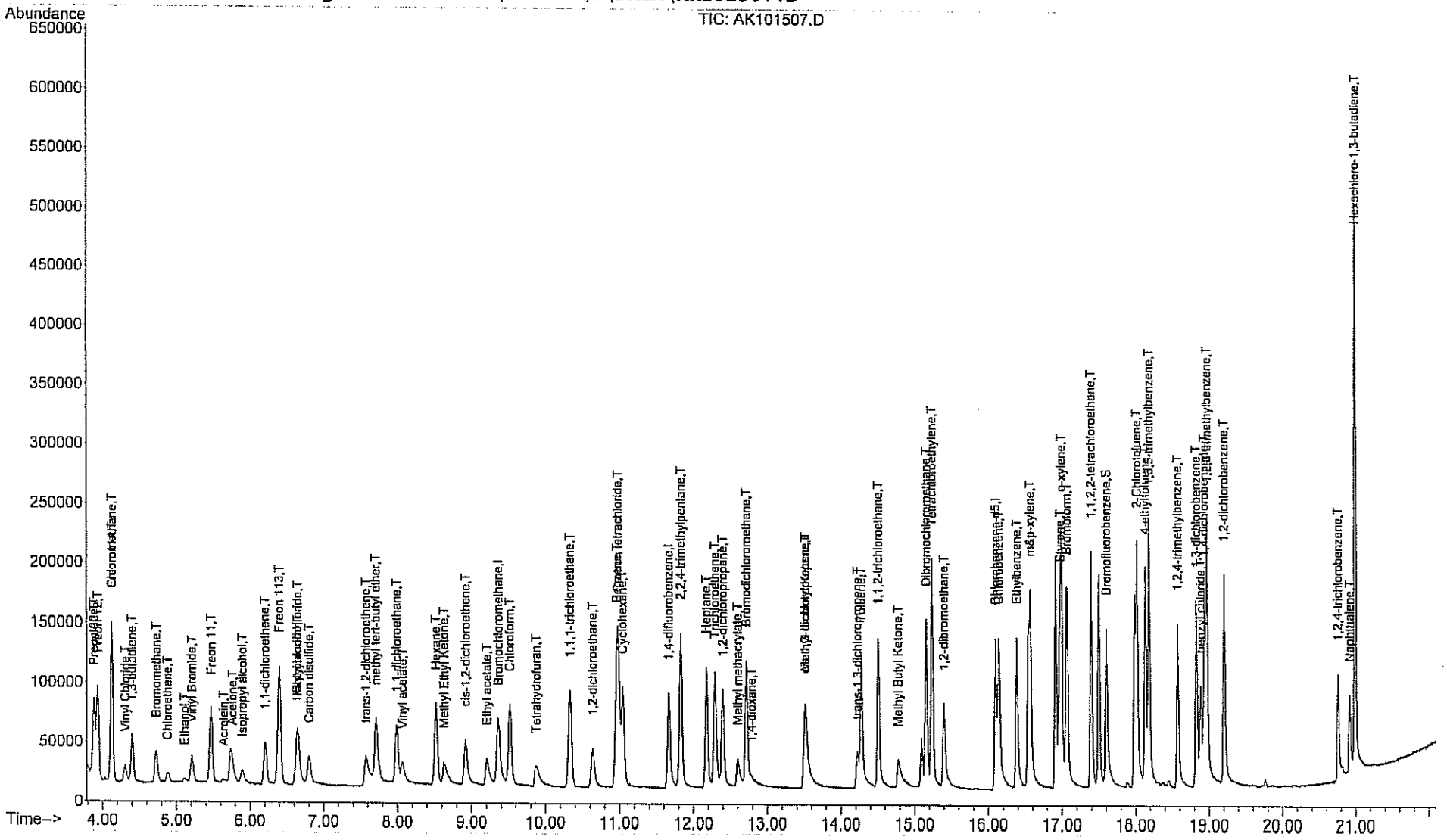
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK101507.D
Acq On : 15 Oct 2013 2:10 pm
Sample : A1UG_1.0
Misc : AO15_1UG
MS Integration Params: RTEINT.P
Quant Time: Oct 15 16:37 2013

Vial: 5
Operator: RJP
Inst : MSD #1
Multiplr: 1.00

Quant Results File: AO15_1UG.RES

Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Oct 15 18:12:29 2013
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AK101507.D



AK101507.D AO15_1UG.M Sun Nov 17 10:17:42 2013 MSD1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK101508.D Vial: 6
Acq On : 15 Oct 2013 2:46 pm Operator: RJP
Sample : A1UG_0.75 Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 17:26:37 2013 Quant Results File: AO15_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Oct 15 14:43:46 2013
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AK101507.D
DataAcq Meth : 1UG_T015

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane	9.36	128	33307	1.00	ppb		0.00
34) 1,4-difluorobenzene	11.67	114	102634	1.00	ppb		0.00
49) Chlorobenzene-d5	16.10	117	104795	1.00	ppb		0.00
System Monitoring Compounds							
62) Bromofluorobenzene	17.61	95	64080	0.99	ppb		0.00
Spiked Amount 1.000	Range 70 - 130		Recovery = 99.00%				
Target Compounds							Qvalue
2) Freon 22	3.89	51	47135	0.68	ppb	#	100
3) Propylene	3.89	41	19231	0.69	ppb	#	100
4) Freon 12	3.93	85	79452	0.70	ppb		99
5) Chloromethane	4.12	50	17044	0.54	ppb		91
6) Freon 114	4.12	85	49935	0.61	ppb		93
7) Vinyl Chloride	4.30	62	15485	0.62	ppb		98
8) 1,3-butadiene	4.40	39	12703	0.70	ppb		68
9) Bromomethane	4.72	94	21609	0.74	ppb		99
10) Ethanol	5.08	45	3918	0.74	ppb	#	80
11) Acrolein	5.61	56	4294	0.84	ppb	#	40
12) Chloroethane	4.89	64	7780	0.71	ppb		93
13) Vinyl Bromide	5.20	106	19696	0.70	ppb		94
14) Freon 11	5.47	101	60462	0.69	ppb		97
15) Acetone	5.74	58	6005m	0.72	ppb		
16) Isopropyl alcohol	5.85	45	15805	0.70	ppb	#	100
17) 1,1-dichloroethene	6.20	96	19195	0.71	ppb	#	88
18) Freon 113	6.39	101	43763	0.69	ppb		97
19) t-Butyl alcohol	6.58	59	22691	0.77	ppb	#	100
20) Methylene chloride	6.66	84	14657	0.69	ppb		89
21) Allyl chloride	6.64	41	20179	0.76	ppb		89
22) Carbon disulfide	6.80	76	48839	0.72	ppb		97
23) trans-1,2-dichloroethene	7.58	61	24060	0.68	ppb		91
24) methyl tert-butyl ether	7.69	73	47808	0.69	ppb		92
25) 1,1-dichloroethane	7.99	63	52710	0.69	ppb		99
26) Vinyl acetate	8.05	43	32013	0.71	ppb		96
27) Methyl Ethyl Ketone	8.61	72	8700	0.72	ppb	#	65
28) cis-1,2-dichloroethene	8.92	61	28564	0.69	ppb		98
29) Hexane	8.52	57	28086	0.70	ppb		87
30) Ethyl acetate	9.20	43	36555	0.74	ppb		90
31) Chloroform	9.52	83	63912	0.69	ppb		99
32) Tetrahydrofuran	9.85	42	15663m	0.68	ppb		
33) 1,2-dichloroethane	10.63	62	33835	0.70	ppb		99
35) 1,1,1-trichloroethane	10.33	97	58494	0.72	ppb		99
36) Cyclohexane	11.05	56	26875	0.67	ppb		93
37) Carbon tetrachloride	10.98	117	71023	0.72	ppb		100
38) Benzene	10.96	78	77900	0.72	ppb		97
39) Methyl methacrylate	12.59	41	14213m	0.68	ppb		
40) 1,4-dioxane	12.76	88	7880	0.74	ppb	#	1
41) 2,2,4-trimethylpentane	11.83	57	91576	0.68	ppb		98
42) Heptane	12.18	43	27854	0.71	ppb		97
43) Trichloroethene	12.30	130	36869	0.71	ppb		100
44) 1,2-dichloropropane	12.39	63	31914	0.72	ppb		100
45) Bromodichloromethane	12.71	83	69419	0.72	ppb		96

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK101508.D Vial: 6
Acq On : 15 Oct 2013 2:46 pm Operator: RJP
Sample : A1UG_0.75 Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 17:26:37 2013 Quant Results File: AO15_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Oct 15 14:43:46 2013
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AK101507.D
DataAcq Meth : 1UG_T015

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46)	cis-1,3-dichloropropene	13.50	75	33574	0.72	ppb	99
47)	trans-1,3-dichloropropene	14.23	75	26143	0.72	ppb	99
48)	1,1,2-trichloroethane	14.51	97	40319	0.73	ppb	97
50)	Toluene	14.28	92	41724	0.71	ppb	98
51)	Methyl Isobutyl Ketone	13.51	43	33786	0.77	ppb	75
52)	Dibromochloromethane	15.16	129	74857	0.75	ppb	95
53)	Methyl Butyl Ketone	14.78	43	29236m	0.76	ppb	
54)	1,2-dibromoethane	15.40	107	52769	0.73	ppb	99
55)	Tetrachloroethylene	15.24	164	42097	0.73	ppb	99
56)	Chlorobenzene	16.15	112	72218	0.74	ppb	97
57)	Ethylbenzene	16.39	91	75754	0.70	ppb	100
58)	m&p-xylene	16.57	91	129648	1.33	ppb	98
59)	Styrene	16.97	104	53929	0.68	ppb	92
60)	Bromoform	17.06	173	76659	0.73	ppb	98
61)	o-xylene	16.99	91	101627	0.68	ppb	96
63)	1,1,2,2-tetrachloroethane	17.40	83	94284	0.75	ppb	99
64)	2-Chlorotoluene	18.02	91	105815m	0.69	ppb	
65)	4-ethyltoluene	18.13	105	79592m	0.66	ppb	
66)	1,3,5-trimethylbenzene	18.18	105	104854m	0.68	ppb	
67)	1,2,4-trimethylbenzene	18.57	105	58633	0.65	ppb	96
68)	1,3-dichlorobenzene	18.83	146	66316	0.71	ppb	99
69)	benzyl chloride	18.89	91	48104m	0.66	ppb	
70)	1,4-dichlorobenzene	18.94	146	64873	0.73	ppb	99
71)	1,2,3-trimethylbenzene	18.97	105	79957	0.63	ppb	98
72)	1,2-dichlorobenzene	19.21	146	69227	0.69	ppb	100
73)	1,2,4-trichlorobenzene	20.76	180	29428	0.69	ppb	99
74)	Naphthalene	20.92	128	55754m	0.70	ppb	
75)	Hexachloro-1,3-butadiene	20.99	225	77168	0.71	ppb	99

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

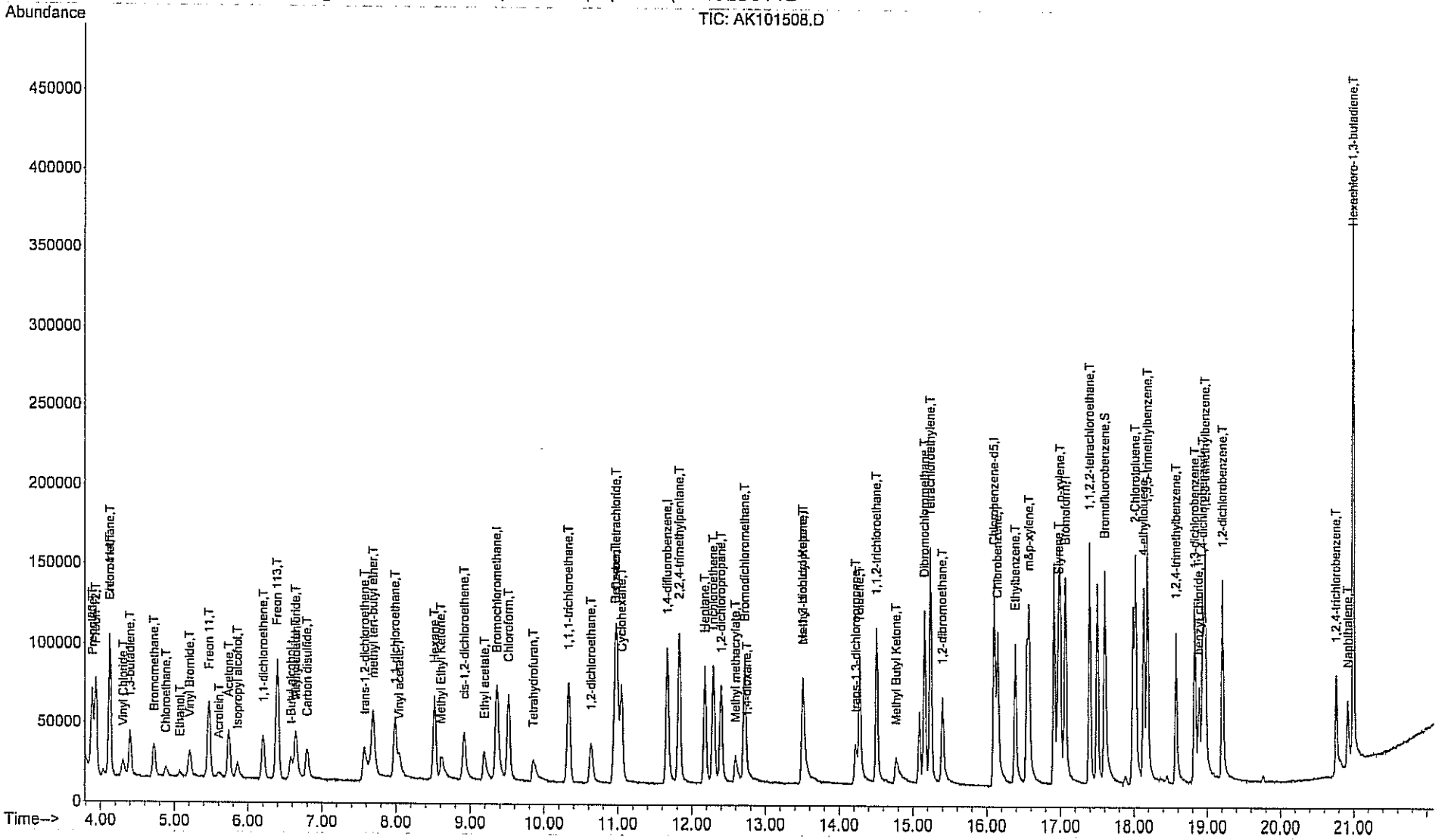
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK101508.D
Acq On : 15 Oct 2013 2:46 pm
Sample : A1UG_0.75
Misc : AO15_1UG
MS Integration Params: RTEINT.P
Quant Time: Oct 15 16:39 2013

Vial: 6
Operator: RJP
Inst : MSD #1
Multiplr: 1.00

Quant Results File: AO15_1UG.RES

Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Oct 15 18:12:29 2013
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AK101507.D



AK101508.D AO15_1UG.M Sun Nov 17 10:17:45 2013 MSD1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK101509.D Vial: 7
Acq On : 15 Oct 2013 3:21 pm Operator: RJP
Sample : A1UG_0.50 Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 17:26:59 2013 Quant Results File: AO15_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Oct 15 14:43:46 2013
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AK101507.D
DataAcq Meth : 1UG_T015

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane	9.36	128	30147	1.00	ppb		0.00
34) 1,4-difluorobenzene	11.67	114	91791	1.00	ppb		0.00
49) Chlorobenzene-d5	16.11	117	92549	1.00	ppb		0.00
System Monitoring Compounds							
62) Bromofluorobenzene	17.60	95	53280	0.93	ppb		0.00
Spiked Amount 1.000	Range 70 - 130		Recovery = 93.00%				
Target Compounds							Qvalue
2) Freon 22	3.88	51	30567	0.49	ppb	#	100
3) Propylene	3.89	41	11562	0.46	ppb	#	100
4) Freon 12	3.93	85	51006	0.49	ppb		100
5) Chloromethane	4.12	50	11722	0.41	ppb		94
6) Freon 114	4.12	85	31765	0.43	ppb		92
7) Vinyl Chloride	4.31	62	10057	0.45	ppb		97
8) 1,3-butadiene	4.41	39	8054	0.49	ppb		74
9) Bromomethane	4.72	94	14473	0.55	ppb		94
10) Ethanol	5.08	45	3243	0.67	ppb		79
11) Acrolein	5.62	56	2760m	0.59	ppb		
12) Chloroethane	4.88	64	5180	0.52	ppb		81
13) Vinyl Bromide	5.22	106	12868	0.50	ppb		100
14) Freon 11	5.47	101	39131	0.49	ppb		97
15) Acetone	5.76	58	4147	0.55	ppb	#	100
16) Isopropyl alcohol	5.87	45	10135	0.50	ppb	#	100
17) 1,1-dichloroethene	6.21	96	11605	0.48	ppb		92
18) Freon 113	6.40	101	27865	0.49	ppb		95
19) t-Butyl alcohol	6.60	59	14658	0.55	ppb	#	90
20) Methylene chloride	6.66	84	10035	0.52	ppb		93
21) Allyl chloride	6.64	41	11366	0.47	ppb		96
22) Carbon disulfide	6.81	76	31090	0.51	ppb		96
23) trans-1,2-dichloroethene	7.58	61	21493	0.67	ppb		100
24) methyl tert-butyl ether	7.71	73	26911	0.43	ppb		98
25) 1,1-dichloroethane	8.00	63	33755	0.49	ppb		98
26) Vinyl acetate	8.06	43	18847	0.46	ppb		96
27) Methyl Ethyl Ketone	8.63	72	4531	0.41	ppb	#	1
28) cis-1,2-dichloroethene	8.93	61	17878	0.48	ppb		97
29) Hexane	8.52	57	15652	0.43	ppb		98
30) Ethyl acetate	9.21	43	19552	0.44	ppb		89
31) Chloroform	9.52	83	40888	0.49	ppb		100
32) Tetrahydrofuran	9.89	42	10105m	0.49	ppb		
33) 1,2-dichloroethane	10.64	62	21849	0.50	ppb		99
35) 1,1,1-trichloroethane	10.34	97	38391	0.53	ppb		99
36) Cyclohexane	11.04	56	15722	0.44	ppb		93
37) Carbon tetrachloride	10.99	117	46006	0.52	ppb		100
38) Benzene	10.96	78	48871	0.50	ppb		99
39) Methyl methacrylate	12.60	41	7828	0.42	ppb		99
40) 1,4-dioxane	12.79	88	5239m	0.55	ppb		
41) 2,2,4-trimethylpentane	11.84	57	55303	0.46	ppb		98
42) Heptane	12.18	43	15966	0.45	ppb		97
43) Trichloroethene	12.30	130	23389	0.50	ppb		98
44) 1,2-dichloropropane	12.40	63	19856	0.50	ppb		100
45) Bromodichloromethane	12.72	83	44427	0.51	ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK101509.D Vial: 7
Acq On : 15 Oct 2013 3:21 pm Operator: RJP
Sample : A1UG_0.50 Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 17:26:59 2013 Quant Results File: AO15_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Oct 15 14:43:46 2013
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AK101507.D
DataAcq Meth : 1UG_T015

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46)	cis-1,3-dichloropropene	13.51	75	19023	0.46	ppb	98
47)	trans-1,3-dichloropropene	14.23	75	15208	0.47	ppb	97
48)	1,1,2-trichloroethane	14.51	97	25131	0.51	ppb	97
50)	Toluene	14.28	92	23449	0.45	ppb	100
51)	Methyl Isobutyl Ketone	13.53	43	19192m	0.49	ppb	
52)	Dibromochloromethane	15.16	129	45582m	0.52	ppb	
53)	Methyl Butyl Ketone	14.80	43	14579m	0.43	ppb	
54)	1,2-dibromoethane	15.41	107	32646	0.51	ppb	100
55)	Tetrachloroethylene	15.24	164	26651	0.52	ppb	97
56)	Chlorobenzene	16.15	112	43649	0.51	ppb	99
57)	Ethylbenzene	16.39	91	42569	0.44	ppb	100
58)	m&p-xylene	16.57	91	67631	0.78	ppb	98
59)	Styrene	16.97	104	27924	0.40	ppb	95
60)	Bromoform	17.07	173	48956	0.53	ppb	96
61)	o-xylene	17.00	91	57158	0.43	ppb	95
63)	1,1,2,2-tetrachloroethane	17.40	83	58602	0.53	ppb	98
64)	2-Chlorotoluene	18.02	91	54328m	0.40	ppb	
65)	4-ethyltoluene	18.14	105	40449m	0.38	ppb	
66)	1,3,5-trimethylbenzene	18.19	105	55770m	0.41	ppb	
67)	1,2,4-trimethylbenzene	18.57	105	30928	0.39	ppb	95
68)	1,3-dichlorobenzene	18.83	146	36617	0.45	ppb	98
69)	benzyl chloride	18.89	91	30730	0.48	ppb	100
70)	1,4-dichlorobenzene	18.94	146	37604m	0.48	ppb	
71)	1,2,3-trimethylbenzene	18.97	105	43190m	0.39	ppb	
72)	1,2-dichlorobenzene	19.21	146	39480	0.45	ppb	97
73)	1,2,4-trichlorobenzene	20.77	180	19581m	0.52	ppb	
74)	Naphthalene	20.92	128	31658m	0.45	ppb	
75)	Hexachloro-1,3-butadiene	20.99	225	45406	0.47	ppb	98

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

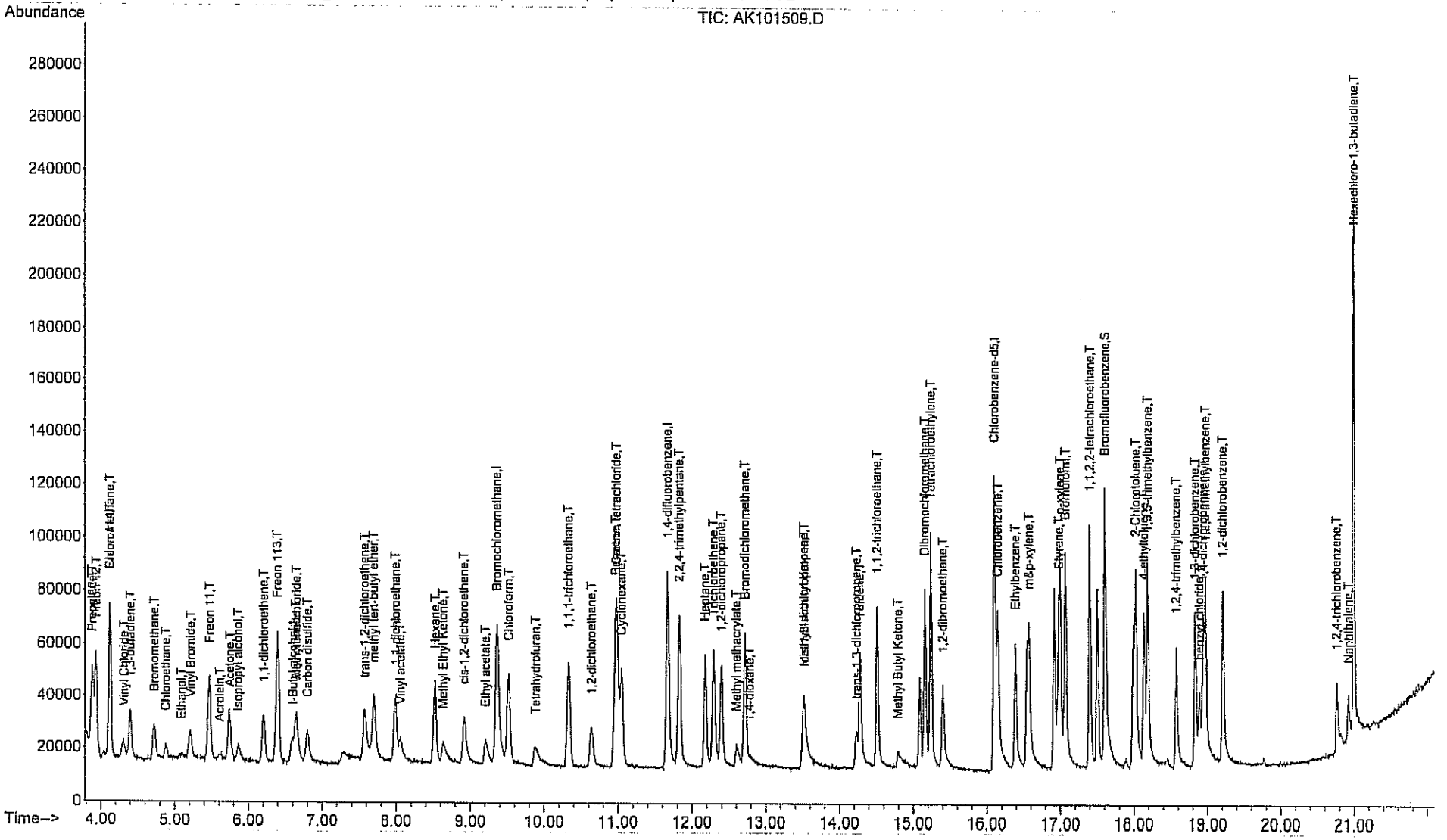
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK101509.D
Acq On : 15 Oct 2013 3:21 pm
Sample : A1UG_0.50
Misc : AO15_1UG
MS Integration Params: RTEINT.P
Quant Time: Oct 15 16:40 2013

Vial: 7
Operator: RJP
Inst : MSD #1
Multiplr: 1.00

Quant Results File: AO15_1UG.RES

Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Oct 15 18:12:29 2013
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AK101507.D



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK101510.D Vial: 8
Acq On : 15 Oct 2013 3:56 pm Operator: RJP
Sample : A1UG_0.30 Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 17:27:28 2013 Quant Results File: AO15_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Oct 15 14:43:46 2013
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AK101507.D
DataAcq Meth : 1UG_T015

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane	9.37	128	29511	1.00	ppb		0.00
34) 1,4-difluorobenzene	11.67	114	91598	1.00	ppb		0.00
49) Chlorobenzene-d5	16.10	117	88724	1.00	ppb		0.00
System Monitoring Compounds							
62) Bromofluorobenzene	17.60	95	48890m	0.89	ppb		0.00
Spiked Amount 1.000	Range 70 - 130		Recovery = 89.00%				
Target Compounds							Qvalue
2) Freon 22	3.88	51	18868	0.31	ppb	#	100
3) Propylene	3.88	41	7461	0.30	ppb	#	100
4) Freon 12	3.93	85	30676	0.30	ppb		100
5) Chloromethane	4.12	50	7242	0.26	ppb		94
6) Freon 114	4.12	85	18915	0.26	ppb		90
7) Vinyl Chloride	4.31	62	6258	0.28	ppb		99
8) 1,3-butadiene	4.41	39	5200	0.32	ppb		78
9) Bromomethane	4.73	94	8569	0.33	ppb		99
10) Ethanol	5.07	45	2058m	0.44	ppb		
11) Acrolein	5.61	56	1670m	0.37	ppb		
12) Chloroethane	4.89	64	3066	0.31	ppb		84
13) Vinyl Bromide	5.21	106	7992	0.32	ppb		96
14) Freon 11	5.47	101	24063	0.31	ppb		97
15) Acetone	5.75	58	2827	0.38	ppb	#	100
16) Isopropyl alcohol	5.86	45	7525	0.38	ppb	#	100
17) 1,1-dichloroethene	6.20	96	7442	0.31	ppb	#	87
18) Freon 113	6.39	101	17021	0.30	ppb		96
19) t-Butyl alcohol	6.59	59	10341	0.40	ppb	#	97
20) Methylene chloride	6.66	84	6070	0.32	ppb		95
21) Allyl chloride	6.65	41	7678	0.33	ppb		92
22) Carbon disulfide	6.80	76	21089	0.35	ppb		92
23) trans-1,2-dichloroethene	7.58	61	8897m	0.28	ppb		
24) methyl tert-butyl ether	7.70	73	15113	0.25	ppb		79
25) 1,1-dichloroethane	7.99	63	20170	0.30	ppb		98
26) Vinyl acetate	8.04	43	11217	0.28	ppb		96
27) Methyl Ethyl Ketone	8.63	72	3092m	0.29	ppb		
28) cis-1,2-dichloroethene	8.92	61	10818	0.29	ppb		98
29) Hexane	8.52	57	8977	0.25	ppb		97
30) Ethyl acetate	9.20	43	12883	0.29	ppb		90
31) Chloroform	9.52	83	25004	0.31	ppb		98
32) Tetrahydrofuran	9.87	42	6742m	0.33	ppb		
33) 1,2-dichloroethane	10.64	62	13133	0.31	ppb		99
35) 1,1,1-trichloroethane	10.33	97	23082	0.32	ppb		99
36) Cyclohexane	11.05	56	9235	0.26	ppb		95
37) Carbon tetrachloride	10.99	117	28324	0.32	ppb		97
38) Benzene	10.97	78	29675	0.31	ppb		99
39) Methyl methacrylate	12.61	41	5527m	0.30	ppb		
40) 1,4-dioxane	12.80	88	3074	0.32	ppb	#	1
41) 2,2,4-trimethylpentane	11.83	57	31826	0.26	ppb		98
42) Heptane	12.18	43	8761	0.25	ppb		97
43) Trichloroethene	12.30	130	13304	0.29	ppb		99
44) 1,2-dichloropropane	12.40	63	11915	0.30	ppb		99
45) Bromodichloromethane	12.72	83	26550	0.31	ppb		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK101510.D Vial: 8
Acq On : 15 Oct 2013 3:56 pm Operator: RJP
Sample : A1UG_0.30 Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 17:27:28 2013 Quant Results File: AO15_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Oct 15 14:43:46 2013
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AK101507.D
DataAcq Meth : 1UG_T015

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46)	cis-1,3-dichloropropene	13.51	75	11486	0.28	ppb	99
47)	trans-1,3-dichloropropene	14.23	75	9119	0.28	ppb	98
48)	1,1,2-trichloroethane	14.52	97	15218	0.31	ppb	98
50)	Toluene	14.28	92	13465m	0.27	ppb	
51)	Methyl Isobutyl Ketone	13.53	43	12780	0.34	ppb	76
52)	Dibromochloromethane	15.16	129	27151	0.32	ppb	100
53)	Methyl Butyl Ketone	14.81	43	9514m	0.29	ppb	
54)	1,2-dibromoethane	15.40	107	19040	0.31	ppb	99
55)	Tetrachloroethylene	15.24	164	16120	0.33	ppb	96
56)	Chlorobenzene	16.15	112	25635	0.31	ppb	98
57)	Ethylbenzene	16.39	91	24704	0.27	ppb	99
58)	m&p-xylene	16.57	91	39741m	0.48	ppb	
59)	Styrene	16.98	104	14541m	0.22	ppb	
60)	Bromoform	17.07	173	28358	0.32	ppb	98
61)	o-xylene	17.00	91	31596m	0.25	ppb	
63)	1,1,2,2-tetrachloroethane	17.40	83	34859	0.33	ppb	98
64)	2-Chlorotoluene	18.02	91	31633m	0.25	ppb	
65)	4-ethyltoluene	18.14	105	22661m	0.22	ppb	
66)	1,3,5-trimethylbenzene	18.18	105	25783m	0.20	ppb	
67)	1,2,4-trimethylbenzene	18.58	105	21155m	0.28	ppb	
68)	1,3-dichlorobenzene	18.83	146	19705	0.25	ppb	99
69)	benzyl chloride	18.89	91	16569m	0.27	ppb	
70)	1,4-dichlorobenzene	18.95	146	20733m	0.27	ppb	
71)	1,2,3-trimethylbenzene	18.97	105	22286m	0.21	ppb	
72)	1,2-dichlorobenzene	19.22	146	19597	0.23	ppb	95
73)	1,2,4-trichlorobenzene	20.77	180	10360m	0.28	ppb	
74)	Naphthalene	20.92	128	20106m	0.30	ppb	
75)	Hexachloro-1,3-butadiene	21.00	225	25250	0.28	ppb	95

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

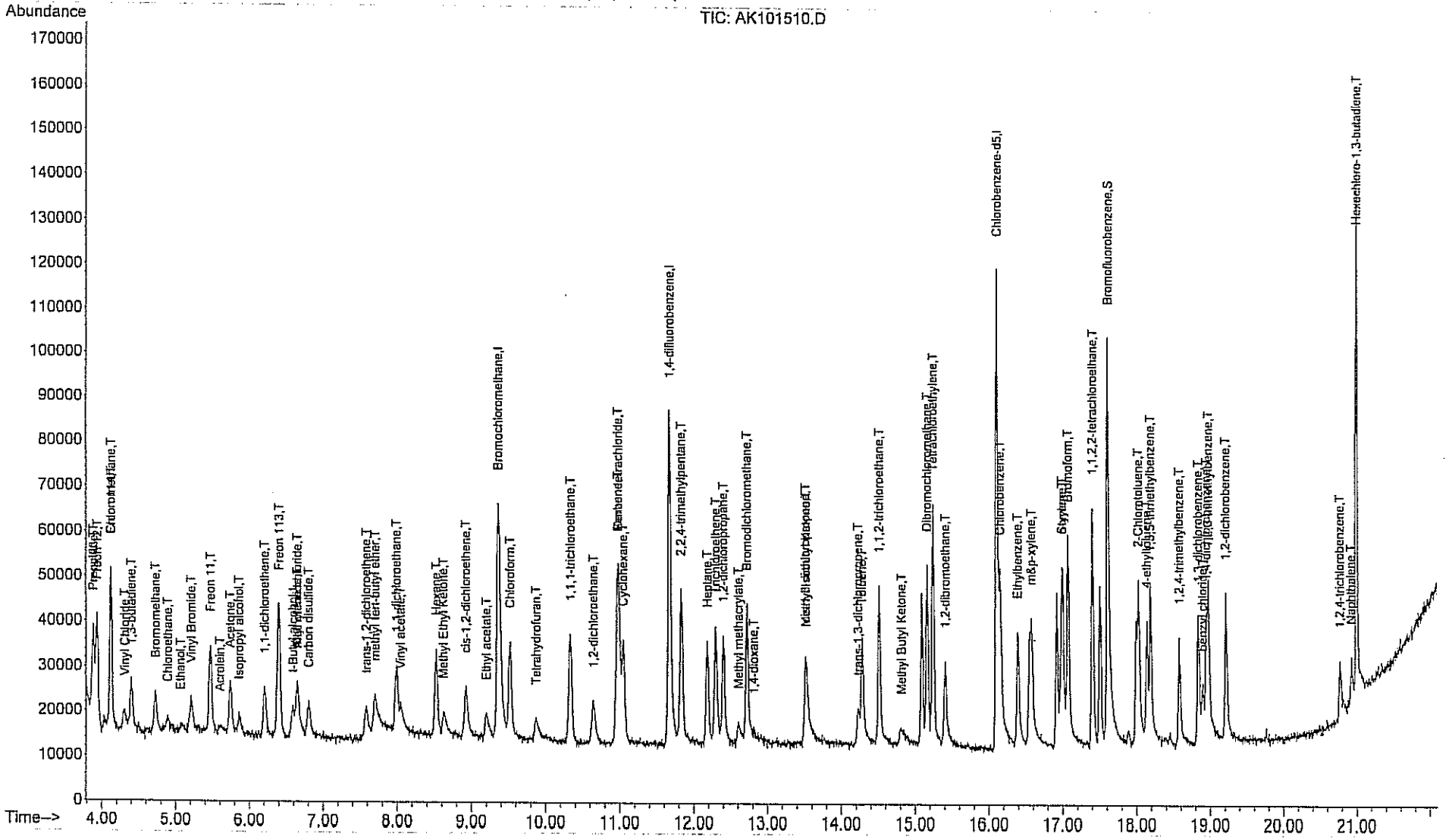
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK101510.D
Acq On : 15 Oct 2013 3:56 pm
Sample : A1UG_0.30
Misc : AO15_1UG
MS Integration Params: RTEINT.P
Quant Time: Oct 15 16:43 2013

Vial: 8
Operator: RJP
Inst : MSD #1
Multiplr: 1.00

Quant Results File: AO15_1UG.RES

Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Oct 15 18:12:29 2013
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AK101507.D



AK101510.D AO15_1UG.M Sun Nov 17 10:17:51 2013 MSD1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK101511.D Vial: 9
Acq On : 15 Oct 2013 4:31 pm Operator: RJP
Sample : A1UG_0.15 Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 17:27:57 2013 Quant Results File: AO15_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Oct 15 14:43:46 2013
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AK101507.D
DataAcq Meth : 1UG_T015

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane	9.37	128	30139	1.00	ppb		0.00
34) 1,4-difluorobenzene	11.68	114	89073	1.00	ppb		0.01
49) Chlorobenzene-d5	16.11	117	84946	1.00	ppb		0.00
System Monitoring Compounds							
62) Bromofluorobenzene	17.61	95	44158m	0.84	ppb		0.00
Spiked Amount 1.000	Range 70 - 130		Recovery = 84.00%				
Target Compounds							Qvalue
2) Freon 22	3.88	51	9841	0.16	ppb	#	100
3) Propylene	3.89	41	3899	0.16	ppb	#	100
4) Freon 12	3.93	85	15630	0.15	ppb		98
5) Chloromethane	4.12	50	3997m	0.14	ppb		
6) Freon 114	4.12	85	10102	0.14	ppb		89
7) Vinyl Chloride	4.31	62	3191	0.14	ppb		94
8) 1,3-butadiene	4.40	39	2648m	0.16	ppb		
9) Bromomethane	4.73	94	4224	0.16	ppb		91
10) Ethanol	5.08	45	994m	0.21	ppb		
11) Acrolein	5.63	56	998m	0.21	ppb		
12) Chloroethane	4.90	64	1659	0.17	ppb		80
13) Vinyl Bromide	5.21	106	4004	0.16	ppb		96
14) Freon 11	5.47	101	12624	0.16	ppb		98
15) Acetone	5.76	58	1472m	0.19	ppb		
16) Isopropyl alcohol	5.88	45	4268m	0.21	ppb		
17) 1,1-dichloroethene	6.20	96	4108	0.17	ppb	#	83
18) Freon 113	6.40	101	8871	0.16	ppb		98
19) t-Butyl alcohol	6.60	59	5953	0.22	ppb	#	95
20) Methylene chloride	6.66	84	3109	0.16	ppb		93
21) Allyl chloride	6.65	41	4281	0.18	ppb		88
22) Carbon disulfide	6.80	76	10903	0.18	ppb		95
23) trans-1,2-dichloroethene	7.59	61	4488m	0.14	ppb		
24) methyl tert-butyl ether	7.71	73	8062m	0.13	ppb		
25) 1,1-dichloroethane	7.99	63	10473	0.15	ppb		97
26) Vinyl acetate	8.06	43	6583	0.16	ppb		93
27) Methyl Ethyl Ketone	8.66	72	1578m	0.14	ppb		
28) cis-1,2-dichloroethene	8.93	61	5232	0.14	ppb		97
29) Hexane	8.53	57	4637	0.13	ppb		97
30) Ethyl acetate	9.20	43	6146	0.14	ppb		83
31) Chloroform	9.53	83	12519	0.15	ppb		99
32) Tetrahydrofuran	9.88	42	3101m	0.15	ppb		
33) 1,2-dichloroethane	10.64	62	6537	0.15	ppb		97
35) 1,1,1-trichloroethane	10.34	97	11453	0.16	ppb		98
36) Cyclohexane	11.04	56	4216	0.12	ppb	#	23
37) Carbon tetrachloride	10.99	117	14036	0.16	ppb		100
38) Benzene	10.97	78	14345	0.15	ppb		98
39) Methyl methacrylate	12.61	41	2562m	0.14	ppb		
40) 1,4-dioxane	12.84	88	1709	0.18	ppb	#	56
41) 2,2,4-trimethylpentane	11.83	57	14730	0.13	ppb		97
42) Heptane	12.18	43	4666	0.14	ppb		87
43) Trichloroethene	12.29	130	6339	0.14	ppb		96
44) 1,2-dichloropropane	12.40	63	5271	0.14	ppb		99
45) Bromodichloromethane	12.72	83	12354	0.15	ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK101511.D Vial: 9
Acq On : 15 Oct 2013 4:31 pm Operator: RJP
Sample : A1UG_0.15 Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 17:27:57 2013 Quant Results File: AO15_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Oct 15 14:43:46 2013
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AK101507.D
DataAcq Meth : 1UG_TO15

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46)	cis-1,3-dichloropropene	13.51	75	5123	0.13	ppb	92
47)	trans-1,3-dichloropropene	14.23	75	4330	0.14	ppb	95
48)	1,1,2-trichloroethane	14.52	97	7016	0.15	ppb	100
50)	Toluene	14.28	92	5911m	0.12	ppb	
51)	Methyl Isobutyl Ketone	13.54	43	6391	0.18	ppb	76
52)	Dibromochloromethane	15.16	129	12541	0.16	ppb	98
53)	Methyl Butyl Ketone	14.83	43	5609m	0.18	ppb	
54)	1,2-dibromoethane	15.41	107	8643	0.15	ppb	96
55)	Tetrachloroethylene	15.24	164	7313	0.16	ppb	97
56)	Chlorobenzene	16.15	112	11839	0.15	ppb	95
57)	Ethylbenzene	16.39	91	10773	0.12	ppb	97
58)	m&p-xylene	16.56	91	17487m	0.22	ppb	
60)	Bromoform	17.07	173	13074	0.15	ppb	99
61)	o-xylene	17.00	91	13338m	0.11	ppb	
63)	1,1,2,2-tetrachloroethane	17.40	83	16436	0.16	ppb	98
64)	2-Chlorotoluene	18.03	91	17285m	0.14	ppb	
65)	4-ethyltoluene	18.14	105	10011m	0.10	ppb	
67)	1,2,4-trimethylbenzene	18.58	105	10516m	0.14	ppb	
68)	1,3-dichlorobenzene	18.83	146	7878	0.10	ppb	98
69)	benzyl chloride	18.90	91	6611	0.11	ppb	89
70)	1,4-dichlorobenzene	18.95	146	8899m	0.12	ppb	
71)	1,2,3-trimethylbenzene	18.97	105	10662m	0.10	ppb	
72)	1,2-dichlorobenzene	19.22	146	10996m	0.14	ppb	
73)	1,2,4-trichlorobenzene	20.78	180	5919m	0.17	ppb	
74)	Naphthalene	20.93	128	11491m	0.18	ppb	
75)	Hexachloro-1,3-butadiene	21.00	225	11516	0.13	ppb	98

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

Quantitation Report (QT Reviewed)

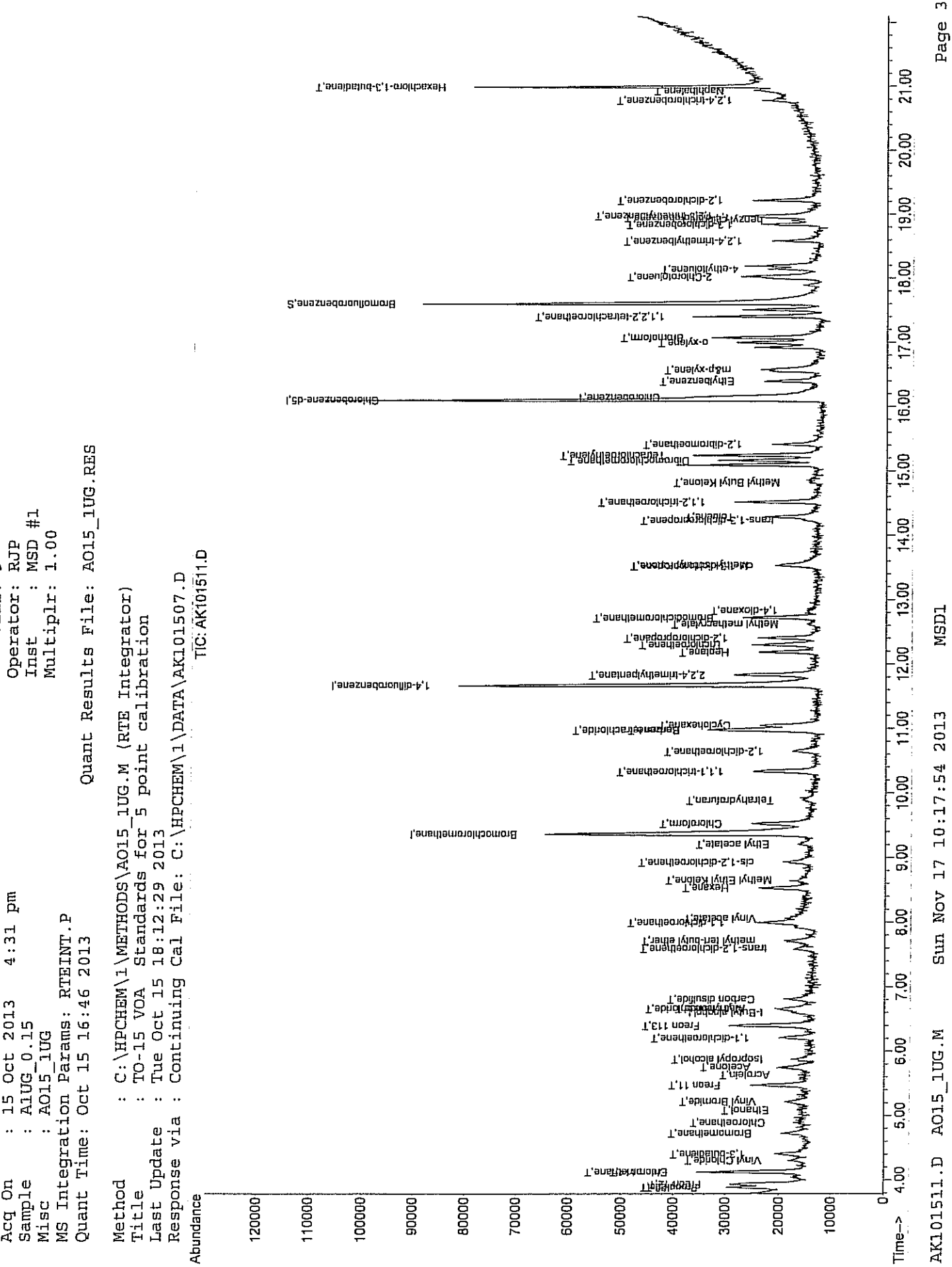
Data File : C:\HPCHEM\1\DATA\AK101511.D
Acq On : 15 Oct 2013 4:31 pm
Sample : A1UG_0.15
Misc : AO15_1UG
MS Integration Params: RTEINT.P
Quant Time: Oct 15 16:46 2013

Vial: 9
Operator: RJP
Inst : MSD #1
Multiplr: 1.00

Quant Results File: AO15_1UG.RES

Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Oct 15 18:12:29 2013
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AK101507.D

TIC: AK101511.D



AK101511.D AO15_1UG.M Sun Nov 17 10:17:54 2013 MSD1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK101512.D Vial: 10
Acq On : 15 Oct 2013 5:06 pm Operator: RJP
Sample : A1UG_0.10 Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 17:28:47 2013 Quant Results File: AO15_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Oct 15 14:43:46 2013
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AK101507.D
DataAcq Meth : 1UG_T015

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.37	128	28818	1.00	ppb	0.00
34) 1,4-difluorobenzene	11.68	114	85711	1.00	ppb	0.00
49) Chlorobenzene-d5	16.11	117	78870	1.00	ppb	0.00
System Monitoring Compounds						
62) Bromofluorobenzene	17.61	95	40627m	0.83	ppb	0.00
Spiked Amount 1.000	Range 70 - 130		Recovery = 83.00%			
Target Compounds						Qvalue
7) Vinyl Chloride	4.30	62	1855	0.09	ppb	94
37) Carbon tetrachloride	10.99	117	8412	0.10	ppb	100
43) Trichloroethene	12.29	130	4044	0.09	ppb	88
55) Tetrachloroethylene	15.24	164	4399	0.10	ppb	100

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

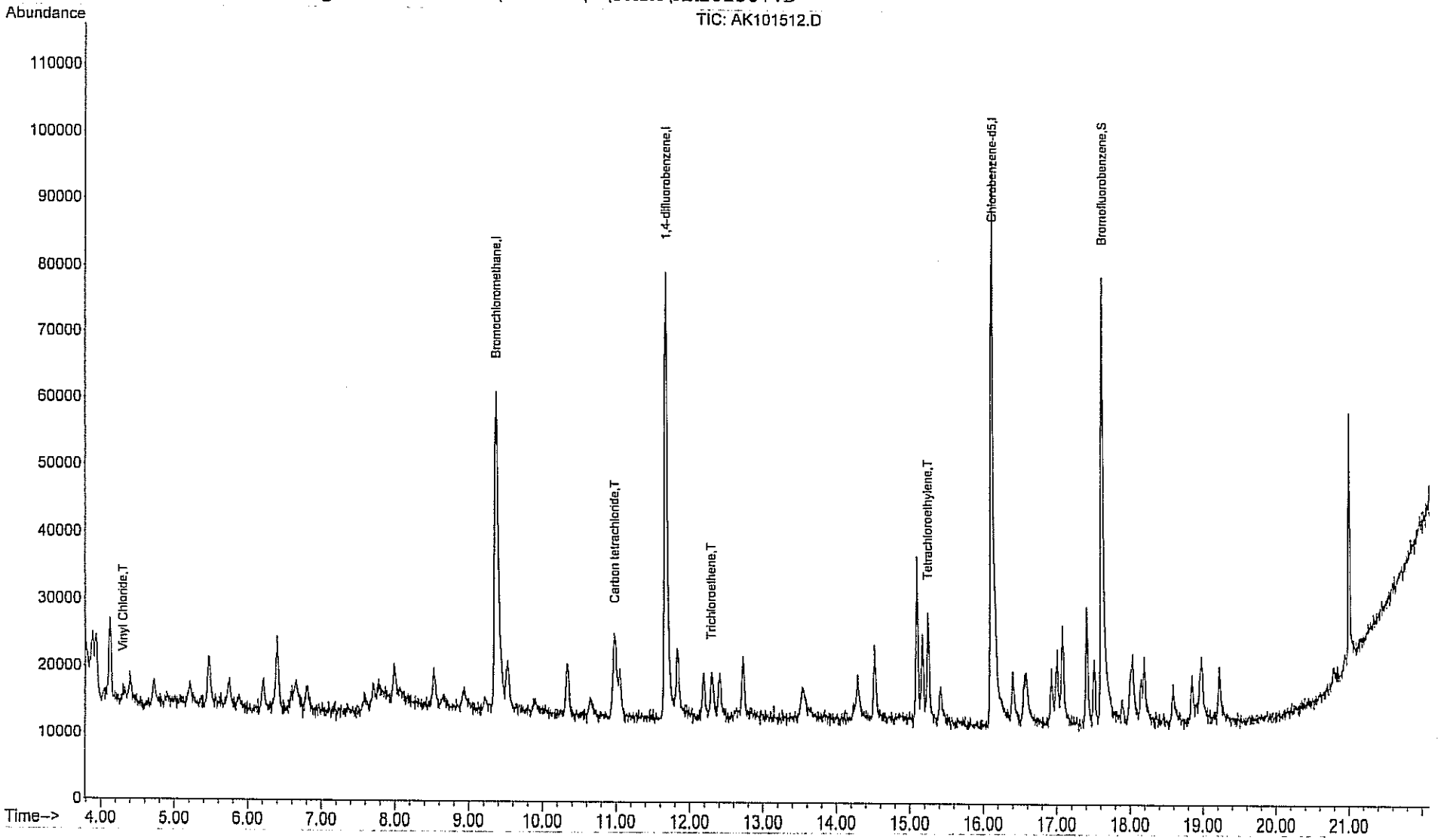
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK101512.D
Acq On : 15 Oct 2013 5:06 pm
Sample : A1UG_0.10
Misc : AO15_1UG
MS Integration Params: RTEINT.P
Quant Time: Oct 15 16:48 2013

Vial: 10
Operator: RJP
Inst : MSD #1
Multiplr: 1.00

Quant Results File: AO15_1UG.RES

Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Oct 15 18:12:29 2013
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AK101507.D



AK101512.D AO15_1UG.M Sun Nov 17 10:17:57 2013 MSD1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK101513.D Vial: 11
Acq On : 15 Oct 2013 5:41 pm Operator: RJP
Sample : A1UG_0.04 Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 18:03:55 2013 Quant Results File: AO15_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Oct 15 14:43:46 2013
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AK101507.D
DataAcq Meth : 1UG_T015

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.38	128	28912	1.00	ppb	0.01
34) 1,4-difluorobenzene	11.68	114	84477	1.00	ppb	0.01
49) Chlorobenzene-d5	16.11	117	77494	1.00	ppb	0.00
System Monitoring Compounds						
62) Bromofluorobenzene	17.61	95	38834m	0.81	ppb	0.00
Spiked Amount 1.000	Range 70 - 130		Recovery = 81.00%			
Target Compounds						Qvalue
7) Vinyl Chloride	4.31	62	948	0.04	ppb	91
37) Carbon tetrachloride	10.99	117	3632	0.04	ppb	98
43) Trichloroethene	12.32	130	1602	0.04	ppb	91
55) Tetrachloroethylene	15.24	164	2222	0.05	ppb	88

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

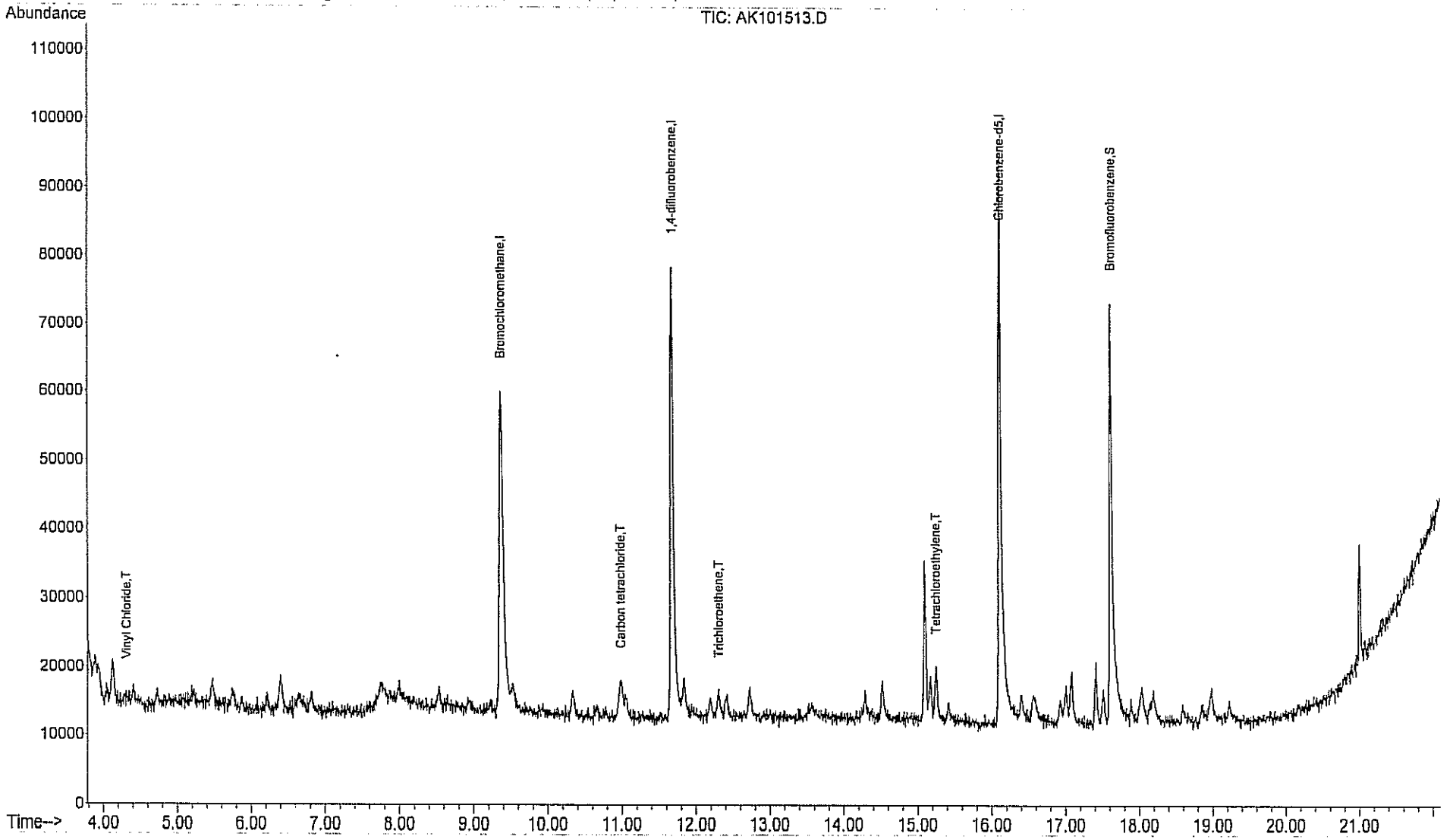
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK101513.D
Acq On : 15 Oct 2013 5:41 pm
Sample : A1UG_0.04
Misc : AO15_1UG
MS Integration Params: RTEINT.P
Quant Time: Oct 15 17:05 2013

Vial: 11
Operator: RJP
Inst : MSD #1
Multiplr: 1.00

Quant Results File: AO15_1UG.RES

Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Oct 15 18:12:29 2013
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AK101507.D



GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

CALIBRATION VERIFICATION

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\AK112602.D Vial: 2
Acq On : 26 Nov 2013 10:09 am Operator: RJP
Sample : A1UG_1.0 Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Wed Dec 11 12:48:42 2013
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Bromochloromethane	1.000	1.000	0.0	75	0.00
2	T	Freon 22	2.032	0.011	99.5#	0#	0.00
3	T	Propylene	0.815	0.720	11.7	65	0.00
4	T	Freon 12	3.349	3.624	-8.2	80	0.00
5	T	Chloromethane	0.791	0.776	1.9	62	0.00
6	T	Freon 114	2.134	2.342	-9.7	72	0.00
7	T	Vinyl Chloride	0.684	0.577	15.6	58	0.00
8	T	1,3-butadiene	0.539	0.424	21.3	55	0.00
9	T	Bromomethane	0.916	0.785	14.3	67	0.00
10	T	Ethanol	0.189	0.162	14.3	73	0.00
11	T	Acrolein	0.177	0.152	14.1	72	0.00
12	T	Chloroethane	0.333	0.247	25.8	56	0.00
13	T	Vinyl Bromide	0.842	0.651	22.7	58	0.00
14	T	Freon 11	2.591	2.595	-0.2	74	0.00
15	T	Acetone	0.276	0.252	8.7	76	0.00
16	T	Isopropyl alcohol	0.725	0.579	20.1	64	0.00
17	T	1,1-dichloroethene	0.803	0.619	22.9	58	0.00
18	T	Freon 113	1.846	1.618	12.4	65	0.00
19	t	t-Butyl alcohol	0.991	0.838	15.4	68	0.00
20	T	Methylene chloride	0.640	0.502	21.6	59	0.00
21	T	Allyl chloride	0.812	0.640	21.2	61	0.00
22	T	Carbon disulfide	2.099	1.555	25.9	57	0.00
23	T	trans-1,2-dichloroethene	1.146	1.196	-4.4	81	0.00
24	T	methyl tert-butyl ether	1.928	1.524	21.0	55	0.00
25	T	1,1-dichloroethane	2.231	2.201	1.3	73	0.00
26	T	Vinyl acetate	1.381	1.081	21.7	59	0.00
27	T	Methyl Ethyl Ketone	0.376	0.318	15.4	63	0.00
28	T	cis-1,2-dichloroethene	1.213	0.993	18.1	60	0.00
29	T	Hexane	1.178	0.870	26.1	55	0.00
30	T	Ethyl acetate	1.505	1.286	14.6	63	0.00
31	T	Chloroform	2.708	2.774	-2.4	76	0.00
32	T	Tetrahydrofuran	0.707	0.544	23.1	57	0.00
33	T	1,2-dichloroethane	1.436	1.356	5.6	71	0.00
34	I	1,4-difluorobenzene	1.000	1.000	0.0	57	0.00
35	T	1,1,1-trichloroethane	0.806	1.038	-28.8	74	0.00
36	T	Cyclohexane	0.378	0.394	-4.2	57	0.00
37	T	Carbon tetrachloride	0.990	1.278	-29.1	75	0.00
38	T	Benzene	1.067	1.243	-16.5	66	0.00
39	T	Methyl methacrylate	0.205	0.201	2.0	60	0.00
40	T	1,4-dioxane	0.114	0.131	-14.9	69	0.00
41	T	2,2,4-trimethylpentane	1.286	1.383	-7.5	60	0.00
42	T	Heptane	0.390	0.405	-3.8	60	0.00
43	T	Trichloroethene	0.499	0.603	-20.8	67	0.00
44	T	1,2-dichloropropane	0.431	0.543	-26.0	71	0.00
45	T	Bromodichloromethane	0.945	1.183	-25.2	71	0.00
46	T	cis-1,3-dichloropropene	0.460	0.504	-9.6	63	0.00
47	T	trans-1,3-dichloropropene	0.356	0.358	-0.6	57	0.00
48	T	1,1,2-trichloroethane	0.545	0.642	-17.8	67	0.00
49	I	Chlorobenzene-d5	1.000	1.000	0.0	62	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\AK112602.D Vial: 2
Acq On : 26 Nov 2013 10:09 am Operator: RJP
Sample : A1UG_1.0 Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Wed Dec 11 12:48:42 2013
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
50	T	Toluene	0.561	0.552	1.6	61	0.00
51	T	Methyl Isobutyl Ketone	0.454	0.428	5.7	61	0.00
52	T	Dibromochloromethane	0.966	1.115	-15.4	73	0.00
53	T	Methyl Butyl Ketone	0.373	0.346	7.2	54	0.00
54	T	1,2-dibromoethane	0.700	0.768	-9.7	69	0.00
55	T	Tetrachloroethylene	0.581	0.631	-8.6	71	0.00
56	T	Chlorobenzene	0.957	0.993	-3.8	67	0.00
57	T	Ethylbenzene	1.047	0.975	6.9	58	0.00
58	T	m&p-xylene	0.907	0.916	-1.0	61	0.00
59	T	Styrene	0.716	0.780	-8.9	64	0.00
60	T	Bromoform	1.024	1.132	-10.5	70	0.00
61	T	o-xylene	1.360	1.589	-16.8	69	0.00
62	S	Bromofluorobenzene	0.587	0.618	-5.3	62	0.00
63	T	1,1,2,2-tetrachloroethane	1.236	1.432	-15.9	74	0.00
64	T	2-Chlorotoluene	1.397	1.550	-11.0	66	0.00
65	T	4-ethyltoluene	1.145	1.126	1.7	60	0.00
66	T	1,3,5-trimethylbenzene	1.337	1.389	-3.9	60	0.00
67	T	1,2,4-trimethylbenzene	0.915	0.787	14.0	57	0.00
68	T	1,3-dichlorobenzene	0.864	0.913	-5.7	64	0.00
69	T	benzyl chloride	0.703	0.728	-3.6	66	0.00
70	T	1,4-dichlorobenzene	0.881	0.859	2.5	61	0.00
71	T	1,2,3-trimethylbenzene	1.177	0.007	99.4#	0#	0.00
72	T	1,2-dichlorobenzene	0.938	0.869	7.4	56	0.00
73	T	1,2,4-trichlorobenzene	0.456	0.393	13.8	55	0.00
74	T	Naphthalene	0.877	0.625	28.7	46#	0.00
75	T	Hexachloro-1,3-butadiene	1.015	1.186	-16.8	71	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
AK112602.D AO15_1UG.M Wed Dec 11 13:37:43 2013 MSD1 Page 2

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK112602.D Vial: 2
Acq On : 26 Nov 2013 10:09 am Operator: RJP
Sample : A1UG_1.0 Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 26 10:39:07 2013 Quant Results File: AO15_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Oct 15 18:12:29 2013
Response via : Initial Calibration
DataAcq Meth : 1UG_T015

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane	9.32	128	22561	1.00	ppb		-0.04
34) 1,4-difluorobenzene	11.63	114	54518	1.00	ppb		-0.04
49) Chlorobenzene-d5	16.08	117	62684	1.00	ppb		-0.02
System Monitoring Compounds							
62) Bromofluorobenzene	17.58	95	38708	1.05	ppb		-0.02
Spiked Amount 1.000	Range 70 - 130		Recovery = 105.00%				
Target Compounds							Qvalue
3) Propylene	3.86	41	16244	0.88	ppb		99
4) Freon 12	3.92	85	81762	1.08	ppb		99
5) Chloromethane	4.10	50	17498	0.98	ppb		98
6) Freon 114	4.10	85	52837	1.10	ppb		98
7) Vinyl Chloride	4.28	62	13013	0.84	ppb		97
8) 1,3-butadiene	4.39	39	9567	0.79	ppb		100
9) Bromomethane	4.70	94	17704	0.86	ppb		93
10) Ethanol	5.06	45	3646	0.85	ppb		79
11) Acrolein	5.58	56	3431	0.86	ppb	#	100
12) Chloroethane	4.86	64	5562	0.74	ppb		93
13) Vinyl Bromide	5.18	106	14689	0.77	ppb		99
14) Freon 11	5.44	101	58535	1.00	ppb		98
15) Acetone	5.72	58	5675	0.91	ppb	#	67
16) Isopropyl alcohol	5.84	45	13072	0.80	ppb	#	100
17) 1,1-dichloroethene	6.17	96	13956	0.77	ppb		94
18) Freon 113	6.36	101	36507	0.88	ppb		97
19) t-Butyl alcohol	6.57	59	18917	0.85	ppb		90
20) Methylene chloride	6.62	84	11326	0.78	ppb		98
21) Allyl chloride	6.60	41	14434	0.79	ppb		93
22) Carbon disulfide	6.77	76	35072	0.74	ppb		99
23) trans-1,2-dichloroethene	7.54	61	26979	1.04	ppb		97
24) methyl tert-butyl ether	7.66	73	34390	0.79	ppb		88
25) 1,1-dichloroethane	7.95	63	49648	0.99	ppb		99
26) Vinyl acetate	8.02	43	24391m	0.78	ppb		
27) Methyl Ethyl Ketone	8.59	72	7168	0.85	ppb	#	100
28) cis-1,2-dichloroethene	8.88	61	22395	0.82	ppb		97
29) Hexane	8.49	57	19619	0.74	ppb		89
30) Ethyl acetate	9.16	43	29015	0.85	ppb		95
31) Chloroform	9.48	83	62593	1.02	ppb		100
32) Tetrahydrofuran	9.83	42	12283m	0.77	ppb		
33) 1,2-dichloroethane	10.60	62	30588	0.94	ppb		99
35) 1,1,1-trichloroethane	10.29	97	56582m	1.29	ppb		
36) Cyclohexane	11.01	56	21485	1.04	ppb		87
37) Carbon tetrachloride	10.94	117	69666m	1.29	ppb		
38) Benzene	10.92	78	67772	1.16	ppb		98
39) Methyl methacrylate	12.56	41	10968	0.98	ppb		98
40) 1,4-dioxane	12.70	88	7149m	1.16	ppb		
41) 2,2,4-trimethylpentane	11.79	57	75405	1.08	ppb		92
42) Heptane	12.14	43	22095	1.04	ppb		97
43) Trichloroethene	12.26	130	32872	1.21	ppb		99
44) 1,2-dichloropropane	12.36	63	29629	1.26	ppb		98
45) Bromodichloromethane	12.68	83	64507m	1.25	ppb		
46) cis-1,3-dichloropropene	13.47	75	27503	1.10	ppb		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK112602.D Vial: 2
Acq On : 26 Nov 2013 10:09 am Operator: RJP
Sample : A1UG_1.0 Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 26 10:39:07 2013 Quant Results File: AO15_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Oct 15 18:12:29 2013
Response via : Initial Calibration
DataAcq Meth : 1UG_T015

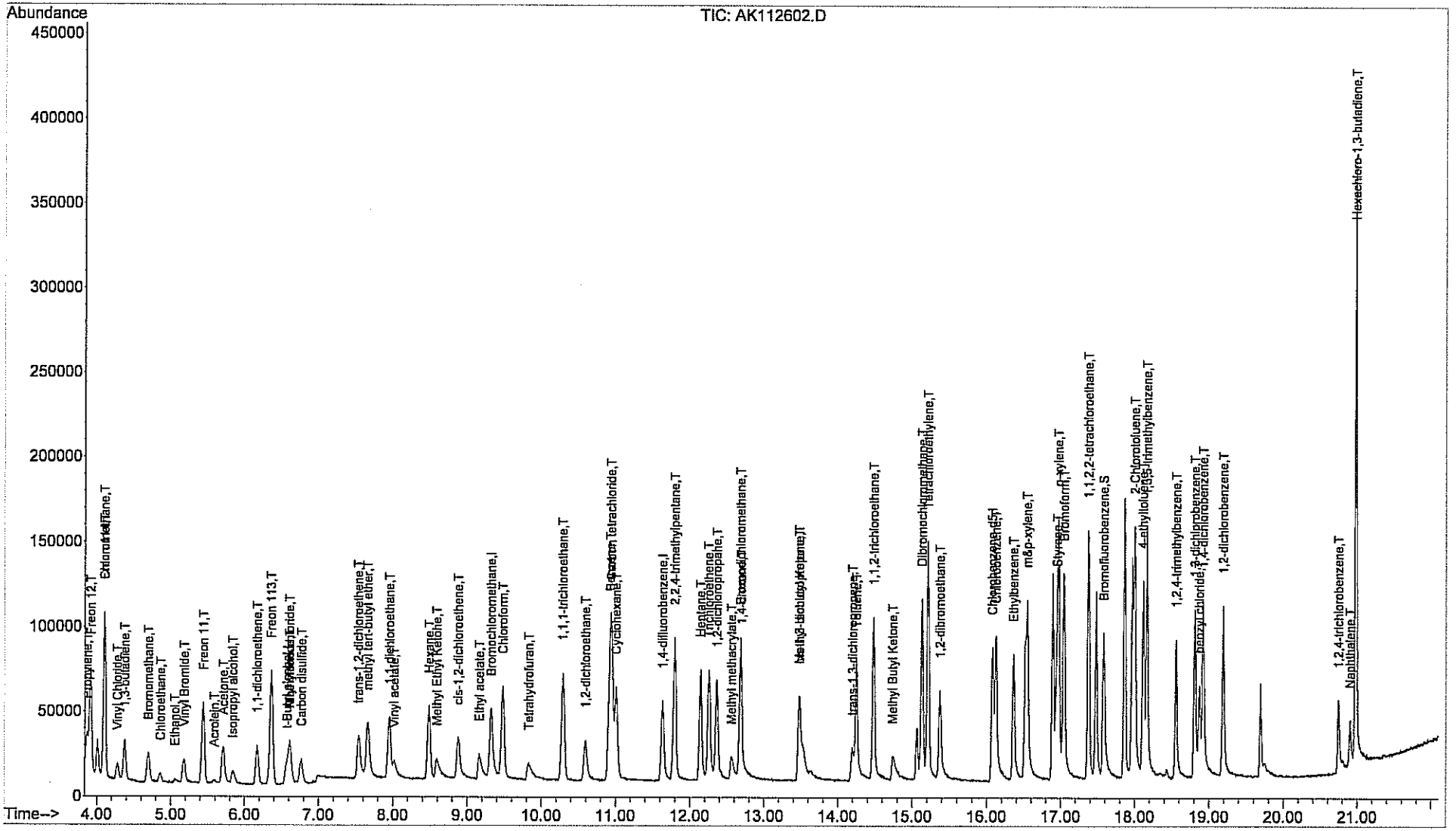
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
47)	trans-1,3-dichloropropene	14.20	75	19526	1.01	ppb	90
48)	1,1,2-trichloroethane	14.48	97	35026m	1.18	ppb	
50)	Toluene	14.25	92	34614	0.98	ppb	98
51)	Methyl Isobutyl Ketone	13.49	43	26806	0.94	ppb	97
52)	Dibromochloromethane	15.13	129	69910	1.15	ppb	99
53)	Methyl Butyl Ketone	14.74	43	21702m	0.93	ppb	
54)	1,2-dibromoethane	15.37	107	48149	1.10	ppb	98
55)	Tetrachloroethylene	15.21	164	39527	1.09	ppb	99
56)	Chlorobenzene	16.12	112	62254	1.04	ppb	95
57)	Ethylbenzene	16.36	91	61121	0.93	ppb	99
58)	m&p-xylene	16.55	91	114859	2.02	ppb	100
59)	Styrene	16.94	104	48866	1.09	ppb	99
60)	Bromoform	17.04	173	70967	1.11	ppb	98
61)	o-xylene	16.97	91	99597	1.17	ppb	98
63)	1,1,2,2-tetrachloroethane	17.37	83	89780	1.16	ppb	99
64)	2-Chlorotoluene	18.00	91	97184m	1.11	ppb	
65)	4-ethyltoluene	18.11	105	70572m	0.98	ppb	
66)	1,3,5-trimethylbenzene	18.17	105	87042	1.04	ppb	98
67)	1,2,4-trimethylbenzene	18.56	105	49316	0.86	ppb	100
68)	1,3-dichlorobenzene	18.81	146	57215	1.06	ppb	99
69)	benzyl chloride	18.87	91	45630	1.03	ppb	98
70)	1,4-dichlorobenzene	18.92	146	53847	0.97	ppb	98
72)	1,2-dichlorobenzene	19.19	146	54449	0.93	ppb	99
73)	1,2,4-trichlorobenzene	20.75	180	24605m	0.86	ppb	
74)	Naphthalene	20.90	128	39150m	0.71	ppb	
75)	Hexachloro-1,3-butadiene	20.98	225	74348	1.17	ppb	99

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK112602.D Vial: 2
Acq On : 26 Nov 2013 10:09 am Operator: RJP
Sample : A1UG_1.0 Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 26 10:40 2013 Quant Results File: AO15_1UG.RES

Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Wed Dec 11 12:48:42 2013
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\AK112702.D Vial: 2
Acq On : 27 Nov 2013 9:44 am Operator: RJP
Sample : A1UG_1.0 Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Wed Dec 11 12:48:42 2013
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Bromochloromethane	1.000	1.000	0.0	73	0.00
2	T	Freon 22	2.032	0.006	99.7#	0#	-0.04
3	T	Propylene	0.815	0.696	14.6	62	0.00
4	T	Freon 12	3.349	3.604	-7.6	78	0.00
5	T	Chloromethane	0.791	0.704	11.0	55	0.00
6	T	Freon 114	2.134	2.028	5.0	61	0.00
7	T	Vinyl Chloride	0.684	0.523	23.5	51	0.00
8	T	1,3-butadiene	0.539	0.421	21.9	54	-0.01
9	T	Bromomethane	0.916	0.790	13.8	66	0.00
10	T	Ethanol	0.189	0.171	9.5	75	0.00
11	T	Acrolein	0.177	0.157	11.3	73	0.00
12	T	Chloroethane	0.333	0.250	24.9	56	0.00
13	T	Vinyl Bromide	0.842	0.651	22.7	57	0.00
14	T	Freon 11	2.591	2.529	2.4	71	0.00
15	T	Acetone	0.276	0.209	24.3	62	0.00
16	T	Isopropyl alcohol	0.725	0.631	13.0	68	-0.01
17	T	1,1-dichloroethene	0.803	0.635	20.9	58	0.00
18	T	Freon 113	1.846	1.577	14.6	62	0.00
19	t	t-Butyl alcohol	0.991	0.740	25.3	59	-0.02
20	T	Methylene chloride	0.640	0.509	20.5	58	0.00
21	T	Allyl chloride	0.812	0.622	23.4	58	0.00
22	T	Carbon disulfide	2.099	1.593	24.1	58	0.00
23	T	trans-1,2-dichloroethene	1.146	1.288	-12.4	85	0.00
24	T	methyl tert-butyl ether	1.928	1.516	21.4	53	0.00
25	T	1,1-dichloroethane	2.231	2.196	1.6	71	0.00
26	T	Vinyl acetate	1.381	1.128	18.3	60	0.00
27	T	Methyl Ethyl Ketone	0.376	0.308	18.1	60	-0.01
28	T	cis-1,2-dichloroethene	1.213	1.052	13.3	62	0.00
29	T	Hexane	1.178	0.954	19.0	59	0.00
30	T	Ethyl acetate	1.505	1.291	14.2	62	0.00
31	T	Chloroform	2.708	2.793	-3.1	74	0.00
32	T	Tetrahydrofuran	0.707	0.543	23.2	56	0.00
33	T	1,2-dichloroethane	1.436	1.398	2.6	71	0.00
34	I	1,4-difluorobenzene	1.000	1.000	0.0	56	0.00
35	T	1,1,1-trichloroethane	0.806	1.029	-27.7	73	0.00
36	T	Cyclohexane	0.378	0.390	-3.2	56	0.00
37	T	Carbon tetrachloride	0.990	1.269	-28.2	74	0.00
38	T	Benzene	1.067	1.231	-15.4	65	0.00
39	T	Methyl methacrylate	0.205	0.172	16.1	51	0.00
40	T	1,4-dioxane	0.114	0.113	0.9	60	0.00
41	T	2,2,4-trimethylpentane	1.286	1.334	-3.7	57	0.00
42	T	Heptane	0.390	0.397	-1.8	58	0.00
43	T	Trichloroethene	0.499	0.611	-22.4	68	0.00
44	T	1,2-dichloropropane	0.431	0.526	-22.0	68	0.00
45	T	Bromodichloromethane	0.945	1.130	-19.6	67	0.00
46	T	cis-1,3-dichloropropene	0.460	0.458	0.4	57	0.00
47	T	trans-1,3-dichloropropene	0.356	0.362	-1.7	58	0.00
48	T	1,1,2-trichloroethane	0.545	0.694	-27.3	72	0.00
49	I	Chlorobenzene-d5	1.000	1.000	0.0	61	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\AK112702.D Vial: 2
Acq On : 27 Nov 2013 9:44 am Operator: RJP
Sample : A1UG_1.0 Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Wed Dec 11 12:48:42 2013
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
50	T	Toluene	0.561	0.541	3.6	58	0.00
51	T	Methyl Isobutyl Ketone	0.454	0.325	28.4	45#	0.00
52	T	Dibromochloromethane	0.966	1.128	-16.8	72	0.00
53	T	Methyl Butyl Ketone	0.373	0.329	11.8	50	0.00
54	T	1,2-dibromoethane	0.700	0.764	-9.1	67	0.00
55	T	Tetrachloroethylene	0.581	0.631	-8.6	69	0.00
56	T	Chlorobenzene	0.957	0.972	-1.6	63	0.00
57	T	Ethylbenzene	1.047	0.941	10.1	55	0.00
58	T	m&p-xylene	0.907	0.859	5.3	56	0.00
59	T	Styrene	0.716	0.725	-1.3	58	0.00
60	T	Bromoform	1.024	1.076	-5.1	65	0.00
61	T	o-xylene	1.360	1.466	-7.8	62	0.00
62	S	Bromofluorobenzene	0.587	0.632	-7.7	62	0.00
63	T	1,1,2,2-tetrachloroethane	1.236	1.369	-10.8	69	0.00
64	T	2-Chlorotoluene	1.397	1.497	-7.2	62	0.00
65	T	4-ethyltoluene	1.145	1.079	5.8	56	0.00
66	T	1,3,5-trimethylbenzene	1.337	1.415	-5.8	59	0.00
67	T	1,2,4-trimethylbenzene	0.915	0.725	20.8	51	0.00
68	T	1,3-dichlorobenzene	0.864	0.893	-3.4	61	0.00
69	T	benzyl chloride	0.703	0.724	-3.0	64	0.00
70	T	1,4-dichlorobenzene	0.881	0.868	1.5	60	0.00
71	T	1,2,3-trimethylbenzene	1.177	0.047	96.0#	2#	-0.12
72	T	1,2-dichlorobenzene	0.938	0.851	9.3	54	0.00
73	T	1,2,4-trichlorobenzene	0.456	0.397	12.9	54	0.00
74	T	Naphthalene	0.877	0.567	35.3#	41#	0.00
75	T	Hexachloro-1,3-butadiene	1.015	1.140	-12.3	67	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK112702.D Vial: 2
Acq On : 27 Nov 2013 9:44 am Operator: RJP
Sample : A1UG_1.0 Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 27 10:06:49 2013 Quant Results File: AO15_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Oct 15 18:12:29 2013
Response via : Initial Calibration
DataAcq Meth : 1UG_T015

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane	9.33	128	22078	1.00	ppb		-0.03
34) 1,4-difluorobenzene	11.64	114	54236	1.00	ppb		-0.03
49) Chlorobenzene-d5	16.08	117	61088	1.00	ppb		-0.02
System Monitoring Compounds							
62) Bromofluorobenzene	17.58	95	38605	1.08	ppb		-0.02
Spiked Amount 1.000	Range 70 - 130		Recovery = 108.00%				
Target Compounds							Qvalue
3) Propylene	3.86	41	15359	0.85	ppb		92
4) Freon 12	3.91	85	79573	1.08	ppb		100
5) Chloromethane	4.10	50	15535	0.89	ppb		99
6) Freon 114	4.10	85	44768	0.95	ppb		94
7) Vinyl Chloride	4.28	62	11538	0.76	ppb		96
8) 1,3-butadiene	4.37	39	9305	0.78	ppb		97
9) Bromomethane	4.70	94	17452	0.86	ppb		90
10) Ethanol	5.05	45	3765	0.90	ppb	#	69
11) Acrolein	5.58	56	3477m	0.89	ppb		
12) Chloroethane	4.86	64	5514	0.75	ppb		97
13) Vinyl Bromide	5.18	106	14368	0.77	ppb		100
14) Freon 11	5.43	101	55839	0.98	ppb		99
15) Acetone	5.72	58	4604	0.76	ppb		94
16) Isopropyl alcohol	5.83	45	13925m	0.87	ppb		
17) 1,1-dichloroethene	6.17	96	14022	0.79	ppb		98
18) Freon 113	6.36	101	34816	0.85	ppb		96
19) t-Butyl alcohol	6.55	59	16339	0.75	ppb	#	95
20) Methylene chloride	6.62	84	11244	0.80	ppb		99
21) Allyl chloride	6.60	41	13730	0.77	ppb		93
22) Carbon disulfide	6.77	76	35166	0.76	ppb		98
23) trans-1,2-dichloroethene	7.54	61	28435	1.12	ppb		97
24) methyl tert-butyl ether	7.65	73	33476	0.79	ppb		88
25) 1,1-dichloroethane	7.95	63	48476	0.98	ppb		98
26) Vinyl acetate	8.02	43	24894m	0.82	ppb		
27) Methyl Ethyl Ketone	8.57	72	6804	0.82	ppb	#	100
28) cis-1,2-dichloroethene	8.88	61	23231	0.87	ppb		99
29) Hexane	8.49	57	21067	0.81	ppb		96
30) Ethyl acetate	9.16	43	28492	0.86	ppb		98
31) Chloroform	9.48	83	61657	1.03	ppb		100
32) Tetrahydrofuran	9.82	42	11989m	0.77	ppb		
33) 1,2-dichloroethane	10.60	62	30861	0.97	ppb		100
35) 1,1,1-trichloroethane	10.30	97	55833m	1.28	ppb		
36) Cyclohexane	11.01	56	21132	1.03	ppb		89
37) Carbon tetrachloride	10.95	117	68840m	1.28	ppb		
38) Benzene	10.92	78	66767	1.15	ppb		97
39) Methyl methacrylate	12.56	41	9339	0.84	ppb		97
40) 1,4-dioxane	12.71	88	6132	1.00	ppb		81
41) 2,2,4-trimethylpentane	11.79	57	72348	1.04	ppb		92
42) Heptane	12.15	43	21506	1.02	ppb		97
43) Trichloroethene	12.26	130	33119	1.22	ppb		98
44) 1,2-dichloropropane	12.36	63	28536	1.22	ppb		98
45) Bromodichloromethane	12.69	83	61307m	1.20	ppb		
46) cis-1,3-dichloropropene	13.47	75	24858	1.00	ppb		100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK112702.D Vial: 2
Acq On : 27 Nov 2013 9:44 am Operator: RJP
Sample : A1UG_1.0 Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 27 10:06:49 2013 Quant Results File: AO15_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Oct 15 18:12:29 2013
Response via : Initial Calibration
DataAcq Meth : 1UG_TO15

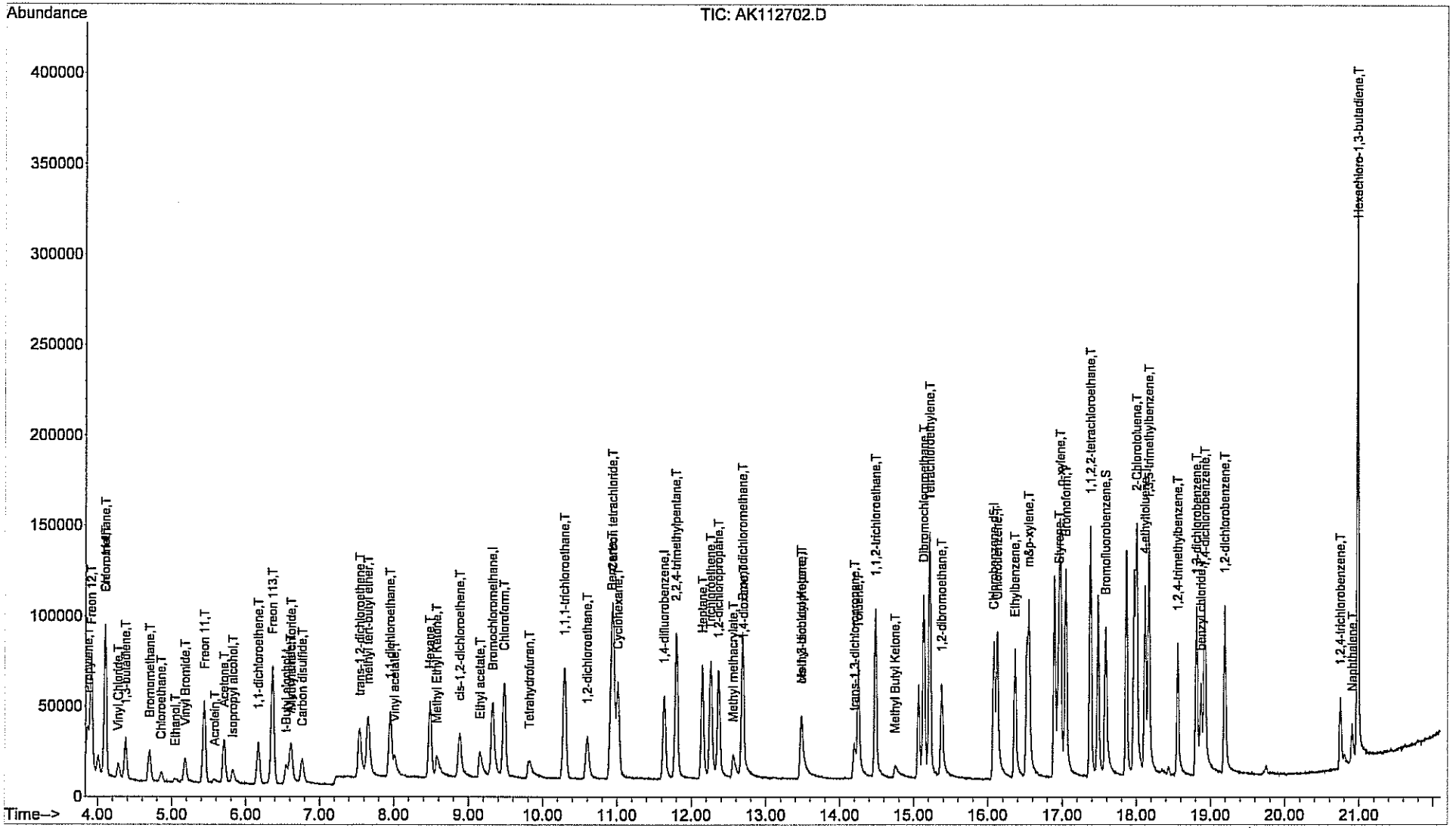
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
47)	trans-1,3-dichloropropene	14.20	75	19617	1.02	ppb	97
48)	1,1,2-trichloroethane	14.49	97	37615	1.27	ppb	99
50)	Toluene	14.25	92	33075	0.97	ppb	98
51)	Methyl Isobutyl Ketone	13.49	43	19869m	0.72	ppb	
52)	Dibromochloromethane	15.13	129	68919	1.17	ppb	99
53)	Methyl Butyl Ketone	14.75	43	20085m	0.88	ppb	
54)	1,2-dibromoethane	15.37	107	46677	1.09	ppb	98
55)	Tetrachloroethylene	15.22	164	38553	1.09	ppb	100
56)	Chlorobenzene	16.13	112	59389	1.02	ppb	100
57)	Ethylbenzene	16.36	91	57484	0.90	ppb	99
58)	m&p-xylene	16.55	91	105000	1.90	ppb	100
59)	Styrene	16.95	104	44272	1.01	ppb	98
60)	Bromoform	17.05	173	65709	1.05	ppb	98
61)	o-xylene	16.97	91	89530	1.08	ppb	99
63)	1,1,2,2-tetrachloroethane	17.38	83	83643	1.11	ppb	99
64)	2-Chlorotoluene	18.00	91	91443m	1.07	ppb	
65)	4-ethyltoluene	18.11	105	65940m	0.94	ppb	
66)	1,3,5-trimethylbenzene	18.17	105	86412m	1.06	ppb	
67)	1,2,4-trimethylbenzene	18.56	105	44304	0.79	ppb	95
68)	1,3-dichlorobenzene	18.81	146	54523	1.03	ppb	99
69)	benzyl chloride	18.87	91	44205	1.03	ppb	97
70)	1,4-dichlorobenzene	18.92	146	53009	0.98	ppb	97
72)	1,2-dichlorobenzene	19.19	146	51996	0.91	ppb	99
73)	1,2,4-trichlorobenzene	20.75	180	24264m	0.87	ppb	
74)	Naphthalene	20.91	128	34620m	0.65	ppb	
75)	Hexachloro-1,3-butadiene	20.98	225	69624	1.12	ppb	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed
AK112702.D AO15_1UG.M Wed Dec 11 13:39:21 2013 MSD1 Page 2

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK112702.D Vial: 2
Acq On : 27 Nov 2013 9:44 am Operator: RJP
Sample : A1UG_1.0 Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 27 10:08 2013 Quant Results File: AO15_1UG.RES

Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Wed Dec 11 12:48:42 2013
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\AK120203.D Vial: 3
Acq On : 2 Dec 2013 9:21 am Operator: RJP
Sample : A1UG_1.0 Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Wed Dec 11 12:48:42 2013
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Bromochloromethane	1.000	1.000	0.0	64	0.00
2	T	Freon 22	2.032	0.012	99.4#	0#	0.00
3	T	Propylene	0.815	0.981	-20.4	76	0.00
4	T	Freon 12	3.349	4.220	-26.0	80	0.00
5	T	Chloromethane	0.791	0.877	-10.9	60	-0.01
6	T	Freon 114	2.134	2.432	-14.0	64	0.00
7	T	Vinyl Chloride	0.684	0.684	0.0	59	0.00
8	T	1,3-butadiene	0.539	0.488	9.5	55	0.00
9	T	Bromomethane	0.916	0.906	1.1	66	0.00
10	T	Ethanol	0.189	0.204	-7.9	79	0.00
11	T	Acrolein	0.177	0.179	-1.1	73	0.00
12	T	Chloroethane	0.333	0.309	7.2	60	0.00
13	T	Vinyl Bromide	0.842	0.794	5.7	60	0.00
14	T	Freon 11	2.591	2.924	-12.9	72	0.00
15	T	Acetone	0.276	0.338	-22.5	88	-0.01
16	T	Isopropyl alcohol	0.725	0.713	1.7	67	-0.01
17	T	1,1-dichloroethene	0.803	0.728	9.3	58	0.00
18	T	Freon 113	1.846	1.836	0.5	63	0.00
19	t	t-Butyl alcohol	0.991	0.940	5.1	66	-0.01
20	T	Methylene chloride	0.640	0.590	7.8	59	0.00
21	T	Allyl chloride	0.812	0.762	6.2	62	0.00
22	T	Carbon disulfide	2.099	1.848	12.0	59	-0.01
23	T	trans-1,2-dichloroethene	1.146	1.381	-20.5	80	0.00
24	T	methyl tert-butyl ether	1.928	1.760	8.7	54	0.00
25	T	1,1-dichloroethane	2.231	2.482	-11.3	70	0.00
26	T	Vinyl acetate	1.381	1.084	21.5	50	0.00
27	T	Methyl Ethyl Ketone	0.376	0.369	1.9	63	-0.01
28	T	cis-1,2-dichloroethene	1.213	1.146	5.5	60	0.00
29	T	Hexane	1.178	0.979	16.9	53	0.00
30	T	Ethyl acetate	1.505	1.586	-5.4	67	0.00
31	T	Chloroform	2.708	3.062	-13.1	72	0.00
32	T	Tetrahydrofuran	0.707	0.561	20.7	50	0.00
33	T	1,2-dichloroethane	1.436	1.567	-9.1	70	0.00
34	I	1,4-difluorobenzene	1.000	1.000	0.0	51	0.00
35	T	1,1,1-trichloroethane	0.806	1.077	-33.6#	70	0.00
36	T	Cyclohexane	0.378	0.411	-8.7	54	0.00
37	T	Carbon tetrachloride	0.990	1.426	-44.0#	76	0.00
38	T	Benzene	1.067	1.295	-21.4	63	0.00
39	T	Methyl methacrylate	0.205	0.210	-2.4	57	0.00
40	T	1,4-dioxane	0.114	0.115	-0.9	55	0.01
41	T	2,2,4-trimethylpentane	1.286	1.436	-11.7	56	0.00
42	T	Heptane	0.390	0.422	-8.2	57	0.00
43	T	Trichloroethene	0.499	0.617	-23.6	62	0.00
44	T	1,2-dichloropropane	0.431	0.532	-23.4	63	0.00
45	T	Bromodichloromethane	0.945	1.206	-27.6	66	0.00
46	T	cis-1,3-dichloropropene	0.460	0.528	-14.8	60	0.00
47	T	trans-1,3-dichloropropene	0.356	0.392	-10.1	57	0.00
48	T	1,1,2-trichloroethane	0.545	0.683	-25.3	65	0.00
49	I	Chlorobenzene-d5	1.000	1.000	0.0	52	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\AK120203.D Vial: 3
Acq On : 2 Dec 2013 9:21 am Operator: RJP
Sample : A1UG_1.0 Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Wed Dec 11 12:48:42 2013
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
50	T	Toluene	0.561	0.592	-5.5	55	0.00
51	T	Methyl Isobutyl Ketone	0.454	0.449	1.1	54	0.00
52	T	Dibromochloromethane	0.966	1.181	-22.3	65	0.00
53	T	Methyl Butyl Ketone	0.373	0.269	27.9	35#	0.00
54	T	1,2-dibromoethane	0.700	0.837	-19.6	64	0.00
55	T	Tetrachloroethylene	0.581	0.682	-17.4	65	0.00
56	T	Chlorobenzene	0.957	1.059	-10.7	60	0.00
57	T	Ethylbenzene	1.047	1.040	0.7	52	0.00
58	T	m&p-xylene	0.907	0.981	-8.2	55	0.00
59	T	Styrene	0.716	0.847	-18.3	58	0.00
60	T	Bromoform	1.024	1.069	-4.4	56	0.00
61	T	o-xylene	1.360	1.659	-22.0	60	0.00
62	S	Bromofluorobenzene	0.587	0.653	-11.2	55	0.00
63	T	1,1,2,2-tetrachloroethane	1.236	1.545	-25.0	68	0.00
64	T	2-Chlorotoluene	1.397	1.678	-20.1	60	0.00
65	T	4-ethyltoluene	1.145	1.278	-11.6	57	0.00
66	T	1,3,5-trimethylbenzene	1.337	1.625	-21.5	59	0.00
67	T	1,2,4-trimethylbenzene	0.915	0.871	4.8	53	0.00
68	T	1,3-dichlorobenzene	0.864	1.013	-17.2	60	0.00
69	T	benzyl chloride	0.703	0.890	-26.6	68	0.00
70	T	1,4-dichlorobenzene	0.881	0.966	-9.6	58	0.00
71	T	1,2,3-trimethylbenzene	1.177	0.003	99.7#	0#	0.00
72	T	1,2-dichlorobenzene	0.938	0.973	-3.7	53	0.00
73	T	1,2,4-trichlorobenzene	0.456	0.361	20.8	43#	0.00
74	T	Naphthalene	0.877	0.797	9.1	50#	0.00
75	T	Hexachloro-1,3-butadiene	1.015	1.321	-30.1#	67	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
AK120203.D AO15_1UG.M Wed Dec 11 13:41:21 2013 MSD1 Page 2

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK120203.D Vial: 3
Acq On : 2 Dec 2013 9:21 am Operator: RJP
Sample : A1UG_1.0 Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Dec 02 10:11:25 2013 Quant Results File: AO15_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Oct 15 18:12:29 2013
Response via : Initial Calibration
DataAcq Meth : 1UG_T015

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane	9.32	128	19337	1.00	ppb		-0.04
34) 1,4-difluorobenzene	11.63	114	49520m	1.00	ppb		-0.03
49) Chlorobenzene-d5	16.08	117	52759	1.00	ppb		-0.02
System Monitoring Compounds							
62) Bromofluorobenzene	17.58	95	34432	1.11	ppb		-0.02
Spiked Amount 1.000	Range 70 - 130		Recovery = 111.00%				
Target Compounds							Qvalue
3) Propylene	3.87	41	18961	1.20	ppb		100
4) Freon 12	3.91	85	81611	1.26	ppb		99
5) Chloromethane	4.09	50	16967	1.11	ppb		96
6) Freon 114	4.10	85	47027	1.14	ppb		96
7) Vinyl Chloride	4.28	62	13236	1.00	ppb		99
8) 1,3-butadiene	4.38	39	9428	0.90	ppb		89
9) Bromomethane	4.70	94	17516	0.99	ppb		95
10) Ethanol	5.05	45	3949	1.08	ppb	#	67
11) Acrolein	5.58	56	3469	1.01	ppb	#	100
12) Chloroethane	4.86	64	5971	0.93	ppb		99
13) Vinyl Bromide	5.18	106	15347	0.94	ppb		100
14) Freon 11	5.44	101	56541	1.13	ppb		100
15) Acetone	5.71	58	6532	1.22	ppb	#	56
16) Isopropyl alcohol	5.83	45	13788	0.98	ppb	#	100
17) 1,1-dichloroethene	6.17	96	14068	0.91	ppb		95
18) Freon 113	6.36	101	35503	0.99	ppb		98
19) t-Butyl alcohol	6.55	59	18180	0.95	ppb	#	21
20) Methylene chloride	6.62	84	11403	0.92	ppb		95
21) Allyl chloride	6.60	41	14727	0.94	ppb		92
22) Carbon disulfide	6.76	76	35729	0.88	ppb		97
23) trans-1,2-dichloroethene	7.53	61	26709	1.21	ppb		98
24) methyl tert-butyl ether	7.65	73	34030	0.91	ppb		86
25) 1,1-dichloroethane	7.95	63	47999	1.11	ppb		99
26) Vinyl acetate	8.02	43	20955	0.78	ppb		98
27) Methyl Ethyl Ketone	8.57	72	7127	0.98	ppb	#	100
28) cis-1,2-dichloroethene	8.89	61	22159	0.94	ppb		98
29) Hexane	8.49	57	18924	0.83	ppb		83
30) Ethyl acetate	9.16	43	30671	1.05	ppb		99
31) Chloroform	9.48	83	59204	1.13	ppb		100
32) Tetrahydrofuran	9.83	42	10841	0.79	ppb		96
33) 1,2-dichloroethane	10.59	62	30305	1.09	ppb		99
35) 1,1,1-trichloroethane	10.29	97	53342m	1.34	ppb		
36) Cyclohexane	11.01	56	20328	1.09	ppb		86
37) Carbon tetrachloride	10.95	117	70598	1.44	ppb		99
38) Benzene	10.92	78	64114	1.21	ppb		96
39) Methyl methacrylate	12.56	41	10417	1.03	ppb		98
40) 1,4-dioxane	12.71	88	5708	1.02	ppb		91
41) 2,2,4-trimethylpentane	11.79	57	71127	1.12	ppb		91
42) Heptane	12.14	43	20922	1.08	ppb		96
43) Trichloroethene	12.25	130	30534	1.24	ppb		99
44) 1,2-dichloropropane	12.36	63	26342m	1.24	ppb		
45) Bromodichloromethane	12.68	83	59708m	1.28	ppb		
46) cis-1,3-dichloropropene	13.47	75	26160	1.15	ppb		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK120203.D Vial: 3
Acq On : 2 Dec 2013 9:21 am Operator: RJP
Sample : A1UG_1.0 Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Dec 02 10:11:25 2013 Quant Results File: AO15_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Oct 15 18:12:29 2013
Response via : Initial Calibration
DataAcq Meth : 1UG_T015

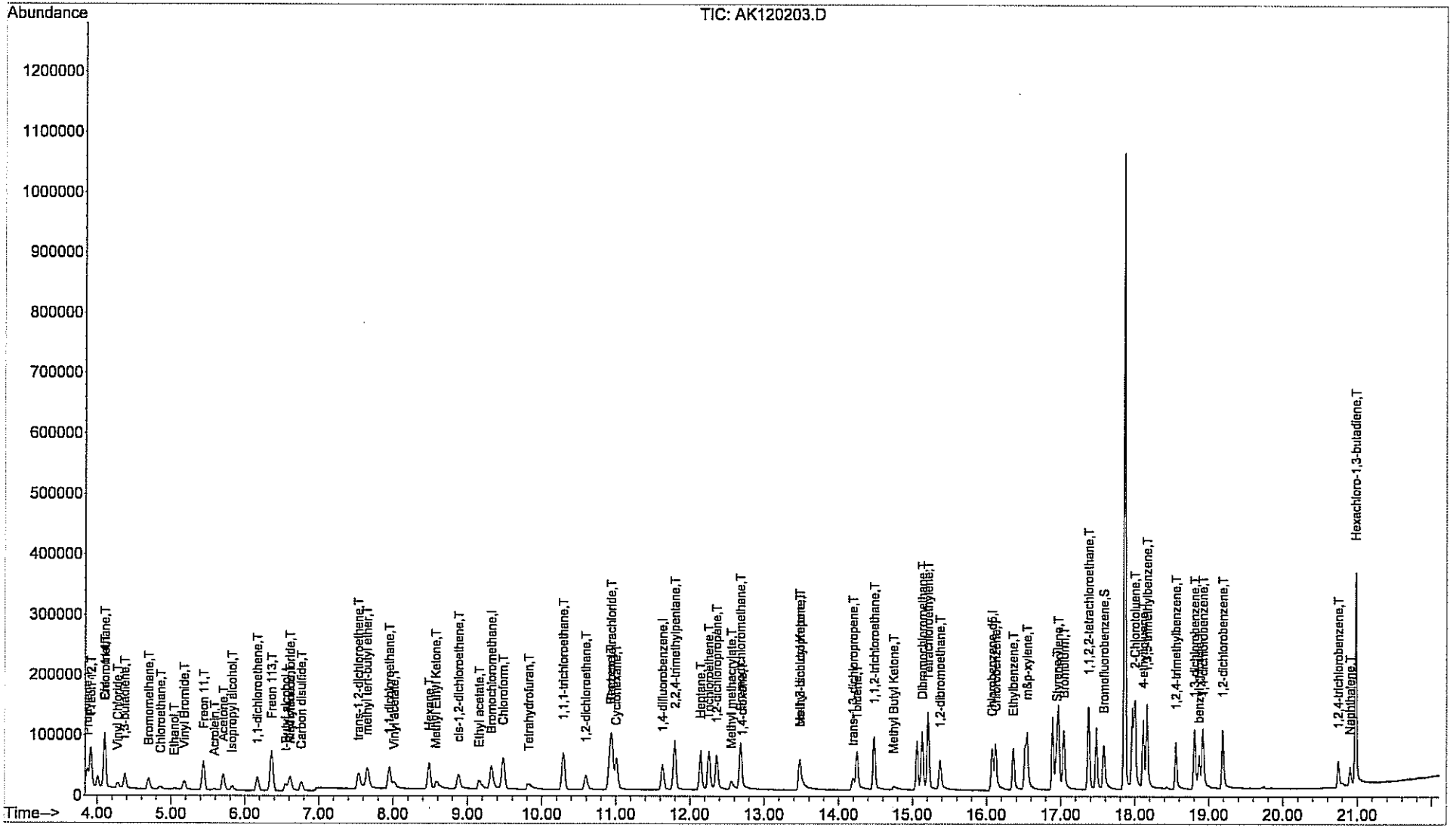
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
47)	trans-1,3-dichloropropene	14.19	75	19421	1.10	ppb	94
48)	1,1,2-trichloroethane	14.48	97	33835m	1.25	ppb	
50)	Toluene	14.25	92	31254	1.06	ppb	96
51)	Methyl Isobutyl Ketone	13.48	43	23671	0.99	ppb	93
52)	Dibromochloromethane	15.13	129	62314	1.22	ppb	99
53)	Methyl Butyl Ketone	14.75	43	14178m	0.72	ppb	
54)	1,2-dibromoethane	15.37	107	44133	1.19	ppb	98
55)	Tetrachloroethylene	15.21	164	35979	1.17	ppb	96
56)	Chlorobenzene	16.12	112	55895	1.11	ppb	98
57)	Ethylbenzene	16.36	91	54857	0.99	ppb	99
58)	m&p-xylene	16.55	91	103523	2.16	ppb	97
59)	Styrene	16.94	104	44685	1.18	ppb	93
60)	Bromoform	17.04	173	56410	1.04	ppb	99
61)	o-xylene	16.97	91	87540	1.22	ppb	97
63)	1,1,2,2-tetrachloroethane	17.37	83	81522	1.25	ppb	99
64)	2-Chlorotoluene	18.00	91	88519m	1.20	ppb	
65)	4-ethyltoluene	18.11	105	67420m	1.12	ppb	
66)	1,3,5-trimethylbenzene	18.16	105	85716m	1.22	ppb	
67)	1,2,4-trimethylbenzene	18.55	105	45930	0.95	ppb	97
68)	1,3-dichlorobenzene	18.80	146	53432	1.17	ppb	98
69)	benzyl chloride	18.87	91	46960	1.27	ppb	96
70)	1,4-dichlorobenzene	18.92	146	50952	1.10	ppb	96
72)	1,2-dichlorobenzene	19.19	146	51320	1.04	ppb	99
73)	1,2,4-trichlorobenzene	20.75	180	19041	0.79	ppb	91
74)	Naphthalene	20.90	128	42032m	0.91	ppb	
75)	Hexachloro-1,3-butadiene	20.98	225	69689	1.30	ppb	98

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK120203.D Vial: 3
Acq On : 2 Dec 2013 9:21 am Operator: RJP
Sample : A1UG_1.0 Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Dec 2 10:12 2013 Quant Results File: AO15_1UG.RES

Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Wed Dec 11 12:48:42 2013
Response via : Initial Calibration



GC/MS VOLATILES-WHOLE AIR

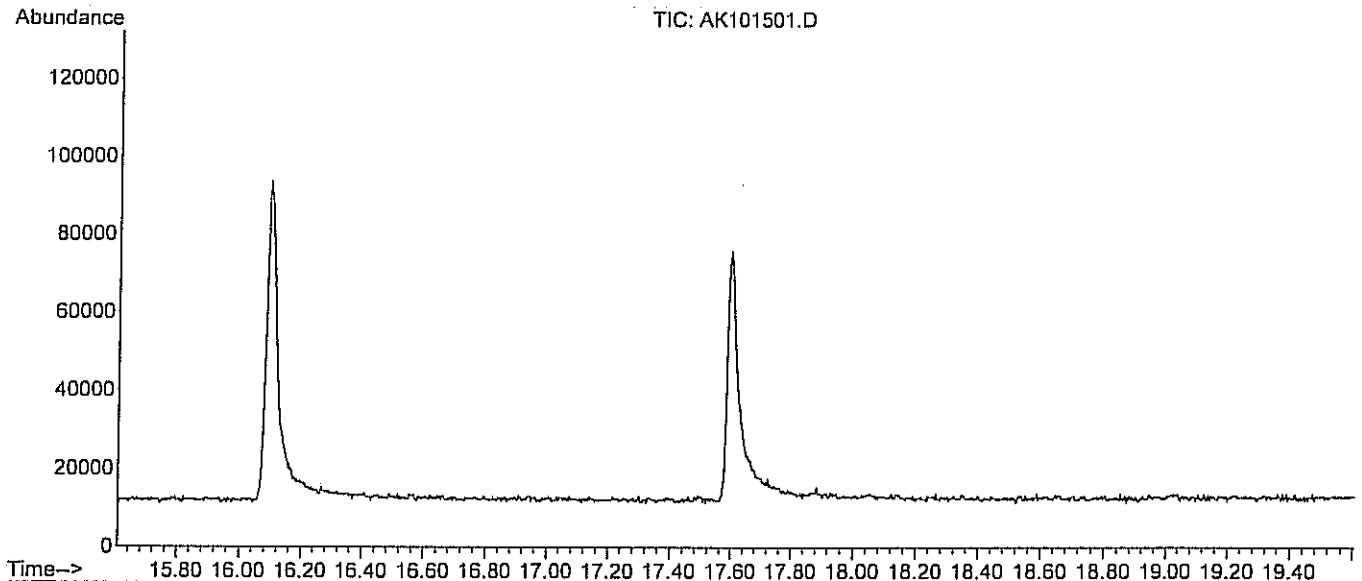
METHOD TO-15

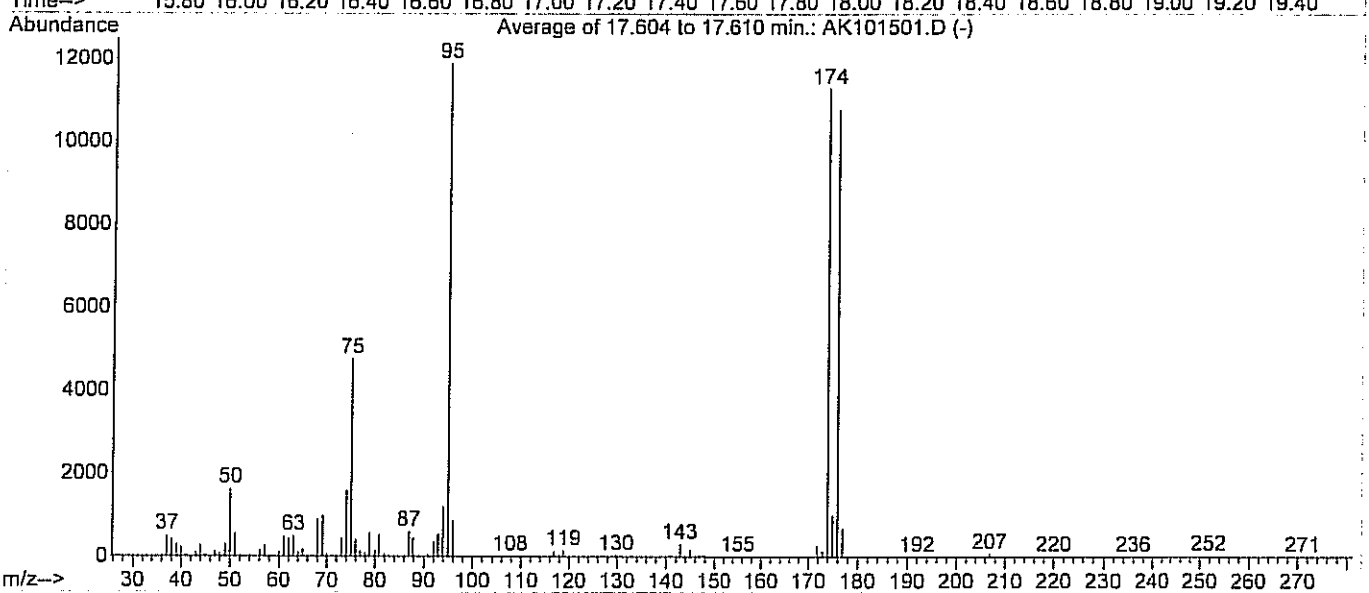
RAW DATA

BFB

Data File : C:\HPCHEM\1\DATA\AK101501.D
Acq On : 15 Oct 2013 10:08 am
Sample : BFB1UG
Misc : AO13_1UG
MS Integration Params: RTEINT.P
Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration

Vial: 1
Operator: RJP
Inst : MSD #1
Multiplr: 1.00





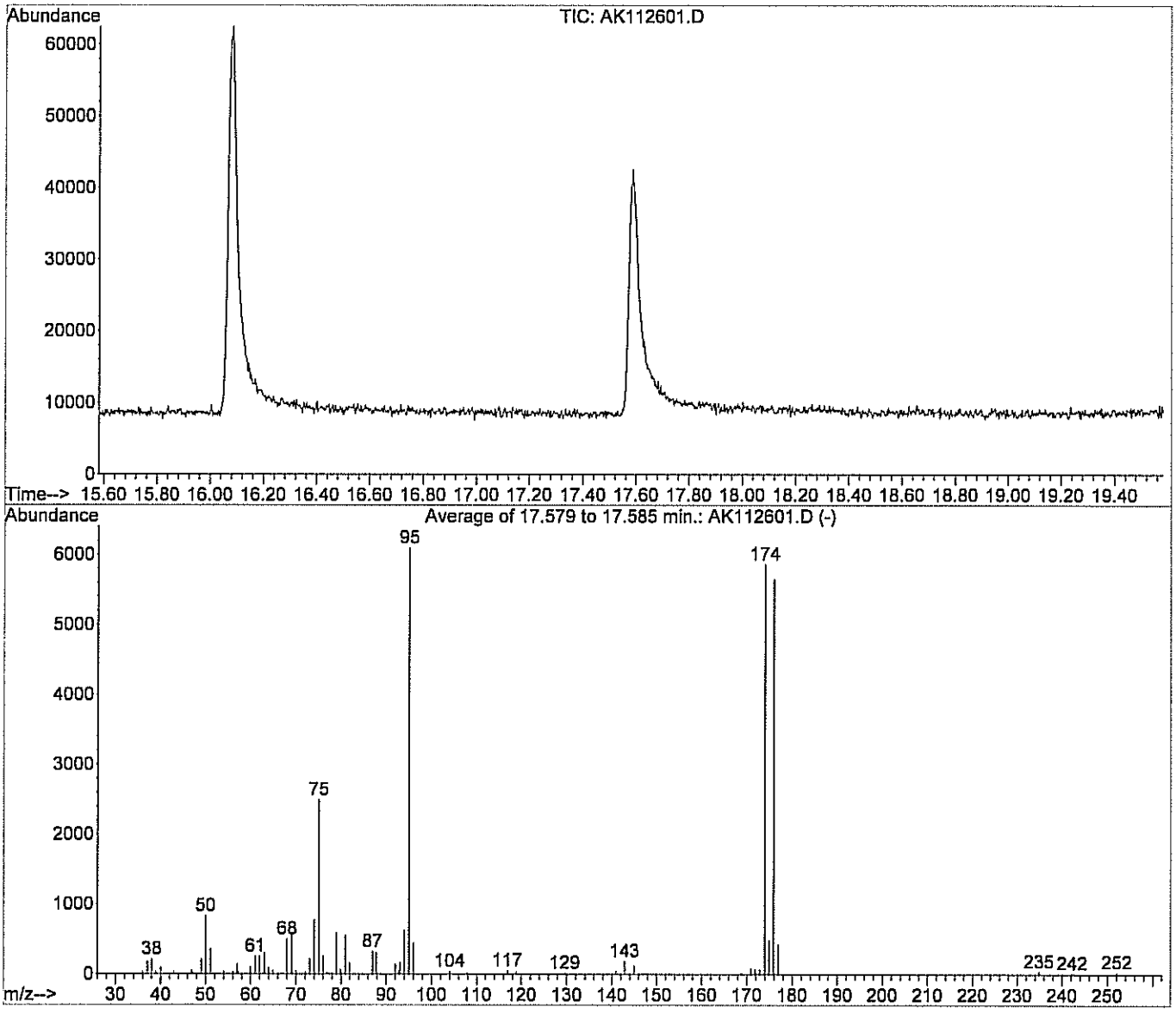
Spectrum Information: Average of 17.604 to 17.610 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	13.8	1642	PASS
75	95	30	66	40.1	4772	PASS
95	95	100	100	100.0	11905	PASS
96	95	5	9	7.3	868	PASS
173	174	0.00	2	1.3	143	PASS
174	95	50	120	95.0	11307	PASS
175	174	4	9	8.9	1007	PASS
176	174	95	101	95.5	10797	PASS
177	176	5	9	6.4	692	PASS

AK101501.D AO15_1UG.M Sun Nov 17 10:16:50 2013 MSD1

BFB

Data File : C:\HPCHEM\1\DATA\AK112601.D Vial: 1
Acq On : 26 Nov 2013 9:18 am Operator: RJP
Sample : BFB1UG Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration



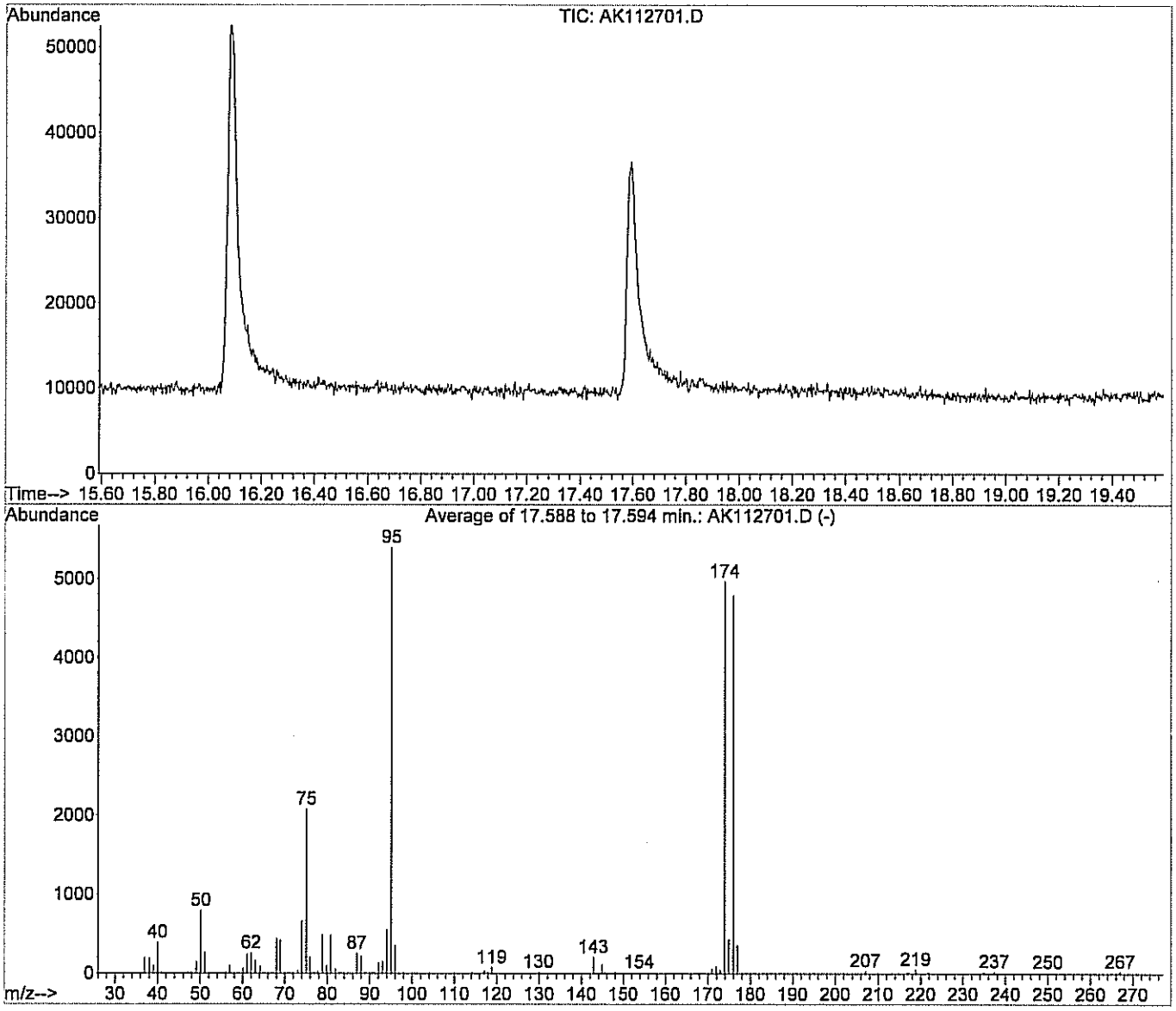
Spectrum Information: Average of 17.579 to 17.585 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	13.7	837	PASS
75	95	30	66	41.0	2499	PASS
95	95	100	100	100.0	6099	PASS
96	95	5	9	7.4	451	PASS
173	174	0.00	2	1.2	72	PASS
174	95	50	120	96.2	5866	PASS
175	174	4	9	8.3	485	PASS
176	174	95	101	96.4	5657	PASS
177	176	5	9	7.5	426	PASS

AK112601.D AO15_1UG.M Wed Dec 11 13:37:36 2013 MSD1

BFB

Data File : C:\HPCHEM\1\DATA\AK112701.D Vial: 1
Acq On : 27 Nov 2013 8:49 am Operator: RJP
Sample : BFB1UG Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration



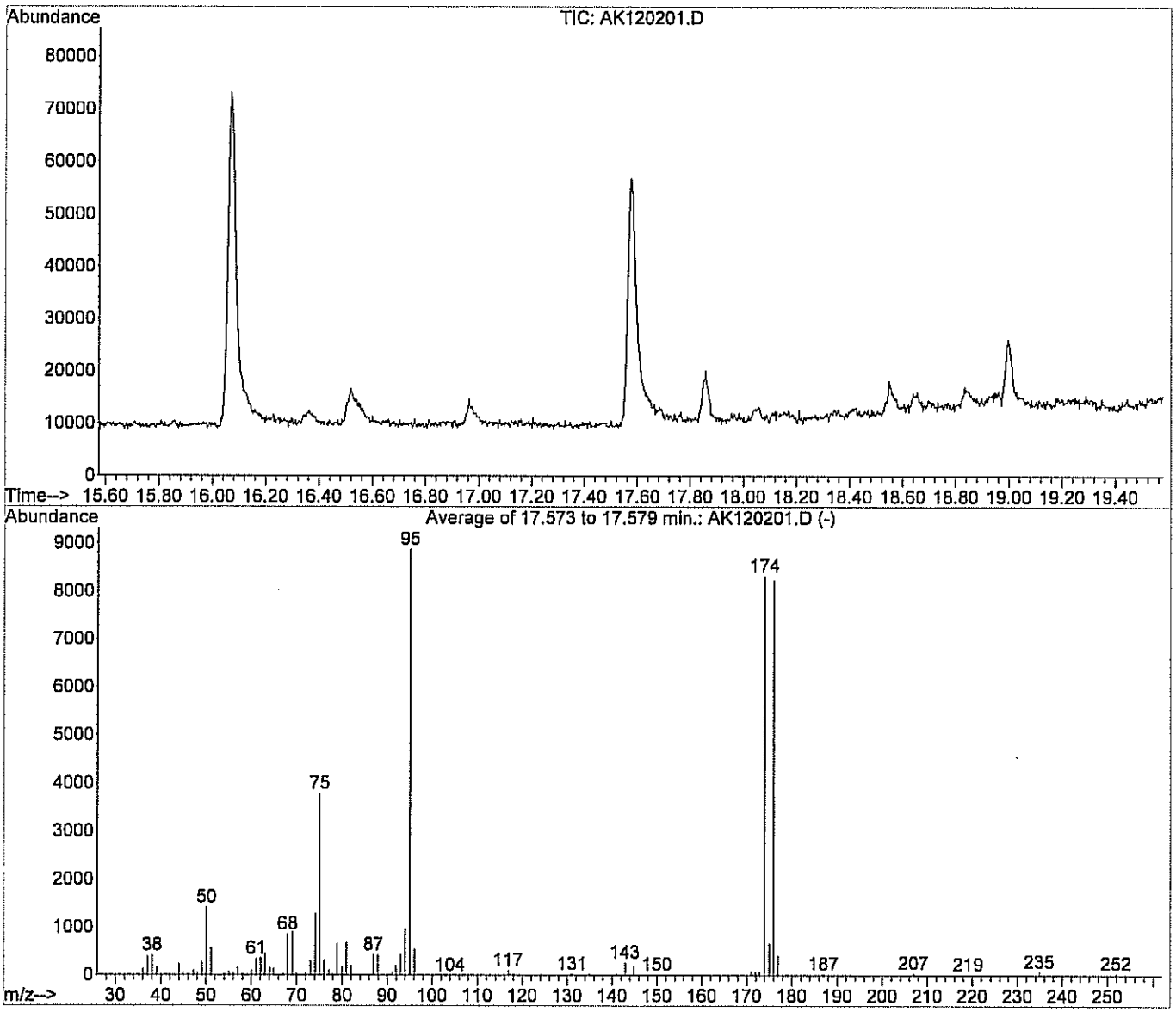
Spectrum Information: Average of 17.588 to 17.594 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	14.8	800	PASS
75	95	30	66	38.5	2081	PASS
95	95	100	100	100.0	5404	PASS
96	95	5	9	6.6	357	PASS
173	174	0.00	2	0.9	44	PASS
174	95	50	120	92.1	4975	PASS
175	174	4	9	8.8	437	PASS
176	174	95	101	96.4	4795	PASS
177	176	5	9	7.6	365	PASS

AK112701.D AO15_1UG.M Wed Dec 11 13:39:09 2013 MSD1

BFB

Data File : C:\HPCHEM\1\DATA\AK120201.D Vial: 1
Acq On : 2 Dec 2013 8:07 am Operator: RJP
Sample : BFB1UG Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration



Spectrum Information: Average of 17.573 to 17.579 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	16.0	1424	PASS
75	95	30	66	42.7	3791	PASS
95	95	100	100	100.0	8882	PASS
96	95	5	9	6.0	535	PASS
173	174	0.00	2	0.9	71	PASS
174	95	50	120	93.7	8325	PASS
175	174	4	9	8.0	666	PASS
176	174	95	101	98.9	8237	PASS
177	176	5	9	5.0	412	PASS

AK120201.D AO15_1UG.M Wed Dec 11 13:41:15 2013 MSD1

GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

RAW QC DATA

Date: *11-Dec-13*

CENTEK LABORATORIES, LLC

ANALYTICAL QC SUMMARY REPORT

CLIENT: HDR Engineering
Work Order: C1311058
Project: Aluminum Louvre

TestCode: 0.25CT-TCE-VC

Sample ID	AMB1UG-112613	SampType:	MBLK	TestCode:	0.25CT-TCE-	Units:	ppbV	Prep Date:		RunNo:	7723
Client ID:	ZZZZZ	Batch ID:	R7723	TestNo:	TO-15			Analysis Date:	11/26/2013	SeqNo:	91602

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	< 0.15	0.15									
1,1,2,2-Tetrachloroethane	< 0.15	0.15									
1,1,2-Trichloroethane	< 0.15	0.15									
1,1-Dichloroethane	< 0.15	0.15									
1,1-Dichloroethene	< 0.15	0.15									
1,2,4-Trichlorobenzene	< 0.15	0.15									
1,2,4-Trimethylbenzene	< 0.15	0.15									
1,2-Dibromoethane	< 0.15	0.15									
1,2-Dichlorobenzene	< 0.15	0.15									
1,2-Dichloroethane	< 0.15	0.15									
1,2-Dichloropropane	< 0.15	0.15									
1,3,5-Trimethylbenzene	< 0.15	0.15									
1,3-butadiene	< 0.15	0.15									
1,3-Dichlorobenzene	< 0.15	0.15									
1,4-Dichlorobenzene	< 0.15	0.15									
1,4-Dioxane	< 0.30	0.30									
2,2,4-trimethylpentane	< 0.15	0.15									
4-ethyltoluene	< 0.15	0.15									
Acetone	< 0.30	0.30									
Allyl chloride	< 0.15	0.15									
Benzene	< 0.15	0.15									
Benzyl chloride	< 0.15	0.15									
Bromodichloromethane	< 0.15	0.15									
Bromoform	< 0.15	0.15									
Bromomethane	< 0.15	0.15									

Qualifiers:

.	Results reported are not blank corrected	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected at or below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike Recovery outside accepted recovery limits				

CLIENT: HDR Engineering
Work Order: C1311058
Project: Aluminum Louvre

TestCode: 0.25CT-TCE-VC

Sample ID	AMB1UG-112613	SampType:	MBLK	TestCode:	0.25CT-TCE-	Units:	ppbV	Prep Date:		RunNo:	7723
Client ID:	ZZZZZ	Batch ID:	R7723	TestNo:	TO-15			Analysis Date:	11/26/2013	SeqNo:	91602

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Carbon disulfide	< 0.15	0.15									
Carbon tetrachloride	< 0.040	0.040									
Chlorobenzene	< 0.15	0.15									
Chloroethane	< 0.15	0.15									
Chloroform	< 0.15	0.15									
Chloromethane	< 0.15	0.15									
cis-1,2-Dichloroethene	< 0.15	0.15									
cis-1,3-Dichloropropene	< 0.15	0.15									
Cyclohexane	< 0.15	0.15									
Dibromochloromethane	< 0.15	0.15									
Ethyl acetate	< 0.25	0.25									
Ethylbenzene	< 0.15	0.15									
Freon 11	< 0.15	0.15									
Freon 113	< 0.15	0.15									
Freon 114	< 0.15	0.15									
Freon 12	< 0.15	0.15									
Heptane	< 0.15	0.15									
Hexachloro-1,3-butadiene	< 0.15	0.15									
Hexane	< 0.15	0.15									
Isopropyl alcohol	< 0.15	0.15									
m&p-Xylene	< 0.30	0.30									
Methyl Butyl Ketone	< 0.30	0.30									
Methyl Ethyl Ketone	< 0.30	0.30									
Methyl Isobutyl Ketone	< 0.30	0.30									
Methyl tert-butyl ether	< 0.15	0.15									
Methylene chloride	< 0.15	0.15									
o-Xylene	< 0.15	0.15									
Propylene	< 0.15	0.15									
Styrene	< 0.15	0.15									
Tetrachloroethylene	< 0.15	0.15									
Tetrahydrofuran	< 0.15	0.15									

Qualifiers:

.	Results reported are not blank corrected	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected at or below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike Recovery outside accepted recovery limits				

CLIENT: HDR Engineering
Work Order: C1311058
Project: Aluminum Louvre

TestCode: 0.25CT-TCE-VC

Sample ID AMB1UG-112613	SampType: MBLK	TestCode: 0.25CT-TCE-	Units: ppbV	Prep Date:	RunNo: 7723
Client ID: ZZZZZ	Batch ID: R7723	TestNo: TO-15		Analysis Date: 11/26/2013	SeqNo: 91602

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Toluene	< 0.15	0.15									
trans-1,2-Dichloroethene	< 0.15	0.15									
trans-1,3-Dichloropropene	< 0.15	0.15									
Trichloroethene	< 0.040	0.040									
Vinyl acetate	< 0.15	0.15									
Vinyl Bromide	< 0.15	0.15									
Vinyl chloride	< 0.040	0.040									

Sample ID AMB1UG-112713	SampType: MBLK	TestCode: 0.25CT-TCE-	Units: ppbV	Prep Date:	RunNo: 7724
Client ID: ZZZZZ	Batch ID: R7724	TestNo: TO-15		Analysis Date: 11/27/2013	SeqNo: 91612

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	< 0.15	0.15									
1,1,2,2-Tetrachloroethane	< 0.15	0.15									
1,1,2-Trichloroethane	< 0.15	0.15									
1,1-Dichloroethane	< 0.15	0.15									
1,1-Dichloroethene	< 0.15	0.15									
1,2,4-Trichlorobenzene	< 0.15	0.15									
1,2,4-Trimethylbenzene	< 0.15	0.15									
1,2-Dibromoethane	< 0.15	0.15									
1,2-Dichlorobenzene	< 0.15	0.15									
1,2-Dichloroethane	< 0.15	0.15									
1,2-Dichloropropane	< 0.15	0.15									
1,3,5-Trimethylbenzene	< 0.15	0.15									
1,3-butadiene	< 0.15	0.15									
1,3-Dichlorobenzene	< 0.15	0.15									
1,4-Dichlorobenzene	< 0.15	0.15									
1,4-Dioxane	< 0.30	0.30									
2,2,4-trimethylpentane	< 0.15	0.15									
4-ethyltoluene	< 0.15	0.15									

Qualifiers:

.	Results reported are not blank corrected	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected at or below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike Recovery outside accepted recovery limits				

CLIENT: HDR Engineering
Work Order: C1311058
Project: Aluminum Louvre

TestCode: 0.25CT-TCE-VC

Sample ID	AMB1UG-112713	SampType:	MBLK	TestCode:	0.25CT-TCE-	Units:	ppbV	Prep Date:		RunNo:	7724
Client ID:	ZZZZZ	Batch ID:	R7724	TestNo:	TO-15			Analysis Date:	11/27/2013	SeqNo:	91612

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acetone	< 0.30	0.30									
Allyl chloride	< 0.15	0.15									
Benzene	< 0.15	0.15									
Benzyl chloride	< 0.15	0.15									
Bromodichloromethane	< 0.15	0.15									
Bromoform	< 0.15	0.15									
Bromomethane	< 0.15	0.15									
Carbon disulfide	< 0.15	0.15									
Carbon tetrachloride	< 0.040	0.040									
Chlorobenzene	< 0.15	0.15									
Chloroethane	< 0.15	0.15									
Chloroform	< 0.15	0.15									
Chloromethane	< 0.15	0.15									
cis-1,2-Dichloroethene	< 0.15	0.15									
cis-1,3-Dichloropropene	< 0.15	0.15									
Cyclohexane	< 0.15	0.15									
Dibromochloromethane	< 0.15	0.15									
Ethyl acetate	< 0.25	0.25									
Ethylbenzene	< 0.15	0.15									
Freon 11	< 0.15	0.15									
Freon 113	< 0.15	0.15									
Freon 114	< 0.15	0.15									
Freon 12	< 0.15	0.15									
Heptane	< 0.15	0.15									
Hexachloro-1,3-butadiene	< 0.15	0.15									
Hexane	< 0.15	0.15									
Isopropyl alcohol	< 0.15	0.15									
m&p-Xylene	< 0.30	0.30									
Methyl Butyl Ketone	< 0.30	0.30									
Methyl Ethyl Ketone	< 0.30	0.30									
Methyl Isobutyl Ketone	< 0.30	0.30									

Qualifiers:

.	Results reported are not blank corrected	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected at or below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike Recovery outside accepted recovery limits				

CLIENT: HDR Engineering
Work Order: C1311058
Project: Aluminum Louvre

TestCode: 0.25CT-TCE-VC

Sample ID	AMB1UG-112713	SampType:	MBLK	TestCode:	0.25CT-TCE-	Units:	ppbV	Prep Date:		RunNo:	7724
Client ID:	ZZZZZ	Batch ID:	R7724	TestNo:	TO-15			Analysis Date:	11/27/2013	SeqNo:	91612

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether	< 0.15	0.15									
Methylene chloride	< 0.15	0.15									
o-Xylene	< 0.15	0.15									
Propylene	< 0.15	0.15									
Styrene	< 0.15	0.15									
Tetrachloroethylene	< 0.15	0.15									
Tetrahydrofuran	< 0.15	0.15									
Toluene	< 0.15	0.15									
trans-1,2-Dichloroethene	< 0.15	0.15									
trans-1,3-Dichloropropene	< 0.15	0.15									
Trichloroethene	< 0.040	0.040									
Vinyl acetate	< 0.15	0.15									
Vinyl Bromide	< 0.15	0.15									
Vinyl chloride	< 0.040	0.040									

Qualifiers:

.	Results reported are not blank corrected	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected at or below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike Recovery outside accepted recovery limits				

CLIENT: HDR Engineering
Work Order: C1311058
Project: Aluminum Louvre

TestCode: 1ugM3_TO15

Sample ID	AMB1UG-120213	SampType:	MBLK	TestCode:	1ugM3_TO15	Units:	ppbV	Prep Date:		RunNo:	7725
Client ID:	ZZZZZ	Batch ID:	R7725	TestNo:	TO-15			Analysis Date:	12/2/2013	SeqNo:	91629

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	< 0.15	0.15									
1,1,2,2-Tetrachloroethane	< 0.15	0.15									
1,1,2-Trichloroethane	< 0.15	0.15									
1,1-Dichloroethane	< 0.15	0.15									
1,1-Dichloroethene	< 0.15	0.15									
1,2,4-Trichlorobenzene	< 0.15	0.15									
1,2,4-Trimethylbenzene	< 0.15	0.15									
1,2-Dibromoethane	< 0.15	0.15									
1,2-Dichlorobenzene	< 0.15	0.15									
1,2-Dichloroethane	< 0.15	0.15									
1,2-Dichloropropane	< 0.15	0.15									
1,3,5-Trimethylbenzene	< 0.15	0.15									
1,3-butadiene	< 0.15	0.15									
1,3-Dichlorobenzene	< 0.15	0.15									
1,4-Dichlorobenzene	< 0.15	0.15									
1,4-Dioxane	< 0.30	0.30									
2,2,4-trimethylpentane	< 0.15	0.15									
4-ethyltoluene	< 0.15	0.15									
Acetone	< 0.30	0.30									
Allyl chloride	< 0.15	0.15									
Benzene	< 0.15	0.15									
Benzyl chloride	< 0.15	0.15									
Bromodichloromethane	< 0.15	0.15									
Bromoform	< 0.15	0.15									
Bromomethane	< 0.15	0.15									
Carbon disulfide	< 0.15	0.15									
Carbon tetrachloride	< 0.15	0.15									
Chlorobenzene	< 0.15	0.15									
Chloroethane	< 0.15	0.15									
Chloroform	< 0.15	0.15									
Chloromethane	< 0.15	0.15									

Qualifiers:

.	Results reported are not blank corrected	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected at or below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike Recovery outside accepted recovery limits				

CLIENT: HDR Engineering
Work Order: CI311058
Project: Aluminum Louvre

TestCode: 1ugM3_TO15

Sample ID	AMB1UG-120213	SampType:	MBLK	TestCode:	1ugM3_TO15	Units:	ppbV	Prep Date:		RunNo:	7725
Client ID:	ZZZZZ	Batch ID:	R7725	TestNo:	TO-15			Analysis Date:	12/2/2013	SeqNo:	91629

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
cis-1,2-Dichloroethene	< 0.15	0.15									
cis-1,3-Dichloropropene	< 0.15	0.15									
Cyclohexane	< 0.15	0.15									
Dibromochloromethane	< 0.15	0.15									
Ethyl acetate	< 0.25	0.25									
Ethylbenzene	< 0.15	0.15									
Freon 11	< 0.15	0.15									
Freon 113	< 0.15	0.15									
Freon 114	< 0.15	0.15									
Freon 12	< 0.15	0.15									
Heptane	< 0.15	0.15									
Hexachloro-1,3-butadiene	< 0.15	0.15									
Hexane	< 0.15	0.15									
Isopropyl alcohol	< 0.15	0.15									
m&p-Xylene	< 0.30	0.30									
Methyl Butyl Ketone	< 0.30	0.30									
Methyl Ethyl Ketone	< 0.30	0.30									
Methyl Isobutyl Ketone	< 0.30	0.30									
Methyl tert-butyl ether	< 0.15	0.15									
Methylene chloride	< 0.15	0.15									
o-Xylene	< 0.15	0.15									
Propylene	< 0.15	0.15									
Styrene	< 0.15	0.15									
Tetrachloroethylene	< 0.15	0.15									
Tetrahydrofuran	< 0.15	0.15									
Toluene	< 0.15	0.15									
trans-1,2-Dichloroethene	< 0.15	0.15									
trans-1,3-Dichloropropene	< 0.15	0.15									
Trichloroethene	< 0.15	0.15									
Vinyl acetate	< 0.15	0.15									
Vinyl Bromide	< 0.15	0.15									

Qualifiers:

.	Results reported are not blank corrected	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected at or below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike Recovery outside accepted recovery limits				

CLIENT: HDR Engineering
Work Order: C1311058
Project: Aluminum Louvre

TestCode: 1ugM3_TO15

Sample ID	AMB1UG-120213	SampType:	MBLK	TestCode:	1ugM3_TO15	Units:	ppbV	Prep Date:		RunNo:	7725
Client ID:	ZZZZZ	Batch ID:	R7725	TestNo:	TO-15			Analysis Date:	12/2/2013	SeqNo:	91629

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	< 0.15	0.15									

Qualifiers:

.	Results reported are not blank corrected	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected at or below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike Recovery outside accepted recovery limits				

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK112604.D Vial: 4
Acq On : 26 Nov 2013 11:33 am Operator: RJP
Sample : AMB1UG-112613 Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 26 14:41:55 2013 Quant Results File: AO15_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Oct 15 18:12:29 2013
Response via : Initial Calibration
DataAcq Meth : 1UG_T015

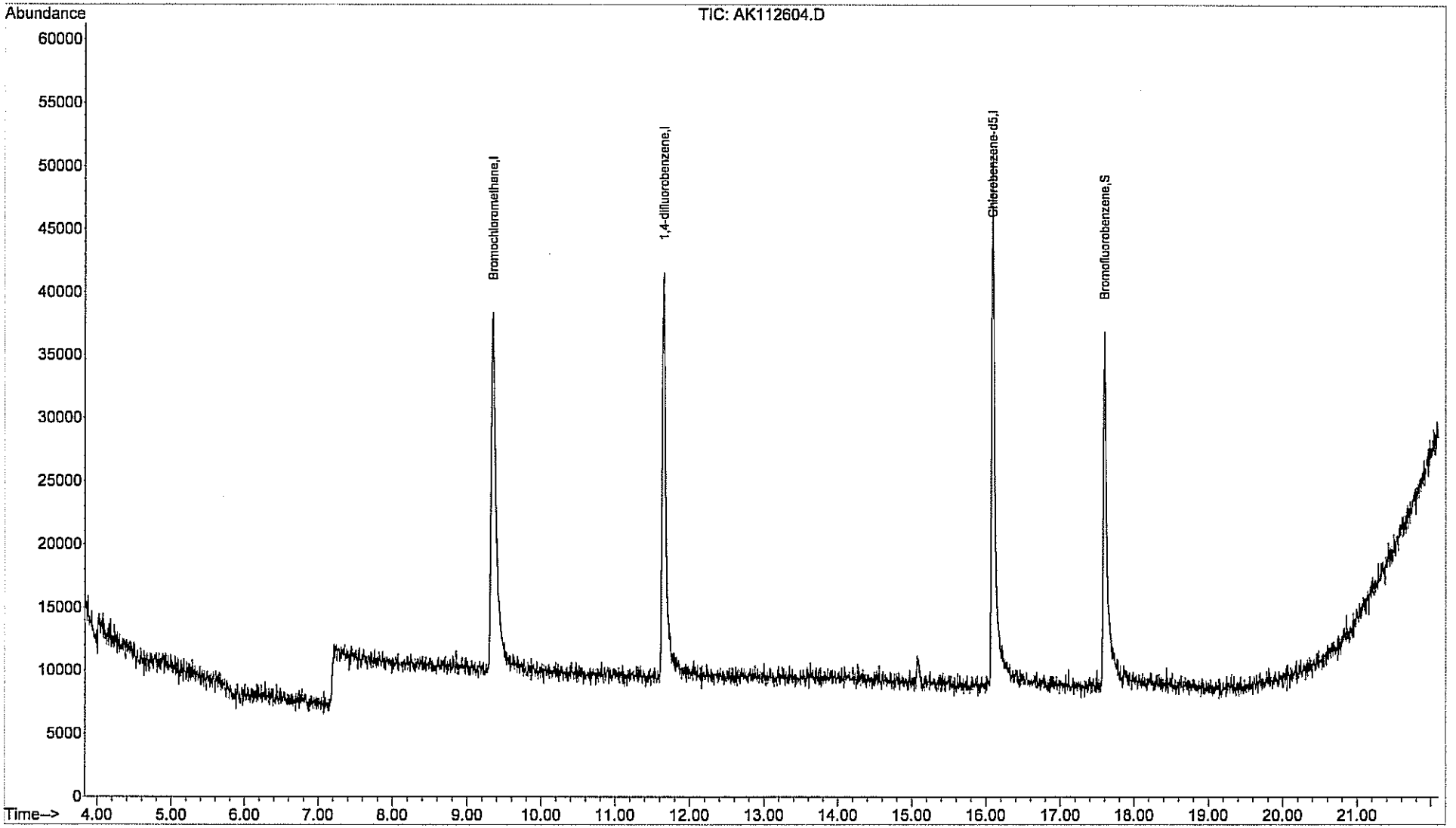
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.35	128	20232	1.00	ppb	-0.01
34) 1,4-difluorobenzene	11.65	114	46294	1.00	ppb	-0.02
49) Chlorobenzene-d5	16.09	117	45340	1.00	ppb	0.00
System Monitoring Compounds						
62) Bromofluorobenzene	17.60	95	20895m	0.78	ppb	0.00
Spiked Amount 1.000	Range 70 - 130		Recovery = 78.00%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed
AK112604.D AO15_1UG.M Wed Dec 11 13:28:10 2013 MSD1 Page 1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK112604.D Vial: 4
Acq On : 26 Nov 2013 11:33 am Operator: RJP
Sample : AMB1UG-112613 Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 26 14:42 2013 Quant Results File: AO15_1UG.RES

Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Wed Dec 11 12:48:42 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK112704.D Vial: 4
Acq On : 27 Nov 2013 11:04 am Operator: RJP
Sample : AMB1UG-112713 Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 29 10:55:55 2013 Quant Results File: AO15_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Oct 15 18:12:29 2013
Response via : Initial Calibration
DataAcq Meth : 1UG_T015

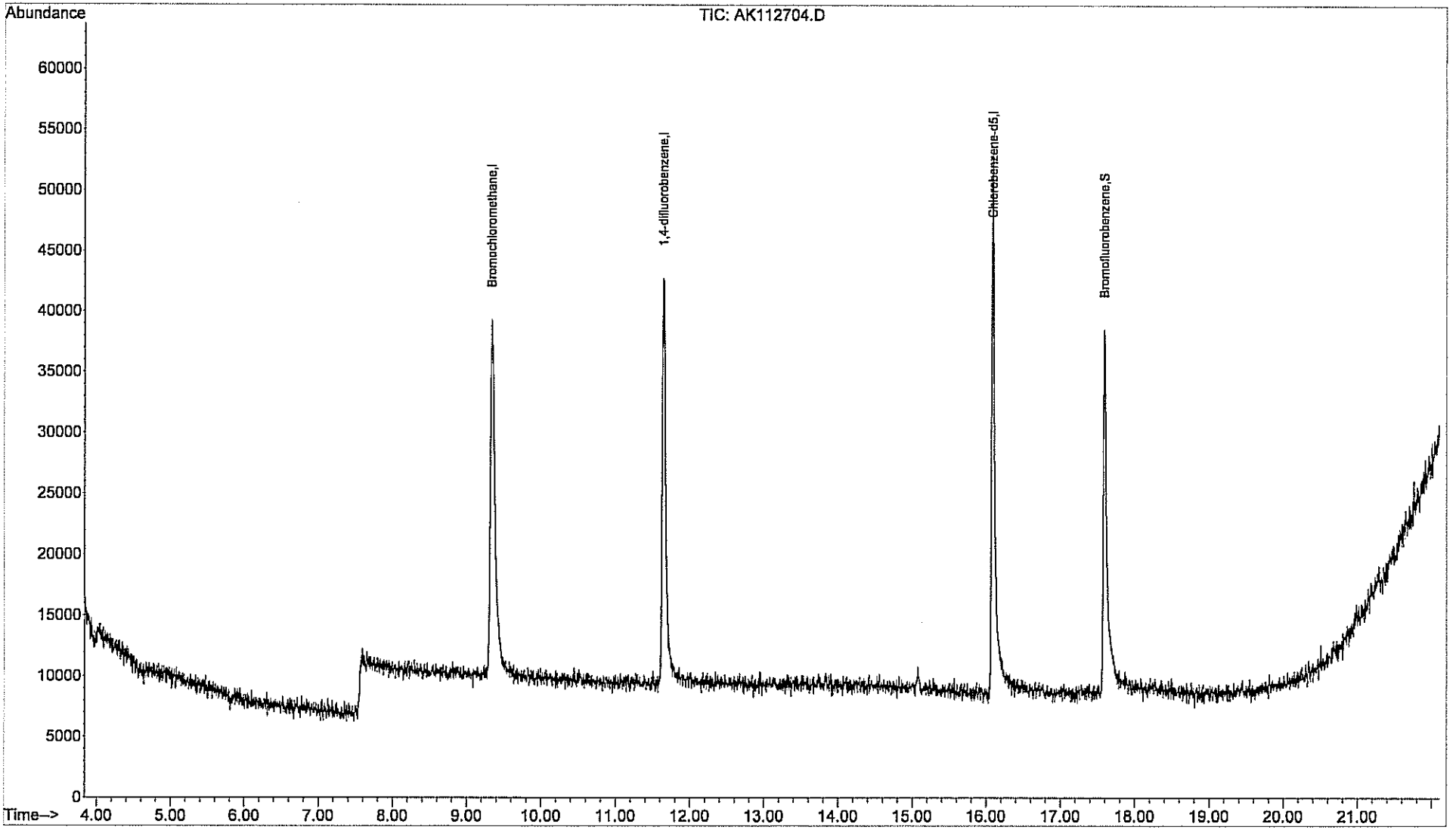
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.34	128	20094	1.00	ppb	-0.02
34) 1,4-difluorobenzene	11.64	114	47144	1.00	ppb	-0.02
49) Chlorobenzene-d5	16.09	117	44468	1.00	ppb	-0.01
System Monitoring Compounds						
62) Bromofluorobenzene	17.59	95	19925m	0.76	ppb	-0.01
Spiked Amount 1.000	Range 70 - 130		Recovery = 76.00%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed
AK112704.D AO15_1UG.M Wed Dec 11 13:28:18 2013 MSD1 Page 1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK112704.D Vial: 4
Acq On : 27 Nov 2013 11:04 am Operator: RJP
Sample : AMB1UG-112713 Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Dec 2 14:33 2013 Quant Results File: AO15_1UG.RES

Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Wed Dec 11 12:48:42 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK120204.D Vial: 4
Acq On : 2 Dec 2013 9:57 am Operator: RJP
Sample : AMB1UG-120213 Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Dec 02 15:12:54 2013 Quant Results File: AO15_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Oct 15 18:12:29 2013
Response via : Initial Calibration
DataAcq Meth : 1UG_T015

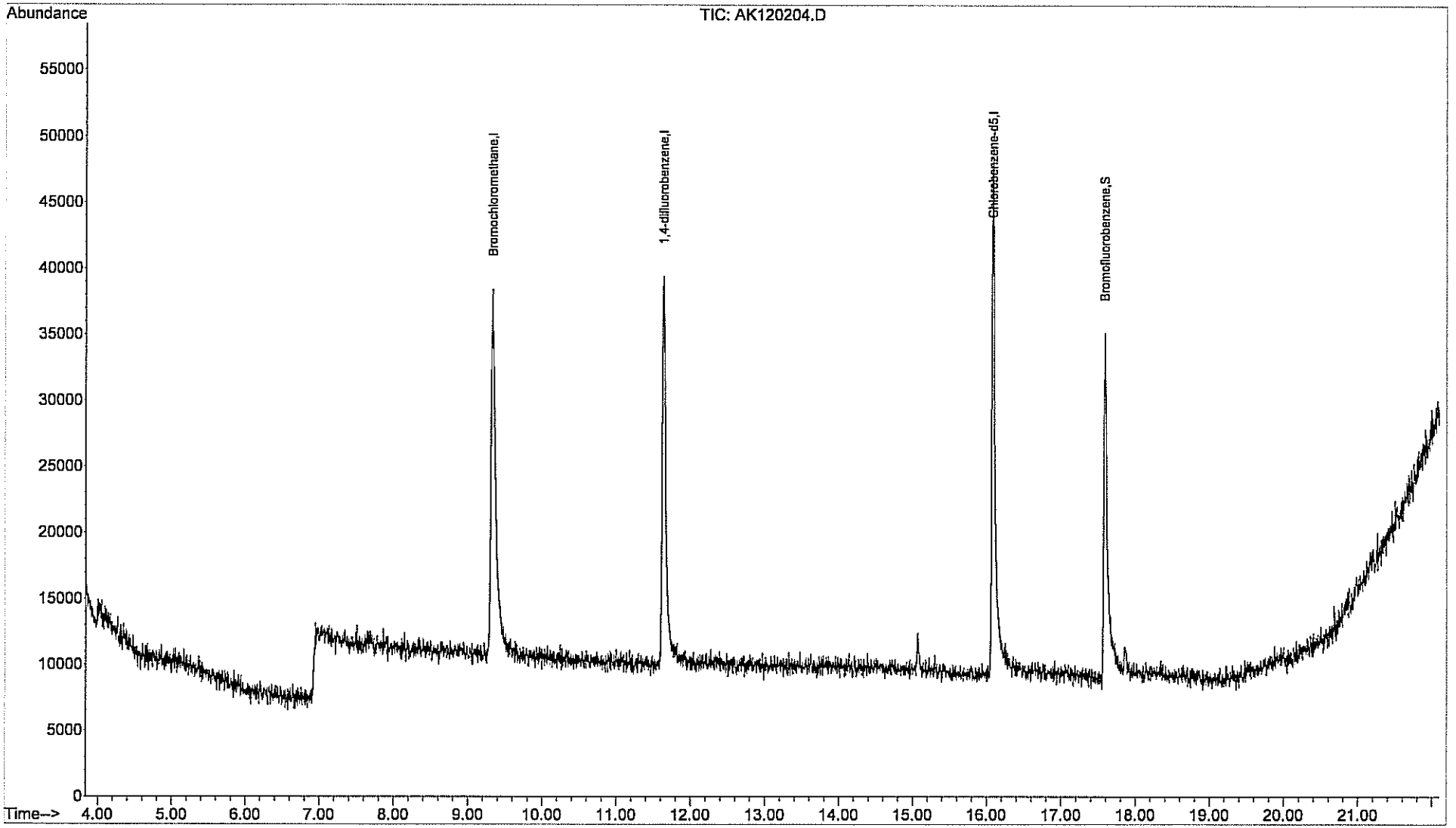
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.33	128	18031	1.00	ppb	-0.03
34) 1,4-difluorobenzene	11.64	114	40525	1.00	ppb	-0.02
49) Chlorobenzene-d5	16.08	117	40133	1.00	ppb	-0.02
System Monitoring Compounds						
62) Bromofluorobenzene	17.58	95	17304m	0.73	ppb	-0.02
Spiked Amount 1.000	Range 70 - 130		Recovery = 73.00%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed
AK120204.D AO15_1UG.M Wed Dec 11 13:28:30 2013 MSD1 Page 1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK120204.D Vial: 4
Acq On : 2 Dec 2013 9:57 am Operator: RJP
Sample : AMB1UG-120213 Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Dec 2 15:14 2013 Quant Results File: AO15_1UG.RES

Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Wed Dec 11 12:48:42 2013
Response via : Initial Calibration



CENTEK LABORATORIES, LLC

Date: *11-Dec-13*

ANALYTICAL QC SUMMARY REPORT

CLIENT: HDR Engineering
Work Order: C1311058
Project: Aluminum Louvre

TestCode: 0.25CT-TCE-VC

Sample ID	ALCS1UG-112613	SampType:	LCS	TestCode:	0.25CT-TCE-	Units:	ppbV	Prep Date:		RunNo:	7723
Client ID:	ZZZZZ	Batch ID:	R7723	TestNo:	TO-15			Analysis Date:	11/26/2013	SeqNo:	91603

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	1.260	0.15	1	0	126	70	130				
1,1,2,2-Tetrachloroethane	1.180	0.15	1	0	118	70	130				
1,1,2-Trichloroethane	1.290	0.15	1	0	129	70	130				
1,1-Dichloroethane	0.9900	0.15	1	0	99.0	70	130				
1,1-Dichloroethene	0.8000	0.15	1	0	80.0	70	130				
1,2,4-Trichlorobenzene	0.8800	0.15	1	0	88.0	70	130				
1,2,4-Trimethylbenzene	0.8500	0.15	1	0	85.0	70	130				
1,2-Dibromoethane	1.110	0.15	1	0	111	70	130				
1,2-Dichlorobenzene	0.9300	0.15	1	0	93.0	70	130				
1,2-Dichloroethane	0.9800	0.15	1	0	98.0	70	130				
1,2-Dichloropropane	1.230	0.15	1	0	123	70	130				
1,3,5-Trimethylbenzene	1.010	0.15	1	0	101	70	130				
1,3-butadiene	0.8500	0.15	1	0	85.0	70	130				
1,3-Dichlorobenzene	1.080	0.15	1	0	108	70	130				
1,4-Dichlorobenzene	1.010	0.15	1	0	101	70	130				
1,4-Dioxane	1.160	0.30	1	0	116	70	130				
2,2,4-trimethylpentane	1.060	0.15	1	0	106	70	130				
4-ethyltoluene	1.030	0.15	1	0	103	70	130				
Acetone	0.9700	0.30	1	0	97.0	70	130				
Allyl chloride	0.8200	0.15	1	0	82.0	70	130				
Benzene	1.150	0.15	1	0	115	70	130				
Benzyl chloride	1.080	0.15	1	0	108	70	130				
Bromodichloromethane	1.200	0.15	1	0	120	70	130				
Bromoform	1.130	0.15	1	0	113	70	130				
Bromomethane	0.8800	0.15	1	0	88.0	70	130				

Qualifiers:

.	Results reported are not blank corrected	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected at or below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike Recovery outside accepted recovery limits				

CLIENT: HDR Engineering
Work Order: C1311058
Project: Aluminum Louvre

TestCode: 0.25CT-TCE-VC

Sample ID	ALCS1UG-112613	SampType:	LCS	TestCode:	0.25CT-TCE-	Units:	ppbV	Prep Date:		RunNo:	7723
Client ID:	ZZZZZ	Batch ID:	R7723	TestNo:	TO-15			Analysis Date:	11/26/2013	SeqNo:	91603

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Carbon disulfide	0.7700	0.15	1	0	77.0	70	130				
Carbon tetrachloride	1.240	0.040	1	0	124	70	130				
Chlorobenzene	1.060	0.15	1	0	106	70	130				
Chloroethane	0.8300	0.15	1	0	83.0	70	130				
Chloroform	1.050	0.15	1	0	105	70	130				
Chloromethane	0.9500	0.15	1	0	95.0	70	130				
cis-1,2-Dichloroethene	0.8500	0.15	1	0	85.0	70	130				
cis-1,3-Dichloropropene	1.090	0.15	1	0	109	70	130				
Cyclohexane	1.030	0.15	1	0	103	70	130				
Dibromochloromethane	1.150	0.15	1	0	115	70	130				
Ethyl acetate	0.9100	0.25	1	0	91.0	70	130				
Ethylbenzene	0.9500	0.15	1	0	95.0	70	130				
Freon 11	1.010	0.15	1	0	101	70	130				
Freon 113	0.8900	0.15	1	0	89.0	70	130				
Freon 114	1.050	0.15	1	0	105	70	130				
Freon 12	1.140	0.15	1	0	114	70	130				
Heptane	1.020	0.15	1	0	102	70	130				
Hexachloro-1,3-butadiene	1.200	0.15	1	0	120	70	130				
Hexane	0.7500	0.15	1	0	75.0	70	130				
Isopropyl alcohol	0.8300	0.15	1	0	83.0	70	130				
m&p-Xylene	2.030	0.30	2	0	102	70	130				
Methyl Butyl Ketone	0.9000	0.30	1	0	90.0	70	130				
Methyl Ethyl Ketone	0.8800	0.30	1	0	88.0	70	130				
Methyl Isobutyl Ketone	0.9500	0.30	1	0	95.0	70	130				
Methyl tert-butyl ether	0.8000	0.15	1	0	80.0	70	130				
Methylene chloride	0.8300	0.15	1	0	83.0	70	130				
o-Xylene	1.160	0.15	1	0	116	70	130				
Propylene	1.000	0.15	1	0	100	70	130				
Styrene	1.130	0.15	1	0	113	70	130				
Tetrachloroethylene	1.110	0.15	1	0	111	70	130				
Tetrahydrofuran	0.8400	0.15	1	0	84.0	70	130				

Qualifiers:

.	Results reported are not blank corrected	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected at or below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike Recovery outside accepted recovery limits				

CLIENT: HDR Engineering
Work Order: C1311058
Project: Aluminum Louvre

TestCode: 0.25CT-TCE-VC

Sample ID ALCS1UG-112613	SampType: LCS	TestCode: 0.25CT-TCE-	Units: ppbV	Prep Date:	RunNo: 7723
Client ID: ZZZZZ	Batch ID: R7723	TestNo: TO-15		Analysis Date: 11/26/2013	SeqNo: 91603

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Toluene	1.000	0.15	1	0	100	70	130				
trans-1,2-Dichloroethene	1.110	0.15	1	0	111	70	130				
trans-1,3-Dichloropropene	1.030	0.15	1	0	103	70	130				
Trichloroethene	1.210	0.040	1	0	121	70	130				
Vinyl acetate	0.8100	0.15	1	0	81.0	70	130				
Vinyl Bromide	0.8200	0.15	1	0	82.0	70	130				
Vinyl chloride	0.8900	0.040	1	0	89.0	70	130				

Sample ID ALCS1UG-112713	SampType: LCS	TestCode: 0.25CT-TCE-	Units: ppbV	Prep Date:	RunNo: 7724
Client ID: ZZZZZ	Batch ID: R7724	TestNo: TO-15		Analysis Date: 11/27/2013	SeqNo: 91613

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	1.330	0.15	1	0	133	70	130				S
1,1,2,2-Tetrachloroethane	1.150	0.15	1	0	115	70	130				
1,1,2-Trichloroethane	1.370	0.15	1	0	137	70	130				S
1,1-Dichloroethane	1.020	0.15	1	0	102	70	130				
1,1-Dichloroethene	0.8000	0.15	1	0	80.0	70	130				
1,2,4-Trichlorobenzene	0.8400	0.15	1	0	84.0	70	130				
1,2,4-Trimethylbenzene	0.8100	0.15	1	0	81.0	70	130				
1,2-Dibromoethane	1.140	0.15	1	0	114	70	130				
1,2-Dichlorobenzene	0.9400	0.15	1	0	94.0	70	130				
1,2-Dichloroethane	0.9900	0.15	1	0	99.0	70	130				
1,2-Dichloropropane	1.220	0.15	1	0	122	70	130				
1,3,5-Trimethylbenzene	0.9400	0.15	1	0	94.0	70	130				
1,3-butadiene	0.9200	0.15	1	0	92.0	70	130				
1,3-Dichlorobenzene	1.030	0.15	1	0	103	70	130				
1,4-Dichlorobenzene	0.9400	0.15	1	0	94.0	70	130				
1,4-Dioxane	1.140	0.30	1	0	114	70	130				
2,2,4-trimethylpentane	1.110	0.15	1	0	111	70	130				
4-ethyltoluene	0.9000	0.15	1	0	90.0	70	130				

Qualifiers:

.	Results reported are not blank corrected	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected at or below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike Recovery outside accepted recovery limits				

CLIENT: HDR Engineering
Work Order: C1311058
Project: Aluminum Louvre

TestCode: 0.25CT-TCE-VC

Sample ID	ALCS1UG-112713	SampType:	LCS	TestCode:	0.25CT-TCE-	Units:	ppbV	Prep Date:		RunNo:	7724
Client ID:	ZZZZZ	Batch ID:	R7724	TestNo:	TO-15			Analysis Date:	11/27/2013	SeqNo:	91613

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acetone	0.9400	0.30	1	0	94.0	70	130				
Allyl chloride	1.150	0.15	1	0	115	70	130				
Benzene	1.210	0.15	1	0	121	70	130				
Benzyl chloride	0.9800	0.15	1	0	98.0	70	130				
Bromodichloromethane	1.300	0.15	1	0	130	70	130				
Bromoform	1.080	0.15	1	0	108	70	130				
Bromomethane	0.8900	0.15	1	0	89.0	70	130				
Carbon disulfide	1.640	0.15	1	0	164	70	130				S
Carbon tetrachloride	1.470	0.040	1	0	147	70	130				S
Chlorobenzene	1.060	0.15	1	0	106	70	130				
Chloroethane	0.8100	0.15	1	0	81.0	70	130				
Chloroform	1.080	0.15	1	0	108	70	130				
Chloromethane	0.9200	0.15	1	0	92.0	70	130				
cis-1,2-Dichloroethene	0.8800	0.15	1	0	88.0	70	130				
cis-1,3-Dichloropropene	1.120	0.15	1	0	112	70	130				
Cyclohexane	1.050	0.15	1	0	105	70	130				
Dibromochloromethane	1.210	0.15	1	0	121	70	130				
Ethyl acetate	0.8300	0.25	1	0	83.0	70	130				
Ethylbenzene	0.9100	0.15	1	0	91.0	70	130				
Freon 11	1.040	0.15	1	0	104	70	130				
Freon 113	0.9300	0.15	1	0	93.0	70	130				
Freon 114	1.010	0.15	1	0	101	70	130				
Freon 12	1.160	0.15	1	0	116	70	130				
Heptane	1.090	0.15	1	0	109	70	130				
Hexachloro-1,3-butadiene	1.180	0.15	1	0	118	70	130				
Hexane	0.7400	0.15	1	0	74.0	70	130				
Isopropyl alcohol	0.7700	0.15	1	0	77.0	70	130				
m&p-Xylene	1.920	0.30	2	0	96.0	70	130				
Methyl Butyl Ketone	1.120	0.30	1	0	112	70	130				
Methyl Ethyl Ketone	0.8300	0.30	1	0	83.0	70	130				
Methyl Isobutyl Ketone	0.9700	0.30	1	0	97.0	70	130				

Qualifiers:

.	Results reported are not blank corrected	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected at or below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike Recovery outside accepted recovery limits				

CLIENT: HDR Engineering
Work Order: C1311058
Project: Aluminum Louvre

TestCode: 0.25CT-TCE-VC

Sample ID	ALCS1UG-112713	SampType:	LCS	TestCode:	0.25CT-TCE-	Units:	ppbV	Prep Date:		RunNo:	7724
Client ID:	ZZZZZ	Batch ID:	R7724	TestNo:	TO-15			Analysis Date:	11/27/2013	SeqNo:	91613

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether	0.7500	0.15	1	0	75.0	70	130				
Methylene chloride	1.870	0.15	1	0	187	70	130				S
o-Xylene	1.140	0.15	1	0	114	70	130				
Propylene	0.9800	0.15	1	0	98.0	70	130				
Styrene	1.070	0.15	1	0	107	70	130				
Tetrachloroethylene	1.140	0.15	1	0	114	70	130				
Tetrahydrofuran	0.8300	0.15	1	0	83.0	70	130				
Toluene	0.9800	0.15	1	0	98.0	70	130				
trans-1,2-Dichloroethene	1.070	0.15	1	0	107	70	130				
trans-1,3-Dichloropropene	1.040	0.15	1	0	104	70	130				
Trichloroethene	1.230	0.040	1	0	123	70	130				
Vinyl acetate	0.7800	0.15	1	0	78.0	70	130				
Vinyl Bromide	0.8600	0.15	1	0	86.0	70	130				
Vinyl chloride	0.8400	0.040	1	0	84.0	70	130				

Qualifiers:

.	Results reported are not blank corrected	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected at or below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike Recovery outside accepted recovery limits				

CLIENT: HDR Engineering
Work Order: C1311058
Project: Aluminum Louvre

TestCode: 1ugM3_TO15

Sample ID	ALCS1UG-120213	SampType:	LCS	TestCode:	1ugM3_TO15	Units:	ppbV	Prep Date:		RunNo:	7725
Client ID:	ZZZZZ	Batch ID:	R7725	TestNo:	TO-15			Analysis Date:	12/2/2013	SeqNo:	91630

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	1.450	0.15	1	0	145	70	130				S
1,1,2,2-Tetrachloroethane	1.250	0.15	1	0	125	70	130				
1,1,2-Trichloroethane	1.280	0.15	1	0	128	70	130				
1,1-Dichloroethane	1.080	0.15	1	0	108	70	130				
1,1-Dichloroethene	0.8700	0.15	1	0	87.0	70	130				
1,2,4-Trichlorobenzene	0.7600	0.15	1	0	76.0	70	130				
1,2,4-Trimethylbenzene	0.9600	0.15	1	0	96.0	70	130				
1,2-Dibromoethane	1.180	0.15	1	0	118	70	130				
1,2-Dichlorobenzene	1.020	0.15	1	0	102	70	130				
1,2-Dichloroethane	1.060	0.15	1	0	106	70	130				
1,2-Dichloropropane	1.270	0.15	1	0	127	70	130				
1,3,5-Trimethylbenzene	1.260	0.15	1	0	126	70	130				
1,3-butadiene	0.9000	0.15	1	0	90.0	70	130				
1,3-Dichlorobenzene	1.150	0.15	1	0	115	70	130				
1,4-Dichlorobenzene	1.050	0.15	1	0	105	70	130				
1,4-Dioxane	1.230	0.30	1	0	123	70	130				
2,2,4-trimethylpentane	1.190	0.15	1	0	119	70	130				
4-ethyltoluene	1.090	0.15	1	0	109	70	130				
Acetone	1.010	0.30	1	0	101	70	130				
Allyl chloride	0.8200	0.15	1	0	82.0	70	130				
Benzene	1.290	0.15	1	0	129	70	130				
Benzyl chloride	1.230	0.15	1	0	123	70	130				
Bromodichloromethane	1.290	0.15	1	0	129	70	130				
Bromoform	1.050	0.15	1	0	105	70	130				
Bromomethane	0.9300	0.15	1	0	93.0	70	130				
Carbon disulfide	0.8600	0.15	1	0	86.0	70	130				
Carbon tetrachloride	1.560	0.15	1	0	156	70	130				S
Chlorobenzene	1.110	0.15	1	0	111	70	130				
Chloroethane	0.8400	0.15	1	0	84.0	70	130				
Chloroform	1.120	0.15	1	0	112	70	130				
Chloromethane	1.100	0.15	1	0	110	70	130				

Qualifiers:

.	Results reported are not blank corrected	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected at or below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike Recovery outside accepted recovery limits				

CLIENT: HDR Engineering
Work Order: CI311058
Project: Aluminum Louvre

TestCode: 1ugM3_TO15

Sample ID ALCS1UG-120213	SampType: LCS	TestCode: 1ugM3_TO15	Units: ppbV	Prep Date:	RunNo: 7725
Client ID: ZZZZZ	Batch ID: R7725	TestNo: TO-15		Analysis Date: 12/2/2013	SeqNo: 91630

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
cis-1,2-Dichloroethene	0.9400	0.15	1	0	94.0	70	130				
cis-1,3-Dichloropropene	1.250	0.15	1	0	125	70	130				
Cyclohexane	1.160	0.15	1	0	116	70	130				
Dibromochloromethane	1.250	0.15	1	0	125	70	130				
Ethyl acetate	1.010	0.25	1	0	101	70	130				
Ethylbenzene	1.010	0.15	1	0	101	70	130				
Freon 11	1.110	0.15	1	0	111	70	130				
Freon 113	0.9700	0.15	1	0	97.0	70	130				
Freon 114	1.150	0.15	1	0	115	70	130				
Freon 12	1.200	0.15	1	0	120	70	130				
Heptane	1.210	0.15	1	0	121	70	130				
Hexachloro-1,3-butadiene	1.200	0.15	1	0	120	70	130				
Hexane	0.7900	0.15	1	0	79.0	70	130				
Isopropyl alcohol	0.8900	0.15	1	0	89.0	70	130				
m&p-Xylene	2.110	0.30	2	0	106	70	130				
Methyl Butyl Ketone	0.9700	0.30	1	0	97.0	70	130				
Methyl Ethyl Ketone	0.9600	0.30	1	0	96.0	70	130				
Methyl Isobutyl Ketone	1.270	0.30	1	0	127	70	130				
Methyl tert-butyl ether	0.8800	0.15	1	0	88.0	70	130				
Methylene chloride	0.8700	0.15	1	0	87.0	70	130				
o-Xylene	1.220	0.15	1	0	122	70	130				
Propylene	1.070	0.15	1	0	107	70	130				
Styrene	1.160	0.15	1	0	116	70	130				
Tetrachloroethylene	1.170	0.15	1	0	117	70	130				
Tetrahydrofuran	0.7400	0.15	1	0	74.0	70	130				
Toluene	1.060	0.15	1	0	106	70	130				
trans-1,2-Dichloroethene	1.150	0.15	1	0	115	70	130				
trans-1,3-Dichloropropene	1.150	0.15	1	0	115	70	130				
Trichloroethene	1.180	0.15	1	0	118	70	130				
Vinyl acetate	0.7300	0.15	1	0	73.0	70	130				
Vinyl Bromide	0.8700	0.15	1	0	87.0	70	130				

Qualifiers:

.	Results reported are not blank corrected	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected at or below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike Recovery outside accepted recovery limits				

CLIENT: HDR Engineering
Work Order: C1311058
Project: Aluminum Louvre

TestCode: 1ugM3_TO15

Sample ID	ALCS1UG-120213	SampType:	LCS	TestCode:	1ugM3_TO15	Units:	ppbV	Prep Date:		RunNo:	7725		
Client ID:	ZZZZZ	Batch ID:	R7725	TestNo:	TO-15			Analysis Date:	12/2/2013	SeqNo:	91630		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Vinyl chloride		0.9900	0.15	1	0	99.0	70	130					

Qualifiers:

.	Results reported are not blank corrected	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected at or below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike Recovery outside accepted recovery limits				

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK112603.D Vial: 3
Acq On : 26 Nov 2013 10:57 am Operator: RJP
Sample : ALCS1UG-112613 Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 26 14:41:48 2013 Quant Results File: AO15_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Oct 15 18:12:29 2013
Response via : Initial Calibration
DataAcq Meth : 1UG_T015

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane	9.33	128	22419	1.00	ppb		-0.03
34) 1,4-difluorobenzene	11.64	114	55637	1.00	ppb		-0.03
49) Chlorobenzene-d5	16.08	117	62116	1.00	ppb		-0.02
System Monitoring Compounds							
62) Bromofluorobenzene	17.58	95	39673	1.09	ppb		-0.02
Spiked Amount 1.000	Range 70 - 130		Recovery = 109.00%				
Target Compounds							Qvalue
3) Propylene	3.87	41	18335	1.00	ppb		99
4) Freon 12	3.92	85	85358	1.14	ppb		99
5) Chloromethane	4.10	50	16929	0.95	ppb		98
6) Freon 114	4.11	85	50128	1.05	ppb		96
7) Vinyl Chloride	4.28	62	13652	0.89	ppb		96
8) 1,3-butadiene	4.38	39	10315	0.85	ppb		96
9) Bromomethane	4.71	94	18078	0.88	ppb		94
10) Ethanol	5.06	45	4038	0.95	ppb	#	69
11) Acrolein	5.60	56	3617	0.91	ppb	#	100
12) Chloroethane	4.87	64	6171	0.83	ppb		99
13) Vinyl Bromide	5.18	106	15526	0.82	ppb		99
14) Freon 11	5.45	101	58627	1.01	ppb		100
15) Acetone	5.72	58	6016	0.97	ppb	#	74
16) Isopropyl alcohol	5.84	45	13553	0.83	ppb	#	100
17) 1,1-dichloroethene	6.17	96	14445	0.80	ppb		96
18) Freon 113	6.37	101	36766	0.89	ppb		96
19) t-Butyl alcohol	6.56	59	17856	0.80	ppb	#	22
20) Methylene chloride	6.63	84	11860	0.83	ppb		100
21) Allyl chloride	6.61	41	14863	0.82	ppb		93
22) Carbon disulfide	6.77	76	36465	0.77	ppb		98
23) trans-1,2-dichloroethene	7.55	61	28606	1.11	ppb		98
24) methyl tert-butyl ether	7.66	73	34710	0.80	ppb		89
25) 1,1-dichloroethane	7.96	63	49458	0.99	ppb		98
26) Vinyl acetate	8.02	43	24980m	0.81	ppb		
27) Methyl Ethyl Ketone	8.58	72	7404	0.88	ppb	#	100
28) cis-1,2-dichloroethene	8.89	61	23189	0.85	ppb		98
29) Hexane	8.49	57	19903	0.75	ppb		87
30) Ethyl acetate	9.16	43	30760	0.91	ppb		94
31) Chloroform	9.48	83	63598	1.05	ppb		99
32) Tetrahydrofuran	9.82	42	13383m	0.84	ppb		
33) 1,2-dichloroethane	10.61	62	31614	0.98	ppb		99
35) 1,1,1-trichloroethane	10.30	97	56595m	1.26	ppb		
36) Cyclohexane	11.02	56	21595	1.03	ppb		87
37) Carbon tetrachloride	10.95	117	68422m	1.24	ppb		
38) Benzene	10.93	78	68467	1.15	ppb		97
39) Methyl methacrylate	12.57	41	11491	1.01	ppb		95
40) 1,4-dioxane	12.73	88	7330	1.16	ppb		89
41) 2,2,4-trimethylpentane	11.80	57	75928	1.06	ppb		93
42) Heptane	12.15	43	22172	1.02	ppb		98
43) Trichloroethene	12.26	130	33450	1.21	ppb		99
44) 1,2-dichloropropane	12.37	63	29569	1.23	ppb		98
45) Bromodichloromethane	12.69	83	63279m	1.20	ppb		
46) cis-1,3-dichloropropene	13.47	75	27945	1.09	ppb		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK112603.D Vial: 3
Acq On : 26 Nov 2013 10:57 am Operator: RJP
Sample : ALCS1UG-112613 Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 26 14:41:48 2013 Quant Results File: AO15_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Oct 15 18:12:29 2013
Response via : Initial Calibration
DataAcq Meth : 1UG_T015

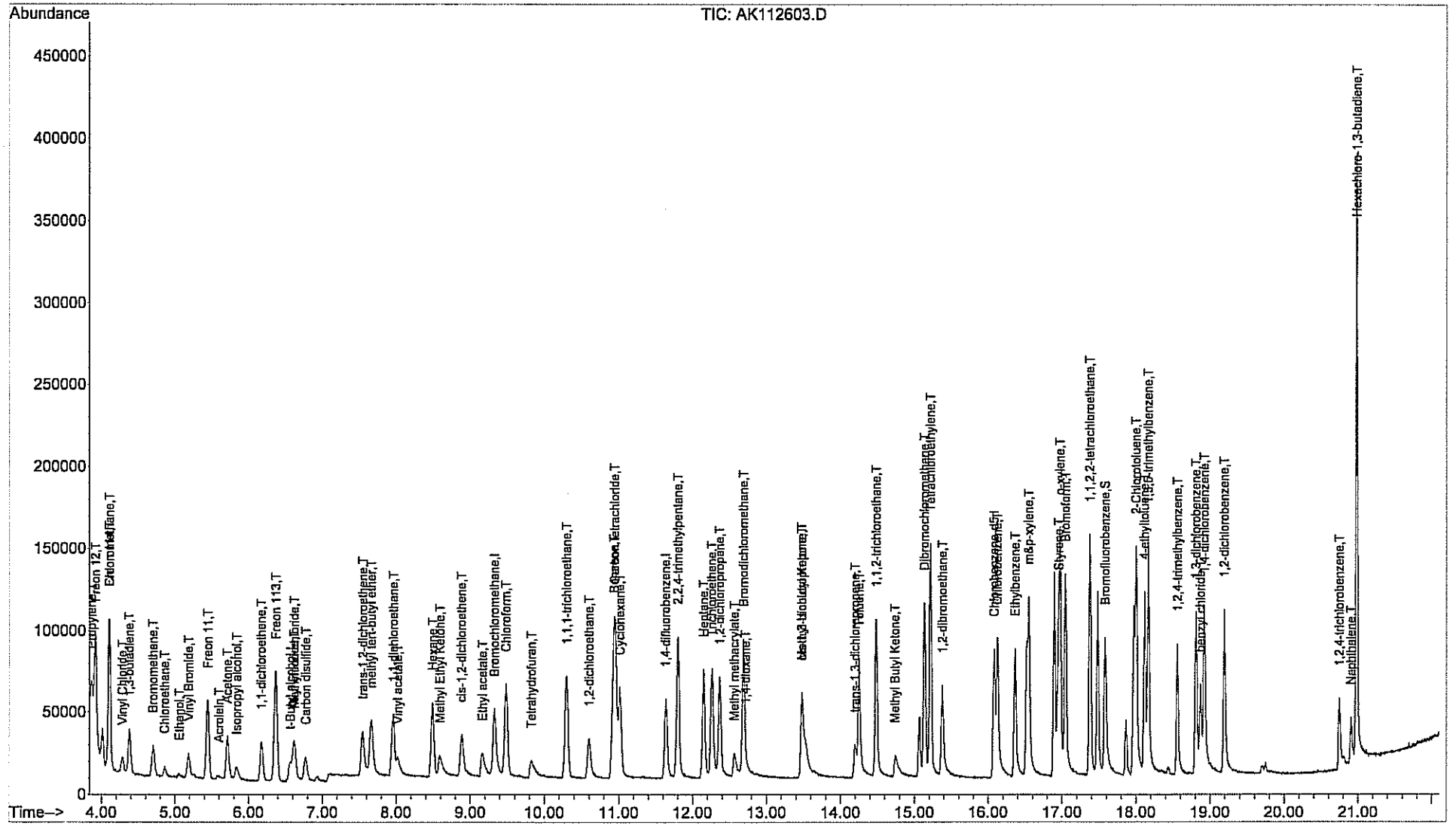
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
47)	trans-1,3-dichloropropene	14.20	75	20465	1.03	ppb	99
48)	1,1,2-trichloroethane	14.48	97	38995	1.29	ppb	98
50)	Toluene	14.25	92	34983	1.00	ppb	95
51)	Methyl Isobutyl Ketone	13.48	43	26662	0.95	ppb	96
52)	Dibromochloromethane	15.13	129	68946	1.15	ppb	98
53)	Methyl Butyl Ketone	14.74	43	20825m	0.90	ppb	
54)	1,2-dibromoethane	15.38	107	48142	1.11	ppb	97
55)	Tetrachloroethylene	15.22	164	39888	1.11	ppb	100
56)	Chlorobenzene	16.13	112	63107	1.06	ppb	96
57)	Ethylbenzene	16.37	91	62072	0.95	ppb	100
58)	m&p-xylene	16.55	91	114432	2.03	ppb	99
59)	Styrene	16.95	104	50182	1.13	ppb	97
60)	Bromoform	17.05	173	71606	1.13	ppb	99
61)	o-xylene	16.97	91	98253	1.16	ppb	100
63)	1,1,2,2-tetrachloroethane	17.38	83	90252	1.18	ppb	99
64)	2-Chlorotoluene	18.00	91	89312m	1.03	ppb	
65)	4-ethyltoluene	18.11	105	73203m	1.03	ppb	
66)	1,3,5-trimethylbenzene	18.17	105	84225	1.01	ppb	95
67)	1,2,4-trimethylbenzene	18.56	105	48169	0.85	ppb	97
68)	1,3-dichlorobenzene	18.81	146	57844	1.08	ppb	99
69)	benzyl chloride	18.87	91	47184	1.08	ppb	98
70)	1,4-dichlorobenzene	18.92	146	55052	1.01	ppb	98
72)	1,2-dichlorobenzene	19.19	146	54382	0.93	ppb	99
73)	1,2,4-trichlorobenzene	20.75	180	24942m	0.88	ppb	
74)	Naphthalene	20.90	128	42756m	0.78	ppb	
75)	Hexachloro-1,3-butadiene	20.98	225	75901	1.20	ppb	98

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK112603.D Vial: 3
Acq On : 26 Nov 2013 10:57 am Operator: RJP
Sample : ALCS1UG-112613 Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 26 14:43 2013 Quant Results File: AO15_1UG.RES

Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Wed Dec 11 12:48:42 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK112703.D Vial: 3
Acq On : 27 Nov 2013 10:28 am Operator: RJP
Sample : ALCS1UG-112713 Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 29 10:55:54 2013 Quant Results File: AO15_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Oct 15 18:12:29 2013
Response via : Initial Calibration
DataAcq Meth : 1UG_T015

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane	9.33	128	21068	1.00	ppb		-0.03
34) 1,4-difluorobenzene	11.64	114	49960	1.00	ppb		-0.03
49) Chlorobenzene-d5	16.08	117	58705	1.00	ppb		-0.02
System Monitoring Compounds							
62) Bromofluorobenzene	17.58	95	36631	1.06	ppb		-0.02
Spiked Amount 1.000	Range 70 - 130		Recovery = 106.00%				
Target Compounds							Qvalue
3) Propylene	3.87	41	16847	0.98	ppb		96
4) Freon 12	3.91	85	81916	1.16	ppb		100
5) Chloromethane	4.10	50	15327	0.92	ppb		96
6) Freon 114	4.10	85	45501	1.01	ppb		94
7) Vinyl Chloride	4.27	62	12118	0.84	ppb		96
8) 1,3-butadiene	4.37	39	10400	0.92	ppb		99
9) Bromomethane	4.69	94	17266	0.89	ppb		95
10) Ethanol	5.06	45	3426	0.86	ppb		81
11) Acrolein	5.58	56	3580	0.96	ppb	#	100
12) Chloroethane	4.85	64	5682	0.81	ppb		100
13) Vinyl Bromide	5.18	106	15212	0.86	ppb		100
14) Freon 11	5.44	101	56891	1.04	ppb		99
15) Acetone	5.70	58	5477	0.94	ppb	#	70
16) Isopropyl alcohol	5.83	45	11828	0.77	ppb	#	100
17) 1,1-dichloroethene	6.17	96	13505	0.80	ppb		91
18) Freon 113	6.36	101	36194	0.93	ppb		97
19) t-Butyl alcohol	6.55	59	26311	1.26	ppb	#	17
20) Methylene chloride	6.62	84	25231m	1.87	ppb		
21) Allyl chloride	6.61	41	19594m	1.15	ppb		
22) Carbon disulfide	6.76	76	72464m	1.64	ppb		
23) trans-1,2-dichloroethene	7.54	61	25825	1.07	ppb		97
24) methyl tert-butyl ether	7.66	73	30317	0.75	ppb		82
25) 1,1-dichloroethane	7.95	63	47867	1.02	ppb		99
26) Vinyl acetate	8.02	43	22644m	0.78	ppb		
27) Methyl Ethyl Ketone	8.60	72	6531	0.83	ppb	#	100
28) cis-1,2-dichloroethene	8.88	61	22575	0.88	ppb		100
29) Hexane	8.49	57	18366	0.74	ppb		88
30) Ethyl acetate	9.17	43	26341	0.83	ppb		96
31) Chloroform	9.48	83	61383	1.08	ppb		99
32) Tetrahydrofuran	9.84	42	12390m	0.83	ppb		
33) 1,2-dichloroethane	10.60	62	30098	0.99	ppb		100
35) 1,1,1-trichloroethane	10.29	97	53738m	1.33	ppb		
36) Cyclohexane	11.01	56	19886	1.05	ppb		85
37) Carbon tetrachloride	10.95	117	72635	1.47	ppb		100
38) Benzene	10.92	78	64705	1.21	ppb		98
39) Methyl methacrylate	12.56	41	10174	0.99	ppb		97
40) 1,4-dioxane	12.71	88	6454	1.14	ppb		90
41) 2,2,4-trimethylpentane	11.80	57	71151	1.11	ppb		93
42) Heptane	12.15	43	21197	1.09	ppb		96
43) Trichloroethene	12.26	130	30555m	1.23	ppb		
44) 1,2-dichloropropane	12.37	63	26183m	1.22	ppb		
45) Bromodichloromethane	12.69	83	61282m	1.30	ppb		
46) cis-1,3-dichloropropene	13.47	75	25800	1.12	ppb		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK112703.D Vial: 3
Acq On : 27 Nov 2013 10:28 am Operator: RJP
Sample : ALCS1UG-112713 Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 29 10:55:54 2013 Quant Results File: AO15_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Oct 15 18:12:29 2013
Response via : Initial Calibration
DataAcq Meth : 1UG_T015

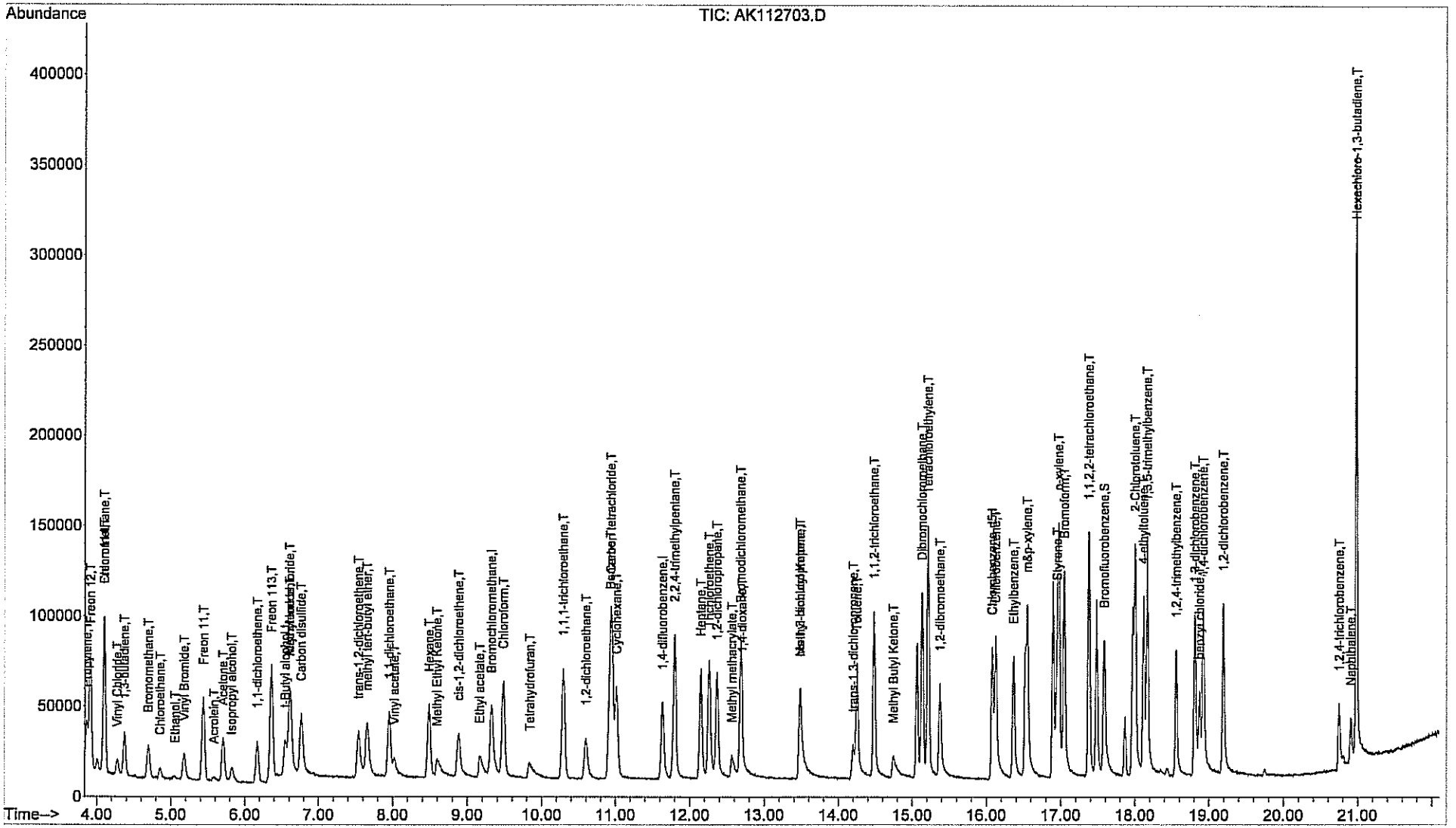
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
47)	trans-1,3-dichloropropene	14.19	75	18534	1.04	ppb	94
48)	1,1,2-trichloroethane	14.48	97	37264	1.37	ppb	100
50)	Toluene	14.25	92	32112	0.98	ppb	98
51)	Methyl Isobutyl Ketone	13.48	43	25862	0.97	ppb	98
52)	Dibromochloromethane	15.13	129	68397	1.21	ppb	99
53)	Methyl Butyl Ketone	14.74	43	24495m	1.12	ppb	
54)	1,2-dibromoethane	15.38	107	46836	1.14	ppb	98
55)	Tetrachloroethylene	15.21	164	38829	1.14	ppb	99
56)	Chlorobenzene	16.12	112	59355	1.06	ppb	97
57)	Ethylbenzene	16.36	91	55993	0.91	ppb	99
58)	m&p-xylene	16.55	91	102434	1.92	ppb	100
59)	Styrene	16.94	104	44993	1.07	ppb	97
60)	Bromoform	17.05	173	64652	1.08	ppb	99
61)	o-xylene	16.97	91	90708	1.14	ppb	98
63)	1,1,2,2-tetrachloroethane	17.38	83	83120	1.15	ppb	100
64)	2-Chlorotoluene	18.00	91	87287m	1.06	ppb	
65)	4-ethyltoluene	18.12	105	60223m	0.90	ppb	
66)	1,3,5-trimethylbenzene	18.17	105	74168	0.94	ppb	93
67)	1,2,4-trimethylbenzene	18.56	105	43418	0.81	ppb	98
68)	1,3-dichlorobenzene	18.81	146	52332	1.03	ppb	99
69)	benzyl chloride	18.87	91	40383	0.98	ppb	99
70)	1,4-dichlorobenzene	18.92	146	48558	0.94	ppb	99
72)	1,2-dichlorobenzene	19.19	146	51729	0.94	ppb	98
73)	1,2,4-trichlorobenzene	20.75	180	22617m	0.84	ppb	
74)	Naphthalene	20.90	128	38314m	0.74	ppb	
75)	Hexachloro-1,3-butadiene	20.98	225	70557	1.18	ppb	99

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK112703.D Vial: 3
Acq On : 27 Nov 2013 10:28 am Operator: RJP
Sample : ALCS1UG-112713 Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Dec 2 14:38 2013 Quant Results File: AO15_1UG.RES

Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Wed Dec 11 12:48:42 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK120205.D Vial: 5
Acq On : 2 Dec 2013 10:34 am Operator: RJP
Sample : ALCS1UG-120213 Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Dec 02 11:19:03 2013 Quant Results File: AO15_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Oct 15 18:12:29 2013
Response via : Initial Calibration
DataAcq Meth : 1UG_T015

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane	9.31	128	19451	1.00	ppb		-0.05
34) 1,4-difluorobenzene	11.62	114	45486	1.00	ppb		-0.04
49) Chlorobenzene-d5	16.07	117	52371	1.00	ppb		-0.03
System Monitoring Compounds							
62) Bromofluorobenzene	17.58	95	33034	1.07	ppb		-0.02
Spiked Amount 1.000	Range 70 - 130		Recovery = 107.00%				
Target Compounds							Qvalue
3) Propylene	3.86	41	16914m	1.07	ppb		
4) Freon 12	3.91	85	78408	1.20	ppb		99
5) Chloromethane	4.09	50	17007	1.10	ppb		98
6) Freon 114	4.10	85	47604	1.15	ppb		97
7) Vinyl Chloride	4.28	62	13113	0.99	ppb		99
8) 1,3-butadiene	4.37	39	9406	0.90	ppb		96
9) Bromomethane	4.69	94	16510	0.93	ppb		97
10) Ethanol	5.06	45	3716	1.01	ppb	#	50
11) Acrolein	5.58	56	3309	0.96	ppb	#	100
12) Chloroethane	4.84	64	5463	0.84	ppb		98
13) Vinyl Bromide	5.17	106	14189	0.87	ppb		99
14) Freon 11	5.43	101	55881	1.11	ppb		98
15) Acetone	5.70	58	5436	1.01	ppb	#	85
16) Isopropyl alcohol	5.83	45	12525	0.89	ppb	#	100
17) 1,1-dichloroethene	6.17	96	13619	0.87	ppb		96
18) Freon 113	6.35	101	34756	0.97	ppb		97
19) t-Butyl alcohol	6.56	59	18882	0.98	ppb	#	23
20) Methylene chloride	6.61	84	10852	0.87	ppb		99
21) Allyl chloride	6.60	41	12989	0.82	ppb		95
22) Carbon disulfide	6.75	76	34950	0.86	ppb		96
23) trans-1,2-dichloroethene	7.53	61	25713	1.15	ppb		99
24) methyl tert-butyl ether	7.65	73	33126	0.88	ppb		85
25) 1,1-dichloroethane	7.95	63	46930	1.08	ppb		98
26) Vinyl acetate	8.01	43	19681	0.73	ppb		96
27) Methyl Ethyl Ketone	8.59	72	7039	0.96	ppb	#	100
28) cis-1,2-dichloroethene	8.87	61	22210	0.94	ppb		96
29) Hexane	8.48	57	18087	0.79	ppb		84
30) Ethyl acetate	9.16	43	29532	1.01	ppb		97
31) Chloroform	9.47	83	58840	1.12	ppb		100
32) Tetrahydrofuran	9.82	42	10185	0.74	ppb		97
33) 1,2-dichloroethane	10.59	62	29575	1.06	ppb		100
35) 1,1,1-trichloroethane	10.28	97	53057m	1.45	ppb		
36) Cyclohexane	11.00	56	19982	1.16	ppb		88
37) Carbon tetrachloride	10.94	117	70106	1.56	ppb		100
38) Benzene	10.91	78	62497	1.29	ppb		96
39) Methyl methacrylate	12.56	41	10185	1.09	ppb		98
40) 1,4-dioxane	12.70	88	6349m	1.23	ppb		
41) 2,2,4-trimethylpentane	11.79	57	69763	1.19	ppb		90
42) Heptane	12.14	43	21539	1.21	ppb		93
43) Trichloroethene	12.25	130	26726m	1.18	ppb		
44) 1,2-dichloropropane	12.35	63	24796m	1.27	ppb		
45) Bromodichloromethane	12.68	83	55606m	1.29	ppb		
46) cis-1,3-dichloropropene	13.47	75	26037	1.25	ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK120205.D Vial: 5
Acq On : 2 Dec 2013 10:34 am Operator: RJP
Sample : ALCS1UG-120213 Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Dec 02 11:19:03 2013 Quant Results File: AO15_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Oct 15 18:12:29 2013
Response via : Initial Calibration
DataAcq Meth : 1UG_T015

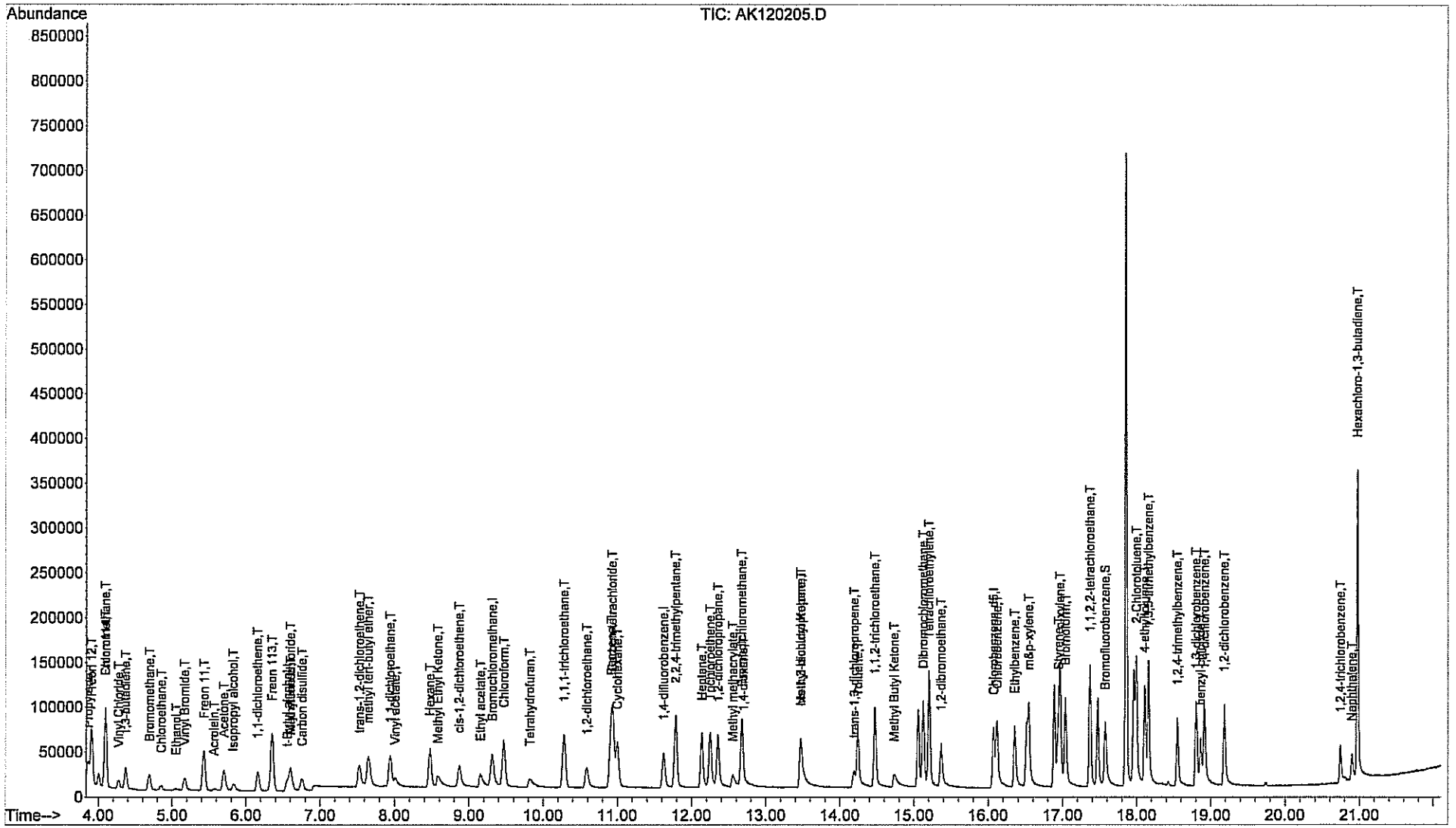
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
47)	trans-1,3-dichloropropene	14.19	75	18609	1.15	ppb	96
48)	1,1,2-trichloroethane	14.47	97	31742m	1.28	ppb	
50)	Toluene	14.24	92	31007	1.06	ppb	97
51)	Methyl Isobutyl Ketone	13.47	43	30258	1.27	ppb	96
52)	Dibromochloromethane	15.12	129	63180	1.25	ppb	98
53)	Methyl Butyl Ketone	14.73	43	19032	0.97	ppb	87
54)	1,2-dibromoethane	15.37	107	43209	1.18	ppb	99
55)	Tetrachloroethylene	15.21	164	35685	1.17	ppb	100
56)	Chlorobenzene	16.12	112	55620	1.11	ppb	99
57)	Ethylbenzene	16.36	91	55178	1.01	ppb	100
58)	m&p-xylene	16.54	91	100432	2.11	ppb	99
59)	Styrene	16.94	104	43623	1.16	ppb	97
60)	Bromoform	17.04	173	56267	1.05	ppb	100
61)	o-xylene	16.96	91	86657	1.22	ppb	99
63)	1,1,2,2-tetrachloroethane	17.37	83	81147	1.25	ppb	99
64)	2-Chlorotoluene	17.99	91	93599m	1.28	ppb	
65)	4-ethyltoluene	18.11	105	65458m	1.09	ppb	
66)	1,3,5-trimethylbenzene	18.16	105	87907m	1.26	ppb	
67)	1,2,4-trimethylbenzene	18.55	105	46233	0.96	ppb	97
68)	1,3-dichlorobenzene	18.80	146	52194	1.15	ppb	99
69)	benzyl chloride	18.86	91	45216	1.23	ppb	97
70)	1,4-dichlorobenzene	18.91	146	48245	1.05	ppb	97
72)	1,2-dichlorobenzene	19.18	146	49906	1.02	ppb	97
73)	1,2,4-trichlorobenzene	20.75	180	18203	0.76	ppb	93
74)	Naphthalene	20.90	128	43095m	0.94	ppb	
75)	Hexachloro-1,3-butadiene	20.98	225	63866m	1.20	ppb	

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK120205.D Vial: 5
Acq On : 2 Dec 2013 10:34 am Operator: RJP
Sample : ALCS1UG-120213 Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Dec 2 15:14 2013 Quant Results File: AO15_1UG.RES

Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Wed Dec 11 12:48:42 2013
Response via : Initial Calibration



CENTEK LABORATORIES, LLC

Date: *11-Dec-13*

ANALYTICAL QC SUMMARY REPORT

CLIENT: HDR Engineering
Work Order: C1311058
Project: Aluminum Louvre

TestCode: 0.25CT-TCE-VC

Sample ID ALCS1UGD-112613	SampType: LCSD	TestCode: 0.25CT-TCE-	Units: ppbV	Prep Date:	RunNo: 7723
Client ID: ZZZZZ	Batch ID: R7723	TestNo: TO-15		Analysis Date: 11/27/2013	SeqNo: 91604

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	1.260	0.15	1	0	126	70	130	1.26	0	30	
1,1,2,2-Tetrachloroethane	1.130	0.15	1	0	113	70	130	1.18	4.33	30	
1,1,2-Trichloroethane	1.200	0.15	1	0	120	70	130	1.29	7.23	30	
1,1-Dichloroethane	0.9500	0.15	1	0	95.0	70	130	0.99	4.12	30	
1,1-Dichloroethene	0.7600	0.15	1	0	76.0	70	130	0.8	5.13	30	
1,2,4-Trichlorobenzene	0.7500	0.15	1	0	75.0	70	130	0.88	16.0	30	
1,2,4-Trimethylbenzene	0.8000	0.15	1	0	80.0	70	130	0.85	6.06	30	
1,2-Dibromoethane	1.100	0.15	1	0	110	70	130	1.11	0.905	30	
1,2-Dichlorobenzene	0.8800	0.15	1	0	88.0	70	130	0.93	5.52	30	
1,2-Dichloroethane	0.9400	0.15	1	0	94.0	70	130	0.98	4.17	30	
1,2-Dichloropropane	1.250	0.15	1	0	125	70	130	1.23	1.61	30	
1,3,5-Trimethylbenzene	1.130	0.15	1	0	113	70	130	1.01	11.2	30	
1,3-butadiene	0.8500	0.15	1	0	85.0	70	130	0.85	0	30	
1,3-Dichlorobenzene	1.030	0.15	1	0	103	70	130	1.08	4.74	30	
1,4-Dichlorobenzene	0.9100	0.15	1	0	91.0	70	130	1.01	10.4	30	
1,4-Dioxane	0.7400	0.30	1	0	74.0	70	130	1.16	44.2	30	R
2,2,4-trimethylpentane	1.050	0.15	1	0	105	70	130	1.06	0.948	30	
4-ethyltoluene	0.9300	0.15	1	0	93.0	70	130	1.03	10.2	30	
Acetone	0.8400	0.30	1	0	84.0	70	130	0.97	14.4	30	
Allyl chloride	0.7200	0.15	1	0	72.0	70	130	0.82	13.0	30	
Benzene	1.190	0.15	1	0	119	70	130	1.15	3.42	30	
Benzyl chloride	0.9400	0.15	1	0	94.0	70	130	1.08	13.9	30	
Bromodichloromethane	1.220	0.15	1	0	122	70	130	1.2	1.65	30	
Bromoform	1.090	0.15	1	0	109	70	130	1.13	3.60	30	
Bromomethane	0.8400	0.15	1	0	84.0	70	130	0.88	4.65	30	

Qualifiers:

.	Results reported are not blank corrected	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected at or below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike Recovery outside accepted recovery limits				

CLIENT: HDR Engineering
Work Order: C1311058
Project: Aluminum Louvre

TestCode: 0.25CT-TCE-VC

Sample ID ALCS1UGD-112613	SampType: LCSD	TestCode: 0.25CT-TCE-	Units: ppbV	Prep Date:	RunNo: 7723
Client ID: ZZZZZ	Batch ID: R7723	TestNo: TO-15		Analysis Date: 11/27/2013	SeqNo: 91604

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Carbon disulfide	1.490	0.15	1	0	149	70	130	0.77	63.7	30	SR
Carbon tetrachloride	1.340	0.040	1	0	134	70	130	1.24	7.75	30	S
Chlorobenzene	1.030	0.15	1	0	103	70	130	1.06	2.87	30	
Chloroethane	0.7200	0.15	1	0	72.0	70	130	0.83	14.2	30	
Chloroform	1.000	0.15	1	0	100	70	130	1.05	4.88	30	
Chloromethane	0.8500	0.15	1	0	85.0	70	130	0.95	11.1	30	
cis-1,2-Dichloroethene	0.8100	0.15	1	0	81.0	70	130	0.85	4.82	30	
cis-1,3-Dichloropropene	1.020	0.15	1	0	102	70	130	1.09	6.64	30	
Cyclohexane	1.010	0.15	1	0	101	70	130	1.03	1.96	30	
Dibromochloromethane	1.180	0.15	1	0	118	70	130	1.15	2.58	30	
Ethyl acetate	0.8100	0.25	1	0	81.0	70	130	0.91	11.6	30	
Ethylbenzene	0.9200	0.15	1	0	92.0	70	130	0.95	3.21	30	
Freon 11	0.9600	0.15	1	0	96.0	70	130	1.01	5.08	30	
Freon 113	0.8600	0.15	1	0	86.0	70	130	0.89	3.43	30	
Freon 114	0.9800	0.15	1	0	98.0	70	130	1.05	6.90	30	
Freon 12	1.090	0.15	1	0	109	70	130	1.14	4.48	30	
Heptane	0.9800	0.15	1	0	98.0	70	130	1.02	4.00	30	
Hexachloro-1,3-butadiene	1.110	0.15	1	0	111	70	130	1.2	7.79	30	
Hexane	0.7500	0.15	1	0	75.0	70	130	0.75	0	30	
Isopropyl alcohol	0.7700	0.15	1	0	77.0	70	130	0.83	7.50	30	
m&p-Xylene	1.940	0.30	2	0	97.0	70	130	2.03	4.53	30	
Methyl Butyl Ketone	0.7800	0.30	1	0	78.0	70	130	0.9	14.3	30	
Methyl Ethyl Ketone	0.7500	0.30	1	0	75.0	70	130	0.88	16.0	30	
Methyl Isobutyl Ketone	0.8300	0.30	1	0	83.0	70	130	0.95	13.5	30	
Methyl tert-butyl ether	0.7200	0.15	1	0	72.0	70	130	0.8	10.5	30	
Methylene chloride	0.8400	0.15	1	0	84.0	70	130	0.83	1.20	30	
o-Xylene	1.130	0.15	1	0	113	70	130	1.16	2.62	30	
Propylene	0.9000	0.15	1	0	90.0	70	130	1	10.5	30	
Styrene	1.030	0.15	1	0	103	70	130	1.13	9.26	30	
Tetrachloroethylene	1.140	0.15	1	0	114	70	130	1.11	2.67	30	
Tetrahydrofuran	0.7300	0.15	1	0	73.0	70	130	0.84	14.0	30	

Qualifiers:

. Results reported are not blank corrected
J Analyte detected at or below quantitation limits
S Spike Recovery outside accepted recovery limits
E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits

CLIENT: HDR Engineering
Work Order: C1311058
Project: Aluminum Louvre

TestCode: 0.25CT-TCE-VC

Sample ID	ALCS1UGD-112613	SampType:	LCSD	TestCode:	0.25CT-TCE-	Units:	ppbV	Prep Date:		RunNo:	7723		
Client ID:	ZZZZZ	Batch ID:	R7723	TestNo:	TO-15			Analysis Date:	11/27/2013	SeqNo:	91604		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Toluene	0.9600	0.15	1	0	96.0	70	130	1	4.08	30	
trans-1,2-Dichloroethene	1.010	0.15	1	0	101	70	130	1.11	9.43	30	
trans-1,3-Dichloropropene	1.000	0.15	1	0	100	70	130	1.03	2.96	30	
Trichloroethene	1.260	0.040	1	0	126	70	130	1.21	4.05	30	
Vinyl acetate	0.7400	0.15	1	0	74.0	70	130	0.81	9.03	30	
Vinyl Bromide	0.7600	0.15	1	0	76.0	70	130	0.82	7.59	30	
Vinyl chloride	0.8100	0.040	1	0	81.0	70	130	0.89	9.41	30	

Qualifiers:

.	Results reported are not blank corrected	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected at or below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike Recovery outside accepted recovery limits				

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK112624.D Vial: 43
Acq On : 27 Nov 2013 12:16 am Operator: RJP
Sample : ALCS1UGD-112613 Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 27 07:39:40 2013 Quant Results File: AO15_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Oct 15 18:12:29 2013
Response via : Initial Calibration
DataAcq Meth : 1UG_T015

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane	9.32	128	23080	1.00	ppb		-0.04
34) 1,4-difluorobenzene	11.63	114	54158	1.00	ppb		-0.04
49) Chlorobenzene-d5	16.07	117	61881	1.00	ppb		-0.03
System Monitoring Compounds							
62) Bromofluorobenzene	17.58	95	38150	1.05	ppb		-0.02
Spiked Amount 1.000	Range 70 - 130		Recovery = 105.00%				
Target Compounds							Qvalue
3) Propylene	3.86	41	16952	0.90	ppb		99
4) Freon 12	3.91	85	84179	1.09	ppb		99
5) Chloromethane	4.09	50	15549	0.85	ppb		100
6) Freon 114	4.10	85	48224	0.98	ppb		95
7) Vinyl Chloride	4.28	62	12782	0.81	ppb		98
8) 1,3-butadiene	4.37	39	10572	0.85	ppb		96
9) Bromomethane	4.69	94	17662	0.84	ppb		92
10) Ethanol	5.06	45	3803m	0.87	ppb		
11) Acrolein	5.58	56	2538	0.62	ppb	#	100
12) Chloroethane	4.86	64	5527	0.72	ppb		94
13) Vinyl Bromide	5.17	106	14714	0.76	ppb		98
14) Freon 11	5.43	101	57631	0.96	ppb		99
15) Acetone	5.72	58	5319	0.84	ppb	#	72
16) Isopropyl alcohol	5.83	45	12962m	0.77	ppb		
17) 1,1-dichloroethene	6.17	96	14053	0.76	ppb		97
18) Freon 113	6.36	101	36568	0.86	ppb		97
19) t-Butyl alcohol	6.57	59	13992	0.61	ppb		91
20) Methylene chloride	6.62	84	12413	0.84	ppb		99
21) Allyl chloride	6.60	41	13554	0.72	ppb		96
22) Carbon disulfide	6.76	76	71979m	1.49	ppb		
23) trans-1,2-dichloroethene	7.54	61	26769	1.01	ppb		95
24) methyl tert-butyl ether	7.66	73	32194	0.72	ppb		88
25) 1,1-dichloroethane	7.95	63	49095	0.95	ppb		97
26) Vinyl acetate	8.02	43	23467m	0.74	ppb		
27) Methyl Ethyl Ketone	8.60	72	6471	0.75	ppb	#	100
28) cis-1,2-dichloroethene	8.88	61	22806	0.81	ppb		99
29) Hexane	8.48	57	20265	0.75	ppb		95
30) Ethyl acetate	9.16	43	28063	0.81	ppb		98
31) Chloroform	9.48	83	62558	1.00	ppb		99
32) Tetrahydrofuran	9.84	42	11904m	0.73	ppb		
33) 1,2-dichloroethane	10.59	62	31005	0.94	ppb		100
35) 1,1,1-trichloroethane	10.28	97	55158m	1.26	ppb		
36) Cyclohexane	11.00	56	20725	1.01	ppb		85
37) Carbon tetrachloride	10.94	117	71598m	1.34	ppb		
38) Benzene	10.91	78	68632	1.19	ppb		98
39) Methyl methacrylate	12.56	41	9737	0.88	ppb		96
40) 1,4-dioxane	12.75	88	4561	0.74	ppb		96
41) 2,2,4-trimethylpentane	11.79	57	73324	1.05	ppb		92
42) Heptane	12.14	43	20738	0.98	ppb		98
43) Trichloroethene	12.25	130	33918	1.26	ppb		100
44) 1,2-dichloropropane	12.36	63	29138	1.25	ppb		97
45) Bromodichloromethane	12.68	83	62667m	1.22	ppb		
46) cis-1,3-dichloropropene	13.47	75	25469	1.02	ppb		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK112624.D Vial: 43
Acq On : 27 Nov 2013 12:16 am Operator: RJP
Sample : ALCS1UGD-112613 Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 27 07:39:40 2013 Quant Results File: AO15_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Oct 15 18:12:29 2013
Response via : Initial Calibration
DataAcq Meth : 1UG_T015

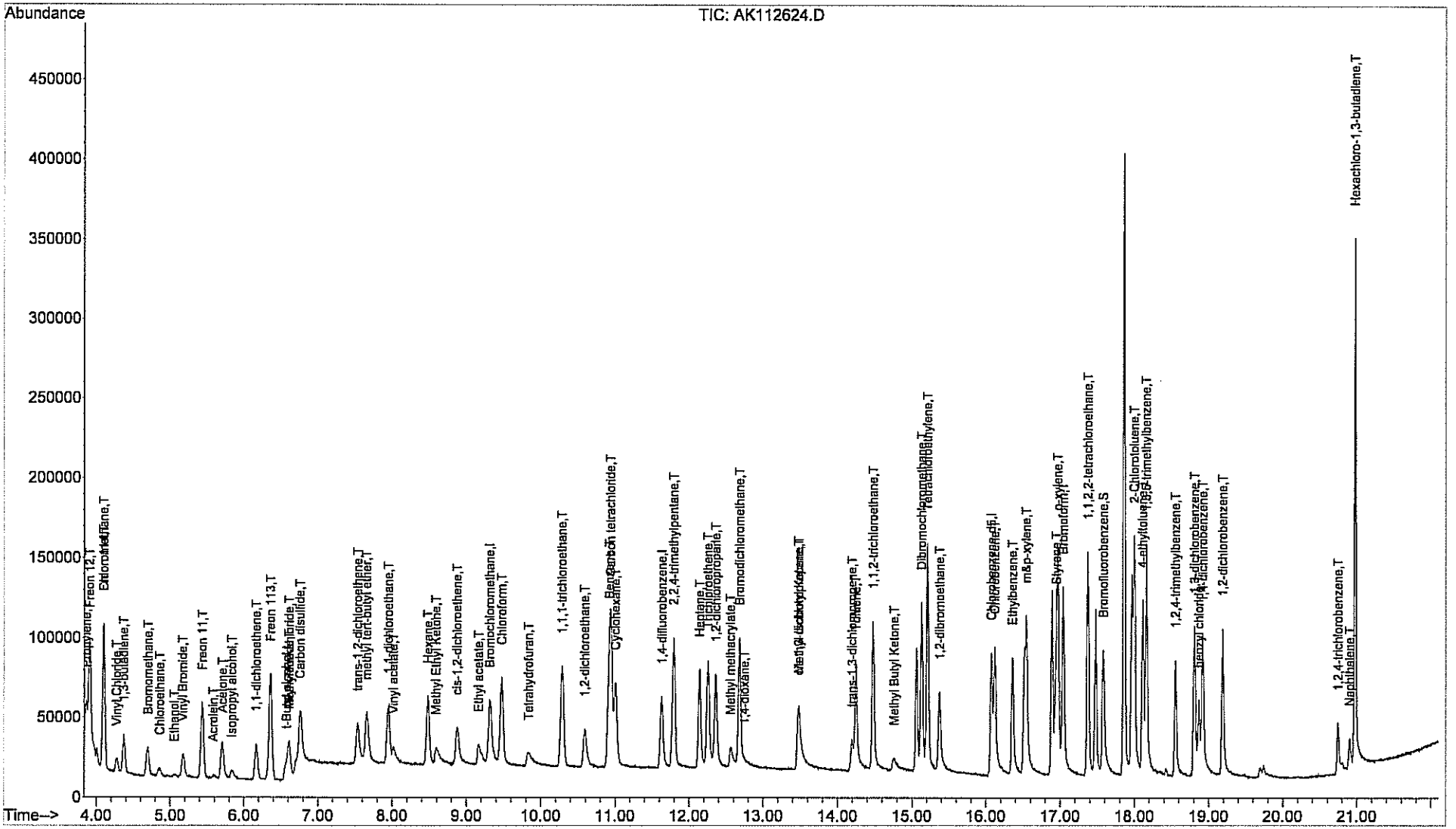
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
47)	trans-1,3-dichloropropene	14.19	75	19236	1.00	ppb	95
48)	1,1,2-trichloroethane	14.48	97	35413m	1.20	ppb	
50)	Toluene	14.25	92	33221	0.96	ppb	96
51)	Methyl Isobutyl Ketone	13.49	43	23327m	0.83	ppb	
52)	Dibromochloromethane	15.13	129	70647	1.18	ppb	98
53)	Methyl Butyl Ketone	14.75	43	18111m	0.78	ppb	
54)	1,2-dibromoethane	15.37	107	47546	1.10	ppb	99
55)	Tetrachloroethylene	15.21	164	41067	1.14	ppb	98
56)	Chlorobenzene	16.12	112	61056	1.03	ppb	97
57)	Ethylbenzene	16.36	91	59312	0.92	ppb	100
58)	m&p-xylene	16.55	91	109067	1.94	ppb	99
59)	Styrene	16.94	104	45422	1.03	ppb	94
60)	Bromoform	17.04	173	69283	1.09	ppb	98
61)	o-xylene	16.96	91	95151	1.13	ppb	100
63)	1,1,2,2-tetrachloroethane	17.37	83	86422	1.13	ppb	100
64)	2-Chlorotoluene	18.00	91	99395m	1.15	ppb	
65)	4-ethyltoluene	18.11	105	65804m	0.93	ppb	
66)	1,3,5-trimethylbenzene	18.16	105	93875m	1.13	ppb	
67)	1,2,4-trimethylbenzene	18.55	105	45427	0.80	ppb	99
68)	1,3-dichlorobenzene	18.81	146	55306	1.03	ppb	99
69)	benzyl chloride	18.87	91	40879	0.94	ppb	99
70)	1,4-dichlorobenzene	18.92	146	49505	0.91	ppb	100
72)	1,2-dichlorobenzene	19.19	146	50843	0.88	ppb	99
73)	1,2,4-trichlorobenzene	20.74	180	21187m	0.75	ppb	
74)	Naphthalene	20.90	128	31120m	0.57	ppb	
75)	Hexachloro-1,3-butadiene	20.98	225	69598	1.11	ppb	99

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK112624.D Vial: 43
Acq On : 27 Nov 2013 12:16 am Operator: RJP
Sample : ALCS1UGD-112613 Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 27 7:59 2013 Quant Results File: AO15_1UG.RES

Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Wed Dec 11 12:48:42 2013
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\AK112722.D Vial: 22
Acq On : 27 Nov 2013 10:29 pm Operator: RJP
Sample : ALCS1UGD-112713 Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 29 10:56:13 2013 Quant Results File: AO15_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Oct 15 18:12:29 2013
Response via : Initial Calibration
DataAcq Meth : 1UG_T015

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane	9.32	128	19590	1.00	ppb		-0.04
34) 1,4-difluorobenzene	11.62	114	46844	1.00	ppb		-0.04
49) Chlorobenzene-d5	16.07	117	53270	1.00	ppb		-0.03
System Monitoring Compounds							
62) Bromofluorobenzene	17.58	95	33007	1.05	ppb		-0.03
Spiked Amount 1.000	Range 70 - 130		Recovery = 105.00%				
Target Compounds							Qvalue
3) Propylene	3.86	41	15321	0.96	ppb		98
4) Freon 12	3.91	85	78392	1.19	ppb		100
5) Chloromethane	4.09	50	15895	1.03	ppb		100
6) Freon 114	4.10	85	46040	1.10	ppb		95
7) Vinyl Chloride	4.28	62	12226	0.91	ppb		98
8) 1,3-butadiene	4.37	39	9953	0.94	ppb		99
9) Bromomethane	4.69	94	15971	0.89	ppb		95
10) Ethanol	5.06	45	2654	0.72	ppb		82
11) Acrolein	5.59	56	3109	0.90	ppb	#	100
12) Chloroethane	4.85	64	5276	0.81	ppb		94
13) Vinyl Bromide	5.18	106	13599	0.82	ppb		99
14) Freon 11	5.43	101	53373	1.05	ppb		99
15) Acetone	5.71	58	4834	0.89	ppb	#	85
16) Isopropyl alcohol	5.84	45	10816	0.76	ppb	#	100
17) 1,1-dichloroethene	6.16	96	13250	0.84	ppb		98
18) Freon 113	6.35	101	33037	0.91	ppb		95
19) t-Butyl alcohol	6.57	59	14374	0.74	ppb	#	95
20) Methylene chloride	6.62	84	10755	0.86	ppb		97
21) Allyl chloride	6.60	41	12897	0.81	ppb		91
22) Carbon disulfide	6.76	76	69095	1.68	ppb		100
23) trans-1,2-dichloroethene	7.53	61	24517	1.09	ppb		95
24) methyl tert-butyl ether	7.65	73	29691	0.79	ppb		85
25) 1,1-dichloroethane	7.95	63	45694	1.05	ppb		99
26) Vinyl acetate	8.02	43	18673	0.69	ppb		100
27) Methyl Ethyl Ketone	8.59	72	5970	0.81	ppb	#	100
28) cis-1,2-dichloroethene	8.88	61	21359	0.90	ppb		98
29) Hexane	8.48	57	17302	0.75	ppb		84
30) Ethyl acetate	9.17	43	25179	0.85	ppb		98
31) Chloroform	9.47	83	58303	1.10	ppb		100
32) Tetrahydrofuran	9.83	42	9345	0.67	ppb		93
33) 1,2-dichloroethane	10.59	62	28523	1.01	ppb		98
35) 1,1,1-trichloroethane	10.28	97	55087	1.46	ppb		99
36) Cyclohexane	11.01	56	18926	1.07	ppb	#	84
37) Carbon tetrachloride	10.94	117	68999	1.49	ppb		100
38) Benzene	10.92	78	61704	1.23	ppb		97
39) Methyl methacrylate	12.56	41	8860	0.92	ppb		98
40) 1,4-dioxane	12.71	88	5426	1.02	ppb		85
41) 2,2,4-trimethylpentane	11.79	57	67687	1.12	ppb		92
42) Heptane	12.14	43	20360	1.11	ppb		96
43) Trichloroethene	12.25	130	30295	1.30	ppb		99
44) 1,2-dichloropropane	12.36	63	27245	1.35	ppb		99
45) Bromodichloromethane	12.68	83	62575	1.41	ppb		98
46) cis-1,3-dichloropropene	13.47	75	23169	1.08	ppb		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\AK112722.D Vial: 22
Acq On : 27 Nov 2013 10:29 pm Operator: RJP
Sample : ALCS1UGD-112713 Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 29 10:56:13 2013 Quant Results File: AO15_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Oct 15 18:12:29 2013
Response via : Initial Calibration
DataAcq Meth : 1UG_T015

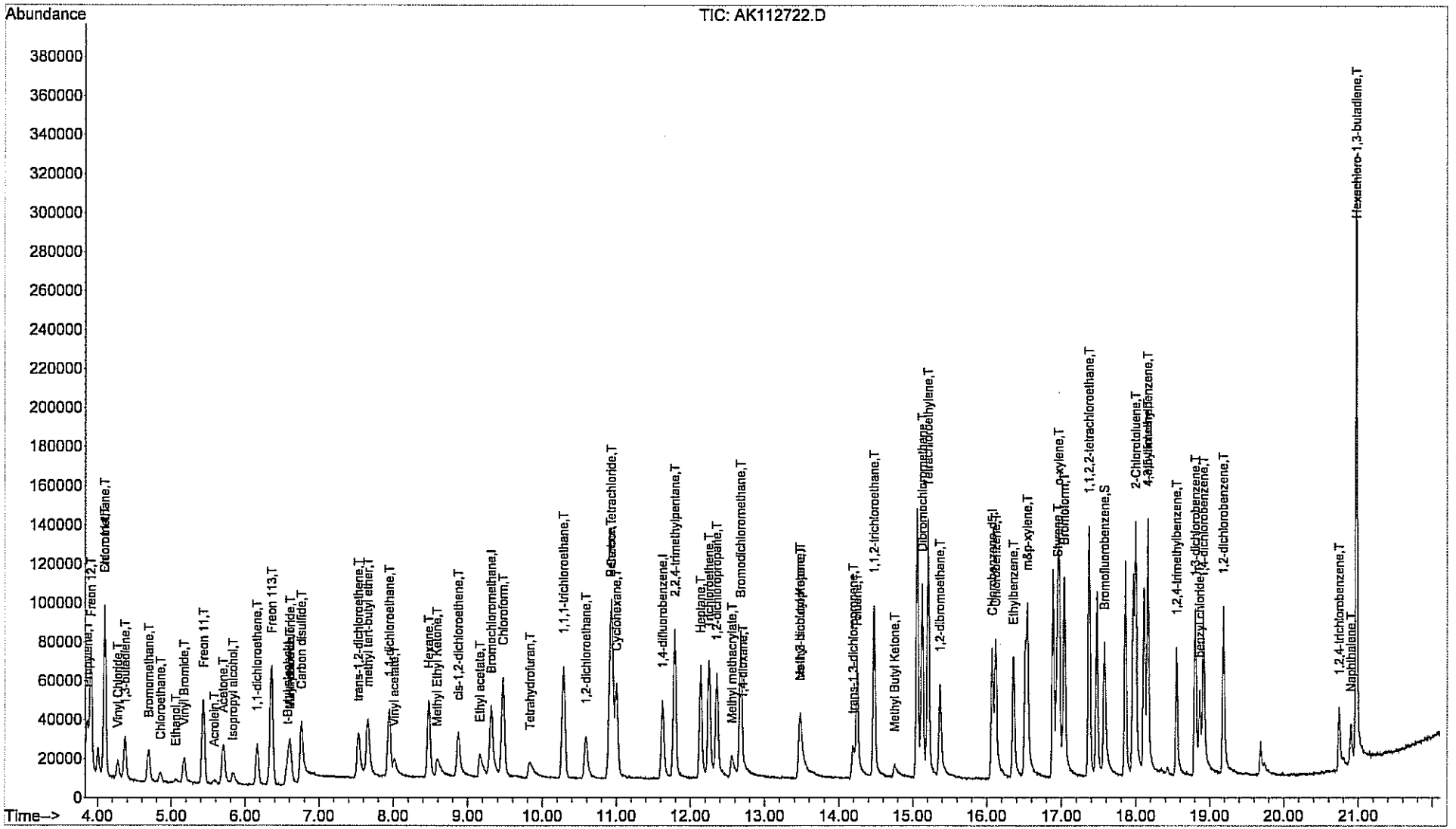
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
47)	trans-1,3-dichloropropene	14.19	75	17345	1.04	ppb		95
48)	1,1,2-trichloroethane	14.48	97	35679	1.40	ppb		97
50)	Toluene	14.24	92	31036	1.04	ppb		99
51)	Methyl Isobutyl Ketone	13.48	43	17673	0.73	ppb		95
52)	Dibromochloromethane	15.13	129	64794	1.26	ppb		98
53)	Methyl Butyl Ketone	14.75	43	9070	0.46	ppb		91
54)	1,2-dibromoethane	15.37	107	43615	1.17	ppb		99
55)	Tetrachloroethylene	15.21	164	37580	1.21	ppb		98
56)	Chlorobenzene	16.12	112	54751	1.07	ppb		99
57)	Ethylbenzene	16.36	91	53288	0.96	ppb		100
58)	m&p-xylene	16.54	91	98229	2.03	ppb		99
59)	Styrene	16.94	104	41201	1.08	ppb		95
60)	Bromoform	17.04	173	59183	1.09	ppb		98
61)	o-xylene	16.96	91	85110	1.17	ppb		99
63)	1,1,2,2-tetrachloroethane	17.37	83	78784	1.20	ppb		100
64)	2-Chlorotoluene	18.00	91	173923	2.34	ppb		72
65)	4-ethyltoluene	18.16	105	138559	2.27	ppb	#	60
66)	1,3,5-trimethylbenzene	18.16	105	139388	1.96	ppb		70
67)	1,2,4-trimethylbenzene	18.55	105	41393	0.85	ppb		98
68)	1,3-dichlorobenzene	18.80	146	48826	1.06	ppb		99
69)	benzyl chloride	18.87	91	38613	1.03	ppb		98
70)	1,4-dichlorobenzene	18.91	146	45320	0.97	ppb		99
72)	1,2-dichlorobenzene	19.18	146	47518	0.95	ppb		98
73)	1,2,4-trichlorobenzene	20.74	180	15371	0.63	ppb		94
74)	Naphthalene	20.90	128	22867	0.49	ppb		91
75)	Hexachloro-1,3-butadiene	20.98	225	63929	1.18	ppb		99

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

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\AK112722.D Vial: 22
Acq On : 27 Nov 2013 10:29 pm Operator: RJP
Sample : ALCS1UGD-112713 Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 29 10:56 2013 Quant Results File: AO15_1UG.RES

Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Wed Dec 11 12:48:42 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK120222.D Vial: 22
Acq On : 3 Dec 2013 5:58 am Operator: RJP
Sample : ALCS1UGD-120213 Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Dec 03 07:59:49 2013 Quant Results File: AO15_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Oct 15 18:12:29 2013
Response via : Initial Calibration
DataAcq Meth : 1UG_T015

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane	9.34	128	19002	1.00	ppb		-0.03
34) 1,4-difluorobenzene	11.65	114	47768	1.00	ppb		-0.02
49) Chlorobenzene-d5	16.08	117	52813	1.00	ppb		-0.02
System Monitoring Compounds							
62) Bromofluorobenzene	17.59	95	32180	1.04	ppb		-0.01
Spiked Amount 1.000	Range 70 - 130		Recovery = 104.00%				
Target Compounds							Qvalue
3) Propylene	3.87	41	15089	0.97	ppb		95
4) Freon 12	3.92	85	73490	1.15	ppb		99
5) Chloromethane	4.10	50	14395	0.96	ppb		99
6) Freon 114	4.11	85	42748	1.05	ppb		96
7) Vinyl Chloride	4.29	62	10965	0.84	ppb		95
8) 1,3-butadiene	4.38	39	8681	0.85	ppb		94
9) Bromomethane	4.70	94	15797	0.91	ppb		93
10) Ethanol	5.07	45	3055	0.85	ppb	#	77
11) Acrolein	5.59	56	3057	0.91	ppb	#	100
12) Chloroethane	4.87	64	5282	0.83	ppb		97
13) Vinyl Bromide	5.19	106	13608	0.85	ppb		98
14) Freon 11	5.45	101	52454	1.07	ppb		100
15) Acetone	5.72	58	5345	1.02	ppb	#	67
16) Isopropyl alcohol	5.84	45	10954m	0.79	ppb		
17) 1,1-dichloroethene	6.18	96	12825	0.84	ppb		96
18) Freon 113	6.37	101	33361	0.95	ppb		96
19) t-Butyl alcohol	6.58	59	9760	0.52	ppb	#	70
20) Methylene chloride	6.63	84	10681	0.88	ppb		98
21) Allyl chloride	6.62	41	11594	0.75	ppb		93
22) Carbon disulfide	6.78	76	32432	0.81	ppb		98
23) trans-1,2-dichloroethene	7.55	61	26185	1.20	ppb		97
24) methyl tert-butyl ether	7.67	73	31616	0.86	ppb		88
25) 1,1-dichloroethane	7.96	63	45445	1.07	ppb		98
26) Vinyl acetate	8.03	43	20290	0.77	ppb		99
27) Methyl Ethyl Ketone	8.60	72	5804	0.81	ppb	#	100
28) cis-1,2-dichloroethene	8.89	61	21280	0.92	ppb		99
29) Hexane	8.50	57	18411	0.82	ppb		88
30) Ethyl acetate	9.17	43	26087	0.91	ppb		95
31) Chloroform	9.49	83	56776	1.10	ppb		99
32) Tetrahydrofuran	9.83	42	9905	0.74	ppb		92
33) 1,2-dichloroethane	10.61	62	28955	1.06	ppb		100
35) 1,1,1-trichloroethane	10.31	97	51991m	1.35	ppb		
36) Cyclohexane	11.02	56	19649	1.09	ppb		88
37) Carbon tetrachloride	10.96	117	63785m	1.35	ppb		
38) Benzene	10.93	78	61532	1.21	ppb		97
39) Methyl methacrylate	12.57	41	8118	0.83	ppb		95
40) 1,4-dioxane	12.76	88	2956m	0.55	ppb		
41) 2,2,4-trimethylpentane	11.80	57	66085	1.08	ppb		91
42) Heptane	12.16	43	20318	1.09	ppb		95
43) Trichloroethene	12.27	130	29382	1.23	ppb		99
44) 1,2-dichloropropane	12.37	63	26638	1.29	ppb		99
45) Bromodichloromethane	12.69	83	59929	1.33	ppb		98
46) cis-1,3-dichloropropene	13.48	75	21714	0.99	ppb		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK120222.D Vial: 22
Acq On : 3 Dec 2013 5:58 am Operator: RJP
Sample : ALCS1UGD-120213 Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Dec 03 07:59:49 2013 Quant Results File: AO15_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Oct 15 18:12:29 2013
Response via : Initial Calibration
DataAcq Meth : 1UG_T015

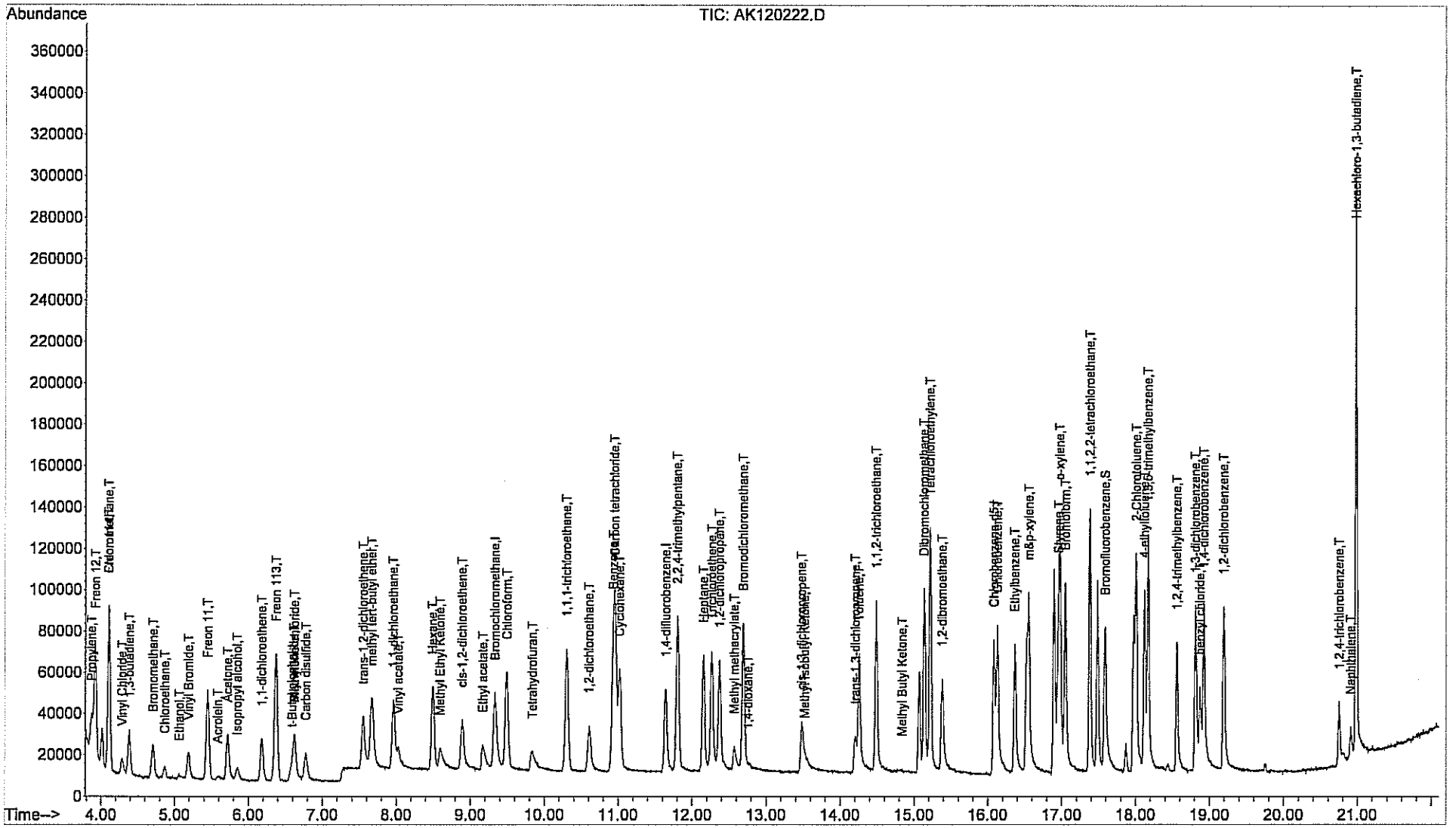
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
47)	trans-1,3-dichloropropene	14.21	75	18104	1.06	ppb	98
48)	1,1,2-trichloroethane	14.49	97	31436m	1.21	ppb	
50)	Toluene	14.25	92	29259	0.99	ppb	99
51)	Methyl Isobutyl Ketone	13.53	43	8490m	0.35	ppb	
52)	Dibromochloromethane	15.14	129	58443	1.15	ppb	99
53)	Methyl Butyl Ketone	14.84	43	5722m	0.29	ppb	
54)	1,2-dibromoethane	15.38	107	41150	1.11	ppb	98
55)	Tetrachloroethylene	15.22	164	33837	1.10	ppb	97
56)	Chlorobenzene	16.13	112	51779	1.02	ppb	99
57)	Ethylbenzene	16.37	91	51412	0.93	ppb	100
58)	m&p-xylene	16.55	91	92776	1.94	ppb	98
59)	Styrene	16.95	104	39818	1.05	ppb	99
60)	Bromoform	17.05	173	52112	0.96	ppb	99
61)	o-xylene	16.97	91	79791	1.11	ppb	99
63)	1,1,2,2-tetrachloroethane	17.38	83	77324	1.18	ppb	99
64)	2-Chlorotoluene	18.00	91	78068m	1.06	ppb	
65)	4-ethyltoluene	18.12	105	52837m	0.87	ppb	
66)	1,3,5-trimethylbenzene	18.17	105	72312m	1.02	ppb	
67)	1,2,4-trimethylbenzene	18.56	105	37657	0.78	ppb	96
68)	1,3-dichlorobenzene	18.81	146	46960	1.03	ppb	100
69)	benzyl chloride	18.87	91	35902	0.97	ppb	96
70)	1,4-dichlorobenzene	18.92	146	43592	0.94	ppb	98
72)	1,2-dichlorobenzene	19.20	146	44690	0.90	ppb	99
73)	1,2,4-trichlorobenzene	20.75	180	19243m	0.80	ppb	
74)	Naphthalene	20.91	128	17264	0.37	ppb	94
75)	Hexachloro-1,3-butadiene	20.98	225	61012	1.14	ppb	99

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK120222.D Vial: 22
Acq On : 3 Dec 2013 5:58 am Operator: RJP
Sample : ALCS1UGD-120213 Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Dec 3 8:01 2013 Quant Results File: AO15_1UG.RES

Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Wed Dec 11 12:48:42 2013
Response via : Initial Calibration



CENTEK LABORATORIES, LLC

Date: *11-Dec-13*

ANALYTICAL QC SUMMARY REPORT

CLIENT: HDR Engineering
Work Order: C1311058
Project: Aluminum Louvre

TestCode: 1ugM3_TO15

Sample ID **C1311058-002A MS** SampType: **MS** TestCode: **1ugM3_TO15** Units: **ppbV** Prep Date: RunNo: **7724**
Client ID: **175-W-SS** Batch ID: **R7724** TestNo: **TO-15** Analysis Date: **11/28/2013** SeqNo: **91626**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	2.470	0.15	1	1.42	105	70	130				
1,1,2,2-Tetrachloroethane	1.140	0.15	1	0	114	70	130				
1,1,2-Trichloroethane	1.280	0.15	1	0	128	70	130				
1,1-Dichloroethane	1.070	0.15	1	0	107	70	130				
1,1-Dichloroethene	0.8100	0.15	1	0	81.0	70	130				
1,2,4-Trichlorobenzene	1.250	0.15	1	0	125	70	130				
1,2,4-Trimethylbenzene	2.460	0.15	1	0.54	192	70	130				S
1,2-Dibromoethane	1.140	0.15	1	0	114	70	130				
1,2-Dichlorobenzene	1.390	0.15	1	0	139	70	130				S
1,2-Dichloroethane	0.9800	0.15	1	0	98.0	70	130				
1,2-Dichloropropane	1.220	0.15	1	0	122	70	130				
1,3,5-Trimethylbenzene	1.510	0.15	1	0.22	129	70	130				
1,3-butadiene	0.9200	0.15	1	0	92.0	70	130				
1,3-Dichlorobenzene	1.410	0.15	1	0	141	70	130				S
1,4-Dichlorobenzene	1.370	0.15	1	0.11	126	70	130				
1,4-Dioxane	0.9200	0.30	1	0	92.0	70	130				
2,2,4-trimethylpentane	2.250	0.15	1	0.77	148	70	130				S
4-ethyltoluene	1.760	0.15	1	0.14	162	70	130				S
Acetone	6.970	0.30	1	6.18	79.0	70	130				
Allyl chloride	0.9400	0.15	1	0	94.0	70	130				
Benzene	1.780	0.15	1	0.51	127	70	130				
Benzyl chloride	1.420	0.15	1	0	142	70	130				S
Bromodichloromethane	1.270	0.15	1	0	127	70	130				
Bromoform	0.9700	0.15	1	0	97.0	70	130				
Bromomethane	0.9300	0.15	1	0	93.0	70	130				

Qualifiers:
. Results reported are not blank corrected
J Analyte detected at or below quantitation limits
S Spike Recovery outside accepted recovery limits
E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits

CLIENT: HDR Engineering
Work Order: C1311058
Project: Aluminum Louvre

TestCode: 1ugM3_TO15

Sample ID C1311058-002A MS	SampType: MS	TestCode: 1ugM3_TO15	Units: ppbV	Prep Date:	RunNo: 7724
Client ID: 175-W-SS	Batch ID: R7724	TestNo: TO-15		Analysis Date: 11/28/2013	SeqNo: 91626

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Carbon disulfide	0.9600	0.15	1	0.16	80.0	70	130				
Carbon tetrachloride	1.390	0.15	1	0	139	70	130				S
Chlorobenzene	1.020	0.15	1	0	102	70	130				
Chloroethane	0.8300	0.15	1	0	83.0	70	130				
Chloroform	1.110	0.15	1	0	111	70	130				
Chloromethane	0.9200	0.15	1	0	92.0	70	130				
cis-1,2-Dichloroethene	0.9800	0.15	1	0	98.0	70	130				
cis-1,3-Dichloropropene	1.240	0.15	1	0	124	70	130				
Cyclohexane	1.430	0.15	1	0	143	70	130				S
Dibromochloromethane	1.120	0.15	1	0	112	70	130				
Ethyl acetate	1.010	0.25	1	0	101	70	130				
Ethylbenzene	1.330	0.15	1	0.24	109	70	130				
Freon 11	1.980	0.15	1	0.96	102	70	130				
Freon 113	0.9900	0.15	1	0	99.0	70	130				
Freon 114	0.8200	0.15	1	0	82.0	70	130				
Freon 12	0.5200	0.15	1	0	52.0	70	130				S
Heptane	1.350	0.15	1	0	135	70	130				S
Hexachloro-1,3-butadiene	1.320	0.15	1	0	132	70	130				S
Hexane	1.560	0.15	1	0.31	125	70	130				
Isopropyl alcohol	1.210	0.15	1	0.44	77.0	70	130				
m&p-Xylene	3.670	0.30	2	0.82	143	70	130				S
Methyl Butyl Ketone	0.8900	0.30	1	0	89.0	70	130				
Methyl Ethyl Ketone	1.820	0.30	1	0.74	108	70	130				
Methyl Isobutyl Ketone	1.040	0.30	1	0	104	70	130				
Methyl tert-butyl ether	0.9600	0.15	1	0	96.0	70	130				
Methylene chloride	1.840	0.15	1	0.75	109	70	130				
o-Xylene	1.550	0.15	1	0.22	133	70	130				S
Propylene	2.780	0.15	1	0	278	70	130				S
Styrene	1.180	0.15	1	0	118	70	130				
Tetrachloroethylene	4.470	0.15	1	3.87	60.0	70	130				S
Tetrahydrofuran	0.8500	0.15	1	0	85.0	70	130				

Qualifiers:

.	Results reported are not blank corrected	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected at or below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike Recovery outside accepted recovery limits				

CLIENT: HDR Engineering
Work Order: C1311058
Project: Aluminum Louvre

TestCode: 1ugM3_TO15

Sample ID C1311058-002A MS	SampType: MS	TestCode: 1ugM3_TO15	Units: ppbV	Prep Date:	RunNo: 7724
Client ID: 175-W-SS	Batch ID: R7724	TestNo: TO-15		Analysis Date: 11/28/2013	SeqNo: 91626

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Toluene	5.000	0.15	1	2.84	216	70	130				S
trans-1,2-Dichloroethene	1.280	0.15	1	0	128	70	130				
trans-1,3-Dichloropropene	0.9200	0.15	1	0	92.0	70	130				
Trichloroethene	1.400	0.15	1	0.12	128	70	130				
Vinyl acetate	0.7700	0.15	1	0	77.0	70	130				
Vinyl Bromide	0.8600	0.15	1	0	86.0	70	130				
Vinyl chloride	0.7900	0.15	1	0	79.0	70	130				

Sample ID C1311058-002A MS	SampType: MSD	TestCode: 1ugM3_TO15	Units: ppbV	Prep Date:	RunNo: 7724
Client ID: 175-W-SS	Batch ID: R7724	TestNo: TO-15		Analysis Date: 11/28/2013	SeqNo: 91627

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	2.360	0.15	1	1.42	94.0	70	130	2.47	4.55	30	
1,1,2,2-Tetrachloroethane	1.110	0.15	1	0	111	70	130	1.14	2.67	30	
1,1,2-Trichloroethane	1.200	0.15	1	0	120	70	130	1.28	6.45	30	
1,1-Dichloroethane	1.090	0.15	1	0	109	70	130	1.07	1.85	30	
1,1-Dichloroethene	0.8800	0.15	1	0	88.0	70	130	0.81	8.28	30	
1,2,4-Trichlorobenzene	1.390	0.15	1	0	139	70	130	1.25	10.6	30	S
1,2,4-Trimethylbenzene	2.430	0.15	1	0.54	189	70	130	2.46	1.23	30	S
1,2-Dibromoethane	1.120	0.15	1	0	112	70	130	1.14	1.77	30	
1,2-Dichlorobenzene	1.360	0.15	1	0	136	70	130	1.39	2.18	30	S
1,2-Dichloroethane	0.9900	0.15	1	0	99.0	70	130	0.98	1.02	30	
1,2-Dichloropropane	1.240	0.15	1	0	124	70	130	1.22	1.63	30	
1,3,5-Trimethylbenzene	1.450	0.15	1	0.22	123	70	130	1.51	4.05	30	
1,3-butadiene	1.260	0.15	1	0	126	70	130	0.92	31.2	30	R
1,3-Dichlorobenzene	1.440	0.15	1	0	144	70	130	1.41	2.11	30	S
1,4-Dichlorobenzene	1.400	0.15	1	0.11	129	70	130	1.37	2.17	30	
1,4-Dioxane	0.7400	0.30	1	0	74.0	70	130	0.92	21.7	30	
2,2,4-trimethylpentane	2.430	0.15	1	0.77	166	70	130	2.25	7.69	30	S
4-ethyltoluene	1.630	0.15	1	0.14	149	70	130	1.76	7.67	30	S

Qualifiers:

.	Results reported are not blank corrected	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected at or below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike Recovery outside accepted recovery limits				

CLIENT: HDR Engineering
Work Order: C1311058
Project: Aluminum Louvre

TestCode: 1ugM3_TO15

Sample ID C1311058-002A MS	SampType: MSD	TestCode: 1ugM3_TO15	Units: ppbV	Prep Date:	RunNo: 7724
Client ID: 175-W-SS	Batch ID: R7724	TestNo: TO-15		Analysis Date: 11/28/2013	SeqNo: 91627

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acetone	7.700	0.30	1	6.18	152	70	130	6.97	9.95	30	S
Allyl chloride	0.9600	0.15	1	0	96.0	70	130	0.94	2.11	30	
Benzene	1.840	0.15	1	0.51	133	70	130	1.78	3.31	30	S
Benzyl chloride	1.720	0.15	1	0	172	70	130	1.42	19.1	30	S
Bromodichloromethane	1.250	0.15	1	0	125	70	130	1.27	1.59	30	
Bromoform	0.9300	0.15	1	0	93.0	70	130	0.97	4.21	30	
Bromomethane	0.9500	0.15	1	0	95.0	70	130	0.93	2.13	30	
Carbon disulfide	0.9800	0.15	1	0.16	82.0	70	130	0.96	2.06	30	
Carbon tetrachloride	1.380	0.15	1	0	138	70	130	1.39	0.722	30	S
Chlorobenzene	1.030	0.15	1	0	103	70	130	1.02	0.976	30	
Chloroethane	0.8800	0.15	1	0	88.0	70	130	0.83	5.85	30	
Chloroform	1.100	0.15	1	0	110	70	130	1.11	0.905	30	
Chloromethane	1.190	0.15	1	0	119	70	130	0.92	25.6	30	
cis-1,2-Dichloroethene	1.010	0.15	1	0	101	70	130	0.98	3.02	30	
cis-1,3-Dichloropropene	1.240	0.15	1	0	124	70	130	1.24	0	30	
Cyclohexane	1.510	0.15	1	0	151	70	130	1.43	5.44	30	S
Dibromochloromethane	1.100	0.15	1	0	110	70	130	1.12	1.80	30	
Ethyl acetate	1.070	0.25	1	0	107	70	130	1.01	5.77	30	
Ethylbenzene	1.380	0.15	1	0.24	114	70	130	1.33	3.69	30	
Freon 11	2.010	0.15	1	0.96	105	70	130	1.98	1.50	30	
Freon 113	1.020	0.15	1	0	102	70	130	0.99	2.99	30	
Freon 114	0.9900	0.15	1	0	99.0	70	130	0.82	18.8	30	
Freon 12	0.6200	0.15	1	0	62.0	70	130	0.52	17.5	30	S
Heptane	1.390	0.15	1	0	139	70	130	1.35	2.92	30	S
Hexachloro-1,3-butadiene	1.310	0.15	1	0	131	70	130	1.32	0.760	30	S
Hexane	1.690	0.15	1	0.31	138	70	130	1.56	8.00	30	S
Isopropyl alcohol	1.150	0.15	1	0.44	71.0	70	130	1.21	5.08	30	
m&p-Xylene	3.800	0.30	2	0.82	149	70	130	3.67	3.48	30	S
Methyl Butyl Ketone	1.000	0.30	1	0	100	70	130	0.89	11.6	30	
Methyl Ethyl Ketone	1.850	0.30	1	0.74	111	70	130	1.82	1.63	30	
Methyl Isobutyl Ketone	1.080	0.30	1	0	108	70	130	1.04	3.77	30	

Qualifiers:

. Results reported are not blank corrected
J Analyte detected at or below quantitation limits
S Spike Recovery outside accepted recovery limits
E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits

CLIENT: HDR Engineering
Work Order: C1311058
Project: Aluminum Louvre

TestCode: 1ugM3_TO15

Sample ID C1311058-002A MS	SampType: MSD	TestCode: 1ugM3_TO15	Units: ppbV	Prep Date:	RunNo: 7724
Client ID: 175-W-SS	Batch ID: R7724	TestNo: TO-15		Analysis Date: 11/28/2013	SeqNo: 91627

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether	0.9800	0.15	1	0	98.0	70	130	0.96	2.06	30	
Methylene chloride	2.070	0.15	1	0.75	132	70	130	1.84	11.8	30	S
o-Xylene	1.540	0.15	1	0.22	132	70	130	1.55	0.647	30	S
Propylene	4.500	0.15	1	0	450	70	130	2.78	47.3	30	SR
Styrene	1.140	0.15	1	0	114	70	130	1.18	3.45	30	
Tetrachloroethylene	4.110	0.15	1	3.87	24.0	70	130	4.47	8.39	30	S
Tetrahydrofuran	0.8700	0.15	1	0	87.0	70	130	0.85	2.33	30	
Toluene	5.340	0.15	1	2.84	250	70	130	5	6.58	30	S
trans-1,2-Dichloroethene	1.330	0.15	1	0	133	70	130	1.28	3.83	30	S
trans-1,3-Dichloropropene	1.290	0.15	1	0	129	70	130	0.92	33.5	30	R
Trichloroethene	1.340	0.15	1	0.12	122	70	130	1.4	4.38	30	
Vinyl acetate	0.7900	0.15	1	0	79.0	70	130	0.77	2.56	30	
Vinyl Bromide	0.9000	0.15	1	0	90.0	70	130	0.86	4.55	30	
Vinyl chloride	0.8800	0.15	1	0	88.0	70	130	0.79	10.8	30	

Qualifiers:

.	Results reported are not blank corrected	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected at or below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike Recovery outside accepted recovery limits				

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK112725.D Vial: 25
Acq On : 28 Nov 2013 12:20 am Operator: RJP
Sample : C1311058-002A MS Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 29 10:56:16 2013 Quant Results File: AO15_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Oct 15 18:12:29 2013
Response via : Initial Calibration
DataAcq Meth : 1UG_T015

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane	9.37	128	20617	1.00	ppb		0.00
34) 1,4-difluorobenzene	11.66	114	50873	1.00	ppb		0.00
49) Chlorobenzene-d5	16.08	117	59720	1.00	ppb		-0.02
System Monitoring Compounds							
62) Bromofluorobenzene	17.58	95	40028	1.14	ppb		-0.03
Spiked Amount 1.000	Range 70 - 130		Recovery = 114.00%				
Target Compounds							Qvalue
3) Propylene	4.09	41	46725m	2.78	ppb		
4) Freon 12	4.05	85	36222m	0.52	ppb		
5) Chloromethane	4.04	50	15019	0.92	ppb		96
6) Freon 114	4.05	85	36190	0.82	ppb		95
7) Vinyl Chloride	4.23	62	11187	0.79	ppb		97
8) 1,3-butadiene	4.26	39	10271m	0.92	ppb		
9) Bromomethane	4.66	94	17528	0.93	ppb		88
10) Ethanol	5.10	45	29383	7.52	ppb	#	56
11) Acrolein	5.67	56	8254	2.26	ppb	#	100
12) Chloroethane	4.82	64	5704	0.83	ppb		91
13) Vinyl Bromide	5.14	106	14979	0.86	ppb		98
14) Freon 11	5.40	101	105584	1.98	ppb		97
15) Acetone	5.69	58	39677	6.97	ppb	#	43
16) Isopropyl alcohol	5.88	45	18083	1.21	ppb	#	100
17) 1,1-dichloroethene	6.14	96	13388	0.81	ppb		90
18) Freon 113	6.35	101	37631	0.99	ppb		94
19) t-Butyl alcohol	6.58	59	21619	1.06	ppb	#	85
20) Methylene chloride	6.60	84	24282	1.84	ppb		99
21) Allyl chloride	6.57	41	15817	0.94	ppb		88
22) Carbon disulfide	6.73	76	41639	0.96	ppb		98
23) trans-1,2-dichloroethene	7.51	61	30341m	1.28	ppb		
24) methyl tert-butyl ether	7.68	73	38209	0.96	ppb		85
25) 1,1-dichloroethane	7.94	63	49415	1.07	ppb		99
26) Vinyl acetate	8.03	43	21914	0.77	ppb		99
27) Methyl Ethyl Ketone	8.60	72	14075	1.82	ppb	#	100
28) cis-1,2-dichloroethene	8.94	61	24624	0.98	ppb		99
29) Hexane	8.47	57	37914	1.56	ppb		92
30) Ethyl acetate	9.19	43	31497	1.01	ppb		99
31) Chloroform	9.53	83	61718	1.11	ppb		100
32) Tetrahydrofuran	9.85	42	12352m	0.85	ppb		
33) 1,2-dichloroethane	10.63	62	28958	0.98	ppb		99
35) 1,1,1-trichloroethane	10.33	97	101314	2.47	ppb		100
36) Cyclohexane	10.99	56	27572m	1.43	ppb		
37) Carbon tetrachloride	10.97	117	70190	1.39	ppb		99
38) Benzene	10.95	78	96619	1.78	ppb		99
39) Methyl methacrylate	12.57	41	14359	1.38	ppb	#	78
40) 1,4-dioxane	12.74	88	5313	0.92	ppb		78
41) 2,2,4-trimethylpentane	11.81	57	147049	2.25	ppb		96
42) Heptane	12.16	43	26707	1.35	ppb		92
43) Trichloroethene	12.27	130	35566	1.40	ppb		100
44) 1,2-dichloropropane	12.38	63	26738	1.22	ppb		98
45) Bromodichloromethane	12.70	83	60840	1.27	ppb		99
46) cis-1,3-dichloropropene	13.49	75	29000	1.24	ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK112725.D Vial: 25
Acq On : 28 Nov 2013 12:20 am Operator: RJP
Sample : C1311058-002A MS Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 29 10:56:16 2013 Quant Results File: AO15_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Oct 15 18:12:29 2013
Response via : Initial Calibration
DataAcq Meth : 1UG_T015

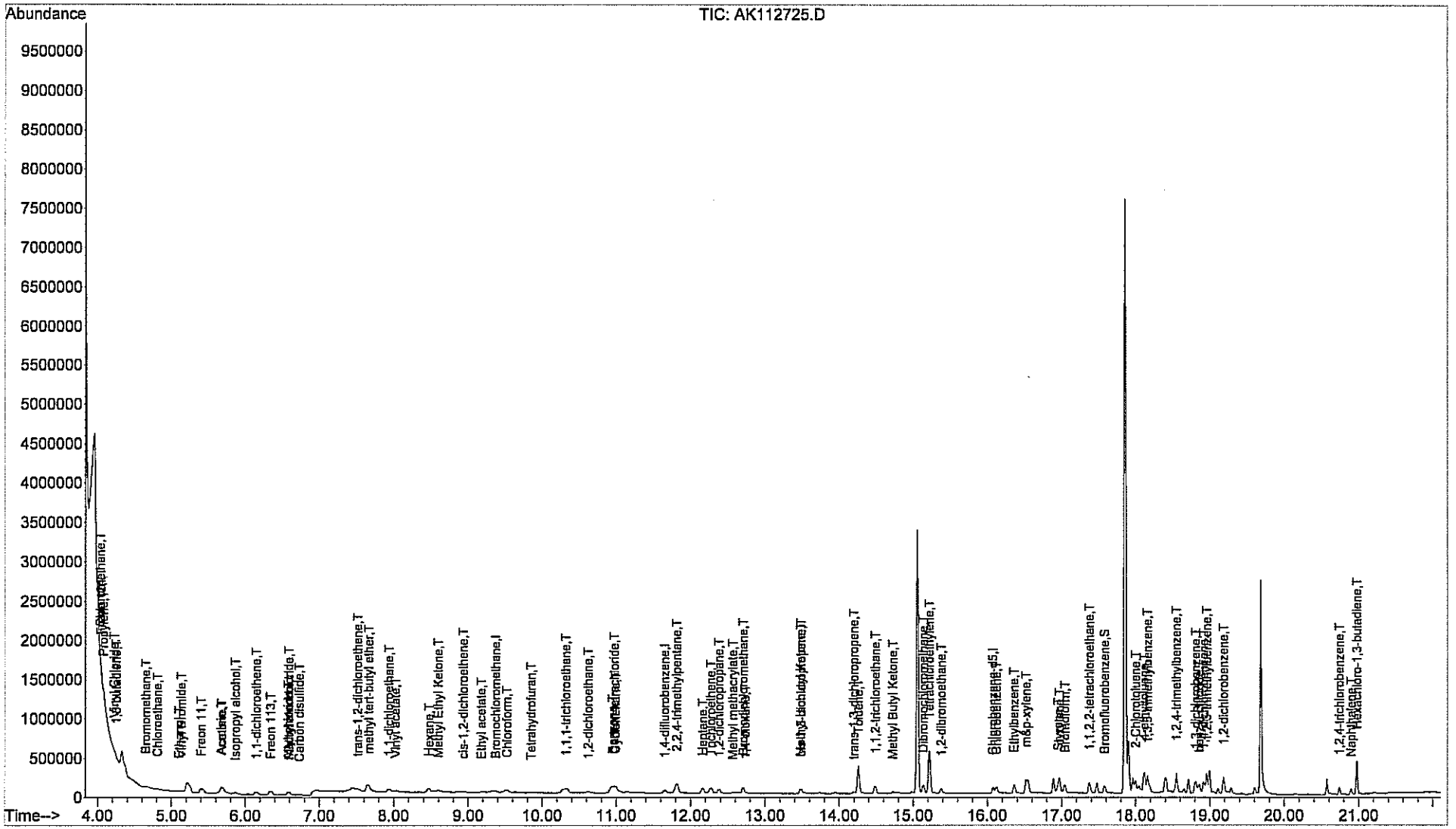
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
47)	trans-1,3-dichloropropene	14.19	75	16736m	0.92	ppb	
48)	1,1,2-trichloroethane	14.49	97	35380m	1.28	ppb	
50)	Toluene	14.26	92	167582	5.00	ppb	100
51)	Methyl Isobutyl Ketone	13.47	43	28237	1.04	ppb	98
52)	Dibromochloromethane	15.14	129	64517	1.12	ppb	99
53)	Methyl Butyl Ketone	14.72	43	19890m	0.89	ppb	
54)	1,2-dibromoethane	15.38	107	47725	1.14	ppb	99
55)	Tetrachloroethylene	15.22	164	155233	4.47	ppb	99
56)	Chlorobenzene	16.12	112	58398	1.02	ppb	97
57)	Ethylbenzene	16.36	91	83233	1.33	ppb	99
58)	m&p-xylene	16.52	91	199044	3.67	ppb	99
59)	Styrene	16.94	104	50475	1.18	ppb	90
60)	Bromoform	17.04	173	59448	0.97	ppb	100
61)	o-xylene	16.97	91	125761	1.55	ppb	98
63)	1,1,2,2-tetrachloroethane	17.37	83	83968	1.14	ppb	99
64)	2-Chlorotoluene	18.00	91	89199m	1.07	ppb	
65)	4-ethyltoluene	18.11	105	120613m	1.76	ppb	
66)	1,3,5-trimethylbenzene	18.16	105	120575	1.51	ppb	95
67)	1,2,4-trimethylbenzene	18.55	105	134489	2.46	ppb	99
68)	1,3-dichlorobenzene	18.80	146	72758	1.41	ppb	98
69)	benzyl chloride	18.86	91	59766	1.42	ppb	99
70)	1,4-dichlorobenzene	18.91	146	71999	1.37	ppb	94
71)	1,2,3-trimethylbenzene	18.95	105	20740	0.30	ppb	90
72)	1,2-dichlorobenzene	19.18	146	77916	1.39	ppb	97
73)	1,2,4-trichlorobenzene	20.74	180	33913m	1.25	ppb	
74)	Naphthalene	20.90	128	68951	1.32	ppb	94
75)	Hexachloro-1,3-butadiene	20.98	225	79947m	1.32	ppb	

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK112725.D Vial: 25
Acq On : 28 Nov 2013 12:20 am Operator: RJP
Sample : C1311058-002A MS Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 29 11:10 2013 Quant Results File: AO15_1UG.RES

Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Wed Dec 11 12:48:42 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK112726.D Vial: 26
Acq On : 28 Nov 2013 1:00 am Operator: RJP
Sample : C1311058-002A MSD Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 29 10:56:17 2013 Quant Results File: AO15_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Oct 15 18:12:29 2013
Response via : Initial Calibration
DataAcq Meth : 1UG_T015

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane	9.36	128	20559	1.00	ppb		0.00
34) 1,4-difluorobenzene	11.66	114	51113	1.00	ppb		0.00
49) Chlorobenzene-d5	16.07	117	59975	1.00	ppb		-0.02
System Monitoring Compounds							
62) Bromofluorobenzene	17.57	95	39686	1.13	ppb		-0.03
Spiked Amount 1.000	Range 70 - 130		Recovery = 113.00%				
Target Compounds							Qvalue
3) Propylene	4.09	41	75381m	4.50	ppb		
4) Freon 12	4.06	85	42915m	0.62	ppb		
5) Chloromethane	4.05	50	19364	1.19	ppb		93
6) Freon 114	4.06	85	43288	0.99	ppb		97
7) Vinyl Chloride	4.24	62	12411	0.88	ppb		94
8) 1,3-butadiene	4.28	39	14018m	1.26	ppb		
9) Bromomethane	4.67	94	17989	0.95	ppb		92
10) Ethanol	5.08	45	30776	7.90	ppb	#	65
11) Acrolein	5.56	56	8404	2.31	ppb	#	100
12) Chloroethane	4.83	64	6012	0.88	ppb		98
13) Vinyl Bromide	5.15	106	15583	0.90	ppb		97
14) Freon 11	5.41	101	107307	2.01	ppb		96
15) Acetone	5.69	58	43661	7.70	ppb	#	44
16) Isopropyl alcohol	5.86	45	17141	1.15	ppb	#	100
17) 1,1-dichloroethene	6.14	96	14602	0.88	ppb		95
18) Freon 113	6.34	101	38885	1.02	ppb		98
19) t-Butyl alcohol	6.56	59	20790	1.02	ppb	#	22
20) Methylene chloride	6.59	84	27211	2.07	ppb		98
21) Allyl chloride	6.58	41	16076	0.96	ppb		90
22) Carbon disulfide	6.74	76	42431	0.98	ppb		100
23) trans-1,2-dichloroethene	7.51	61	31311m	1.33	ppb		
24) methyl tert-butyl ether	7.68	73	38766	0.98	ppb		84
25) 1,1-dichloroethane	7.94	63	50214	1.09	ppb		99
26) Vinyl acetate	8.03	43	22447	0.79	ppb		100
27) Methyl Ethyl Ketone	8.59	72	14301	1.85	ppb	#	100
28) cis-1,2-dichloroethene	8.92	61	25224	1.01	ppb		97
29) Hexane	8.46	57	40981	1.69	ppb		93
30) Ethyl acetate	9.18	43	33132	1.07	ppb		94
31) Chloroform	9.52	83	61229	1.10	ppb		99
32) Tetrahydrofuran	9.83	42	12710m	0.87	ppb		
33) 1,2-dichloroethane	10.62	62	29242	0.99	ppb		97
35) 1,1,1-trichloroethane	10.32	97	97317	2.36	ppb		100
36) Cyclohexane	10.99	56	29234m	1.51	ppb		
37) Carbon tetrachloride	10.97	117	69829	1.38	ppb		99
38) Benzene	10.94	78	100523	1.84	ppb		99
39) Methyl methacrylate	12.56	41	14429	1.38	ppb	#	81
40) 1,4-dioxane	12.73	88	4267	0.74	ppb		85
41) 2,2,4-trimethylpentane	11.82	57	159964	2.43	ppb		97
42) Heptane	12.16	43	27645	1.39	ppb		93
43) Trichloroethene	12.27	130	34121	1.34	ppb		99
44) 1,2-dichloropropane	12.38	63	27190	1.24	ppb		97
45) Bromodichloromethane	12.70	83	60428	1.25	ppb		99
46) cis-1,3-dichloropropene	13.48	75	29023	1.24	ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK112726.D Vial: 26
Acq On : 28 Nov 2013 1:00 am Operator: RJP
Sample : C1311058-002A MSD Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 29 10:56:17 2013 Quant Results File: AO15_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Oct 15 18:12:29 2013
Response via : Initial Calibration
DataAcq Meth : 1UG_T015

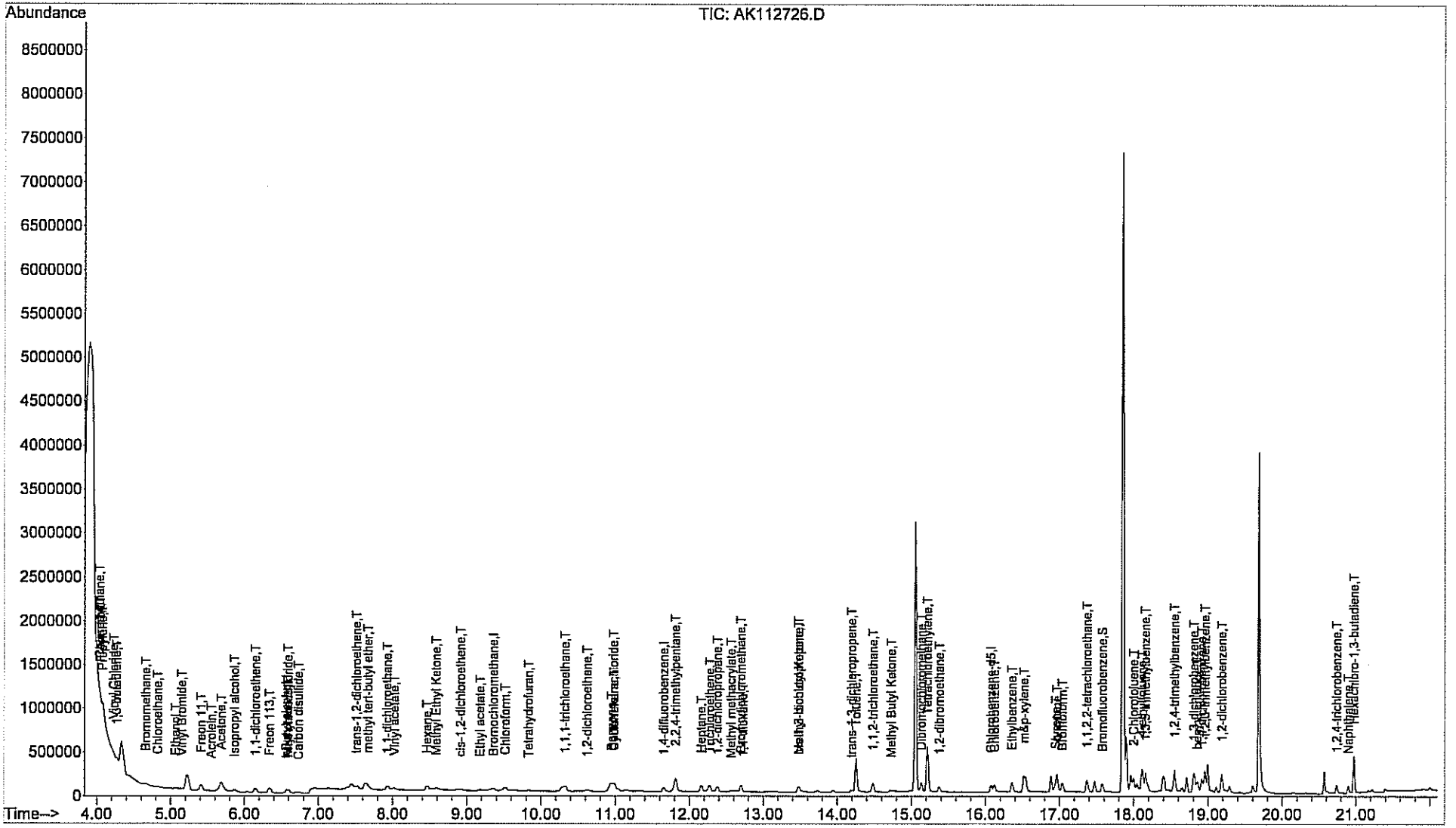
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
47)	trans-1,3-dichloropropene	14.19	75	23523	1.29	ppb	#	38
48)	1,1,2-trichloroethane	14.48	97	33514m	1.20	ppb		
50)	Toluene	14.25	92	179664	5.34	ppb		99
51)	Methyl Isobutyl Ketone	13.47	43	29360	1.08	ppb		99
52)	Dibromochloromethane	15.13	129	63563	1.10	ppb		98
53)	Methyl Butyl Ketone	14.73	43	22279m	1.00	ppb		
54)	1,2-dibromoethane	15.37	107	47143	1.12	ppb		99
55)	Tetrachloroethylene	15.22	164	143239	4.11	ppb		99
56)	Chlorobenzene	16.12	112	59288	1.03	ppb		99
57)	Ethylbenzene	16.36	91	86776	1.38	ppb		99
58)	m&p-xylene	16.52	91	206506	3.80	ppb		99
59)	Styrene	16.94	104	48795	1.14	ppb		88
60)	Bromoform	17.04	173	57388	0.93	ppb		98
61)	o-xylene	16.96	91	125449	1.54	ppb		98
63)	1,1,2,2-tetrachloroethane	17.37	83	82198	1.11	ppb		100
64)	2-Chlorotoluene	17.99	91	98737m	1.18	ppb		
65)	4-ethyltoluene	18.11	105	112006m	1.63	ppb		
66)	1,3,5-trimethylbenzene	18.16	105	116179	1.45	ppb		95
67)	1,2,4-trimethylbenzene	18.55	105	133437	2.43	ppb		99
68)	1,3-dichlorobenzene	18.80	146	74610	1.44	ppb		98
69)	benzyl chloride	18.86	91	72497	1.72	ppb		93
70)	1,4-dichlorobenzene	18.91	146	73857	1.40	ppb		94
71)	1,2,3-trimethylbenzene	18.95	105	24826m	0.35	ppb		
72)	1,2-dichlorobenzene	19.18	146	76249	1.36	ppb		98
73)	1,2,4-trichlorobenzene	20.74	180	38052	1.39	ppb		92
74)	Naphthalene	20.90	128	75890	1.44	ppb		92
75)	Hexachloro-1,3-butadiene	20.97	225	80007	1.31	ppb		98

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AK112726.D Vial: 26
Acq On : 28 Nov 2013 1:00 am Operator: RJP
Sample : C1311058-002A MSD Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 29 12:14 2013 Quant Results File: AO15_1UG.RES

Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Wed Dec 11 12:48:42 2013
Response via : Initial Calibration



GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

INJECTION LOG

Centek Laboratories, LLC

Directory: C:\HPCHEM\1\DATA2

Injection Log

Internal Standard Stock # 9522

Standard Stock # 9523

LCS Stock # 9524

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
441	12	Ak112512.d	1.	C1311057	AO15_1UG-010A 2430X	25 Nov 2013 13:49
442	13	Ak112513.d	1.	C1311057-008A 262440X	AO15_1UG	25 Nov 2013 14:41
443	14	Ak112514.d	1.	C1311057-010A 131220X	AO15_1UG	25 Nov 2013 15:18
444	15	Ak112515.d	1.	C1311057-012A 1620X	AO15_1UG	25 Nov 2013 15:54
445	16	Ak112516.d	1.	C1311057-013A 1620X	AO15_1UG	25 Nov 2013 16:32
446	17	Ak112517.d	1.	C1311057-007A 1620X	AO15_1UG	25 Nov 2013 17:09
447	18	Ak112518.d	1.	ALCS1UGD-112513	AO15_1UG	25 Nov 2013 17:46
448	19	Ak112519.d	1.	WAC112513A	AO15_1UG	25 Nov 2013 18:22
449	20	Ak112520.d	1.	WAC112513B	AO15_1UG	25 Nov 2013 18:58
450	21	Ak112521.d	1.	WAC112513C	AO15_1UG	25 Nov 2013 19:33
451	22	Ak112522.d	1.	WAC112513D	AO15_1UG	25 Nov 2013 20:08
452	23	Ak112523.d	1.	WAC112513E	AO15_1UG	25 Nov 2013 20:43
453	24	Ak112524.d	1.	WAC112513F	AO15_1UG	25 Nov 2013 21:18
454	19	Ak112525.d	1.	C1311055-002A	AO15_1UG	25 Nov 2013 21:57
455	20	Ak112526.d	1.	C1311055-004A	AO15_1UG	25 Nov 2013 22:33
456	21	Ak112527.d	1.	C1311055-006A	AO15_1UG	25 Nov 2013 23:10
457	22	Ak112528.d	1.	C1311055-001A	AO15_1UG	25 Nov 2013 23:47
458	23	Ak112529.d	1.	C1311055-003A	AO15_1UG	26 Nov 2013 00:24
459	24	Ak112530.d	1.	C1311055-005A	AO15_1UG	26 Nov 2013 01:03
460	25	Ak112531.d	1.	C1311055-002A 10X	AO15_1UG	26 Nov 2013 01:38
461	26	Ak112532.d	1.	C1311055-004A 10X	AO15_1UG	26 Nov 2013 02:13
462	27	Ak112533.d	1.	C1311055-006A 10X	AO15_1UG	26 Nov 2013 02:48
463	28	Ak112534.d	1.	C1311055-001A 10X	AO15_1UG	26 Nov 2013 03:23
464	29	Ak112535.d	1.	C1311055-001A 40X	AO15_1UG	26 Nov 2013 03:57
465	30	Ak112536.d	1.	C1311055-003A 10X	AO15_1UG	26 Nov 2013 04:32
466	31	Ak112537.d	1.	C1311055-003A 40X	AO15_1UG	26 Nov 2013 05:07
467	32	Ak112538.d	1.	C1311055-005A 10X	AO15_1UG	26 Nov 2013 05:41
468	33	Ak112539.d	1.	C1311055	AO15_1UG-005A 40X	26 Nov 2013 06:17
469		Ak112540.d	1.	No MS or GC data present		
470	1	Ak112601.d	1.	BFB1UG	AO15_1UG	26 Nov 2013 09:18
471	2	Ak112602.d	1.	A1UG_1.0	AO15_1UG	26 Nov 2013 10:09
472	3	Ak112603.d	1.	ALCS1UG-112613	AO15_1UG	26 Nov 2013 10:57
473	4	Ak112604.d	1.	AMB1UG-112613	AO15_1UG	26 Nov 2013 11:33
474	5	Ak112605.d	1.	WAC112613A	AO15_1UG	26 Nov 2013 12:09
475	6	Ak112606.d	1.	WAC112613B	AO15_1UG	26 Nov 2013 12:44
476	7	Ak112607.d	1.	C1311055-005A 90X	AO15_1UG	26 Nov 2013 13:22
477	8	Ak112608.d	1.	C1311057-007A 81X	AO15_1UG	26 Nov 2013 14:45
478	1	Ak112609.d	1.	WAC112613C	AO15_1UG	26 Nov 2013 15:21
479	2	Ak112610.d	1.	WAC112613D	AO15_1UG	26 Nov 2013 15:58
480	3	Ak112611.d	1.	C1311059-001A	AO15_1UG	26 Nov 2013 16:34
481	4	Ak112612.d	1.	C1311067-012A	AO15_1UG	26 Nov 2013 17:12
482	5	Ak112613.d	1.	C1311067-001A 10X	AO15_1UG	26 Nov 2013 17:48
483	6	Ak112614.d	1.	C1311067-002A 10X	AO15_1UG	26 Nov 2013 18:23
484	7	Ak112615.d	1.	C1311067-003A 10X	AO15_1UG	26 Nov 2013 18:58
485	8	Ak112616.d	1.	C1311067-004A 10X	AO15_1UG	26 Nov 2013 19:33
486	9	Ak112617.d	1.	C1311067-005A 10X	AO15_1UG	26 Nov 2013 20:09
487	10	Ak112618.d	1.	C1311067-006A 10X	AO15_1UG	26 Nov 2013 20:44
488	11	Ak112619.d	1.	C1311067-007A 10X	AO15_1UG	26 Nov 2013 21:19
489	12	Ak112620.d	1.	C1311067-008A 10X	AO15_1UG	26 Nov 2013 21:54
490	41	Ak112621.d	1.	C1311067-009A 10X	AO15_1UG	26 Nov 2013 22:30
491	42	Ak112622.d	1.	C1311067-010A 10X	AO15_1UG	26 Nov 2013 23:06
492	43	Ak112623.d	1.	C1311067-011A 10X	AO15_1UG	26 Nov 2013 23:41
493	43	Ak112624.d	1.	ALCS1UGD-112613	AO15_1UG	27 Nov 2013 00:16
494	44	Ak112625.d	1.	C1311058-001A	AO15_1UG	27 Nov 2013 00:53
495	45	Ak112626.d	1.	C1311058-003A	AO15_1UG	27 Nov 2013 01:30

Injection Log

Internal Standard Stock # 5522
Standard Stock # 5523
LCS Stock # 5524

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
496	46	Ak112627.d	1.	C1311058-004A	AO15_1UG	27 Nov 2013 02:07
497	47	Ak112628.d	1.	C1311058-007A	AO15_1UG	27 Nov 2013 02:43
498	48	Ak112629.d	1.	C1311058	AO15_1UG-002A	27 Nov 2013 03:23
499	48	Ak112630.d	1.	C1311058	AO15_1UG-002A MS	27 Nov 2013 04:05
500	48	Ak112631.d	1.	C1311058	AO15_1UG-002A MSD	27 Nov 2013 04:47
501	49	Ak112632.d	1.	C1311058-005A	AO15_1UG	27 Nov 2013 05:24
502	21	Ak112633.d	1.	C1311058-006A	AO15_1UG	27 Nov 2013 06:01
503	22	Ak112634.d	1.	C1311058-008A	AO15_1UG	27 Nov 2013 06:38
504	26	Ak112635.d	1.	C1311065-001A 10X	AO15_1UG	27 Nov 2013 07:16
505	27	Ak112636.d	1.	C1311065-002A 10X	AO15_1UG	27 Nov 2013 07:54
506		Ak112637.d	1.	No MS or GC data present		
507	1	Ak112701.d	1.	BFB1UG	AO15_1UG	27 Nov 2013 08:49
508	2	Ak112702.d	1.	A1UG_1.0	AO15_1UG	27 Nov 2013 09:44
509	3	Ak112703.d	1.	ALCS1UG-112713	AO15_1UG	27 Nov 2013 10:28
510	4	Ak112704.d	1.	AMB1UG-112713	AO15_1UG	27 Nov 2013 11:04
511	5	Ak112705.d	1.	C1311059-001A 10X	AO15_1UG	27 Nov 2013 12:11
512	6	Ak112706.d	1.	C1311067-001A	AO15_1UG	27 Nov 2013 12:51
513	7	Ak112707.d	1.	C1311067-002A	AO15_1UG	27 Nov 2013 13:30
514	8	Ak112708.d	1.	C1311067-003A	AO15_1UG	27 Nov 2013 14:07
515	9	Ak112709.d	1.	C1311067-004A	AO15_1UG	27 Nov 2013 14:45
516	10	Ak112710.d	1.	C1311067-005A	AO15_1UG	27 Nov 2013 15:22
517	11	Ak112711.d	1.	C1311067-006A	AO15_1UG	27 Nov 2013 15:59
518	12	Ak112712.d	1.	C1311067-007A	AO15_1UG	27 Nov 2013 16:35
519	13	Ak112713.d	1.	C1311067-008A	AO15_1UG	27 Nov 2013 17:11
520	14	Ak112714.d	1.	C1311067-009A	AO15_1UG	27 Nov 2013 17:47
521	15	Ak112715.d	1.	C1311067-010A	AO15_1UG	27 Nov 2013 18:23
522	16	Ak112716.d	1.	C1311067-011A	AO15_1UG	27 Nov 2013 18:59
523	17	Ak112717.d	1.	C1311058-001A 10X	AO15_1UG	27 Nov 2013 19:35
524	18	Ak112718.d	1.	C1311058-003A 10X	AO15_1UG	27 Nov 2013 20:09
525	19	Ak112719.d	1.	C1311058-004A 10X	AO15_1UG	27 Nov 2013 20:44
526	20	Ak112720.d	1.	C1311058-004A 40X	AO15_1UG	27 Nov 2013 21:19
527	21	Ak112721.d	1.	C1311058-007A 10X	AO15_1UG	27 Nov 2013 21:53
528	22	Ak112722.d	1.	ALCS1UGD-112713	AO15_1UG	27 Nov 2013 22:29
529	23	Ak112723.d	1.	C1311058-002A	AO15_1UG	27 Nov 2013 23:06
530	24	Ak112724.d	1.	C1311058-002A 10X	AO15_1UG	27 Nov 2013 23:40
531	25	Ak112725.d	1.	C1311058-002A MS	AO15_1UG	28 Nov 2013 00:20
532	26	Ak112726.d	1.	C1311058-002A MSD	AO15_1UG	28 Nov 2013 01:00
533	27	Ak112727.d	1.	C1311058-005A 10X	AO15_1UG	28 Nov 2013 01:35
534	28	Ak112728.d	1.	C1311058-005A 40X	AO15_1UG	28 Nov 2013 02:09
535	29	Ak112729.d	1.	C1311058-006A 10X	AO15_1UG	28 Nov 2013 02:44
536	30	Ak112730.d	1.	C1311058-006A 40X	AO15_1UG	28 Nov 2013 03:18
537	31	Ak112731.d	1.	C1311058-008A 10X	AO15_1UG	28 Nov 2013 03:53
538	32	Ak112732.d	1.	C1311058-008A 40X	AO15_1UG	28 Nov 2013 04:27
539	33	Ak112733.d	1.	C1311065-001A	AO15_1UG	28 Nov 2013 05:04
540	34	Ak112734.d	1.	C1311065-001A 40X	AO15_1UG	28 Nov 2013 05:38
541	35	Ak112735.d	1.	C1311065-002A	AO15_1UG	28 Nov 2013 06:15
542	36	Ak112736.d	1.	C1311065-002A 40X	AO15_1UG	28 Nov 2013 06:52
543		Ak112737.d	1.	No MS or GC data present		
544	1	Ak120201.d	1.	BFB1UG	AO15_1UG	2 Dec 2013 08:07
545	2	Ak120202.d	1.	A1UG	AO15_1UG	2 Dec 2013 08:44
546	3	Ak120203.d	1.	A1UG_1.0	AO15_1UG	2 Dec 2013 09:21
547	4	Ak120204.d	1.	AMB1UG-120213	AO15_1UG	2 Dec 2013 09:57
548	5	Ak120205.d	1.	ALCS1UG-120213	AO15_1UG	2 Dec 2013 10:34
549	6	Ak120206.d	1.	C1311058-008A 270X	AO15_1UG	2 Dec 2013 14:44
550	7	Ak120207.d	1.	C1311067-001A 10X	AO15_1UG	2 Dec 2013 20:30

Centek Laboratories, LLC

Directory: C:\HPCHEM\1\DATA2

Injection Log

Internal Standard Stock # 9922
Standard Stock # 9923
LCS Stock # 9924

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
551	8	Ak120208.d	1.	C1311067-002A 10X	AO15_1UG	2 Dec 2013 21:08
552	9	Ak120209.d	1.	C1311067-003A 10X	AO15_1UG	2 Dec 2013 21:46
553	10	Ak120210.d	1.	C1311067-004A 10X	AO15_1UG	2 Dec 2013 22:23
554	11	Ak120211.d	1.	C1311067-005A 10X	AO15_1UG	2 Dec 2013 23:01
555	12	Ak120212.d	1.	C1311067-006A 10X	AO15_1UG	2 Dec 2013 23:39
556	13	Ak120213.d	1.	C1311067-007A 10X	AO15_1UG	3 Dec 2013 00:17
557	14	Ak120214.d	1.	C1311067-007A 40X	AO15_1UG	3 Dec 2013 00:55
558	15	Ak120215.d	1.	C1311067-008A 10X	AO15_1UG	3 Dec 2013 01:32
559	16	Ak120216.d	1.	C1311067-009A 10X	AO15_1UG	3 Dec 2013 02:10
560	17	Ak120217.d	1.	C1311067-009A 90X	AO15_1UG	3 Dec 2013 02:48
561	18	Ak120218.d	1.	C1311067-010A 10X	AO15_1UG	3 Dec 2013 03:26
562	19	Ak120219.d	1.	C1311067-010A 40X	AO15_1UG	3 Dec 2013 04:03
563	20	Ak120220.d	1.	C1311067-011A 10X	AO15_1UG	3 Dec 2013 04:41
564	21	Ak120221.d	1.	C1311067-011A 40X	AO15_1UG	3 Dec 2013 05:19
565	22	Ak120222.d	1.	ALCS1UGD-120213	AO15_1UG	3 Dec 2013 05:58
566	23	Ak120223.d	1.	C1311067-009A 90X	AO15_1UG	3 Dec 2013 07:37
567	24	Ak120224.d	1.	C1311067-011A 40X	AO15_1UG	3 Dec 2013 08:14
568		Ak120225.d	1.	No MS or GC data present		

GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

STANDARDS LOG

Std #	Date Prep	Date exp	Description	Stock #	Stock conc	Initial vol	finial vol	Final conc/ppbV	Prep by	Chkd by
9552	4/8/13	4/15/13	TO15 SULF	9446	1 ppm	1.5psig	30psia	50ppb	I.L.	
9553	↓	↓	↓ SILX	9482	500ppb	3.0psig	30psia	50ppb	↓	
9554	4/8/13	4/15/13	TO15 IUG IS	9546	50ppb	0.9psig	45psia	1ppb	↓	
95155	↓	↓	↓ STD	9547	↓	↓	↓	↓	↓	
95156	↓	↓	↓ LCS	9548	↓	↓	↓	↓	↓	
9557	4/8/13	4/15/13	TO15 4PCH 5ppb	9549	50ppb	3.0psig	30psia	5ppb	I.L.	
9558	4/15/13	4/22/13	TO15 IS	9253	1ppm	1.5psig	30psia	50ppb	I.L.	
9559	↓	↓	↓ STD	9082/9385	↓	↓	↓	↓	↓	
9560	↓	↓	↓ LCS	8972	↓	↓	↓	↓	↓	
9561	↓	↓	↓ 4PCH	9519	↓	↓	↓	↓	↓	
9562	↓	↓	↓ FORM	9537	37% in H_2O	1.1ul	50psig	10 ppm	↓	
9563	↓	↓	↓ FORM.50	9562	10ppm	0.23psig	45psia	50ppb	↓	
9564	↓	↓	↓ SULF	9446	1ppm	1.5psig	30psia	50ppb	↓	
9565	↓	↓	↓ SILX	9482	500ppb	3.0psig	30psia	50ppb	↓	
9566	4/15/13	4/22/13	TO15 IUG IS	9558	50ppb	0.9psig	45psia	1ppb	↓	
9567	↓	↓	↓ STD	9559	↓	↓	↓	↓	↓	
9568	↓	↓	↓ LCS	9560	↓	↓	↓	↓	↓	
9569	4/15/13	4/22/13	TO15 4PCH 5ppb	9561	50ppb	3.0psig	30psia	5ppb	I.L.	
9570	4/17/13	4/2/14	TO15 STD	CYLINDER# CLM003658	AIR	LIQUIDE	2000psig	1ppm	I.L.	
9571	4/17/13	4/24/13	TO15 STD	9570	1ppm	1.5psig	30psia	50ppb	↓	
9572	3/29/13	4/1/14	TO15 LCS MIX	AB-19277	1ppm	1800psig	LINDE GAS		I.L.	

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GC/MS Calibration Standards Logbook

Std #	Date Prep	Date exp	Description	Stock #	Stock conc	Initial vol	finial vol	Final conc/ppbV	Prep by	Chkd by
9887	11/1/13	10/29/14	TO15 IS	FF-4725	LINDE GAS	2200psig		1ppm	L.L	
9588	11/4/13	11/11/13	TO15 IS	9887	1ppm	1.5psig	30psia	50ppb	M	
9589			STD	9570/9385						
9590			LCS	9572						
9591			4PCH	9519	↓	↓	↓	↓		
9592			+(5ppb)	9904	50ppm	3psig	30psia	5ppb		
~~9593~~			~~FORM~~	~~9520~~	~~8.9ppm~~	~~0.25~~				MD
9594			+(50)	9520	8.9ppm	0.25psig	45psia	50ppb		
9595			SILOX	9584	50ppm	3psig	30psia			
9596			SULF	9446	1ppm	1.5psig	↓	↓		
9597			H2S	9667	10ppm	↓	↓	500ppb		
9598			TO15LL-IS	9888	50ppb	0.5psig	45psia	1ppb		
9599			STD	9589		↓	↓	↓		
9900			LCS	9590	↓				↓	
9901	11/11/13	11/18/13	TO15 IS	9887	1ppm	1.5psig	30psia	50ppb	WD	
9902			STD	9570/9385						
9903			LCS	9572						
9904			4PCH	9519	↓	↓	↓	↓		
9905			4PCH(5ppb)	9904	50ppb	3.0psig	30psia	5ppb		
9906			Form 50	9520	8.9ppm	0.25psig	45psia	50ppb		
9907	↓	↓	↓ SILOX	9584	500ppb	3.0psig	30psia	↓	↓	

Std #	Date Prep	Date exp	Description	Stock #	Stock conc	Initial vol	finial vol	Final conc/ppbV	Prep by	Chkd by
9929	11/25/13	12/2/13	TO15 4PCH	9519	1 ppm	1.5 psig	30 psiA	50 ppb	WD	
9930	↓	↓	4PCH (5ppb)	9929	50 ppb	3.0 psig	↓	5 ppb	↓	
9931			FORM 50	9520	8.9 ppm	0.25 psig	45 psiA	50 ppb		
9932			SILOX	9584	500 ppb	3.0 psig	30 psiA	↓		
9933			SULF	9446	1 ppm	1.5 psig	↓			
9934			↓ H_2S	9667	10 ppm	↓	↓	500 ppb		
9935			TO15 14A IS	9926	50 ppb	0.9 psig	45 psiA	1 ppb		
9936			↓ STD	9927	↓	↓	↓	↓		
9937	↓	↓	↓ LCS	9928	↓	↓	↓	↓	↓	

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GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

CANISTER CLEANING LOG

Centek Laboratories, LLC

Instrument: Entech 3100

QC Canister Cleaning Logbook

Canister Number	QC Can Number	Number of Cycles	Date	QC Batch Number	Detection Limits	Leak Test 24hr (psig str/stp)	
370	415	30	11.11.13	WAC111113 A	1ug/m3 +0.25	+ 30	+ 30
1186						+	+
431						+	+
94						+	+
415						+	+
365	240			WAC111113 B		+	+
226						+	+
1176						+	+
1188						+	+
240						+	+
541	201			WAC111113 C		+	+
552						+	+
411						+	+
201						+	+
133	546			WAC111113 D		+	+
171						+	+
366						+	+
190						+	+
546						+	+
						+	+
						+	+
						+	+
						+	+
						+	+
						+	+

Cleaned by: _____

Page # _____

Centek Laboratories, LLC

Instrument: Entech 3100

QC Canister Cleaning Logbook

Canister Number	QC Can Number	Number of Cycles	Date	QC Batch Number	Detection Limits	Leak Test 24hr (psig str/stp)	
1202	211	30	10.16.13	WAC101613 E	1ug/m3+0.25	+ 30	+ 30
1207						+	+
217						+	+
212						+	+
211						+	+
1197	1199			WAC101613 F		+	+
487						+	+
1200						+	+
483						+	+
1199						+	+
210	484			WAC101613 G		+	+
1208						+	+
486						+	+
482						+	+
484						+	+
215	1201			WAC101613 H		+	+
209						+	+
1203						+	+
485						+	+
1201						+	+
						+	+
						+	+
						+	+
						+	+
						+	+

Cleaned by: _____

Page # _____

Centek Laboratories, LLC

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\2013 OCT\AK101609.D Vial: 9
Acq On : 16 Oct 2013 2:11 pm Operator: RJP
Sample : WAC101613E Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 17 08:08:08 2013 Quant Results File: AO15_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Oct 15 18:12:29 2013
Response via : Initial Calibration
DataAcq Meth : 1UG_T015

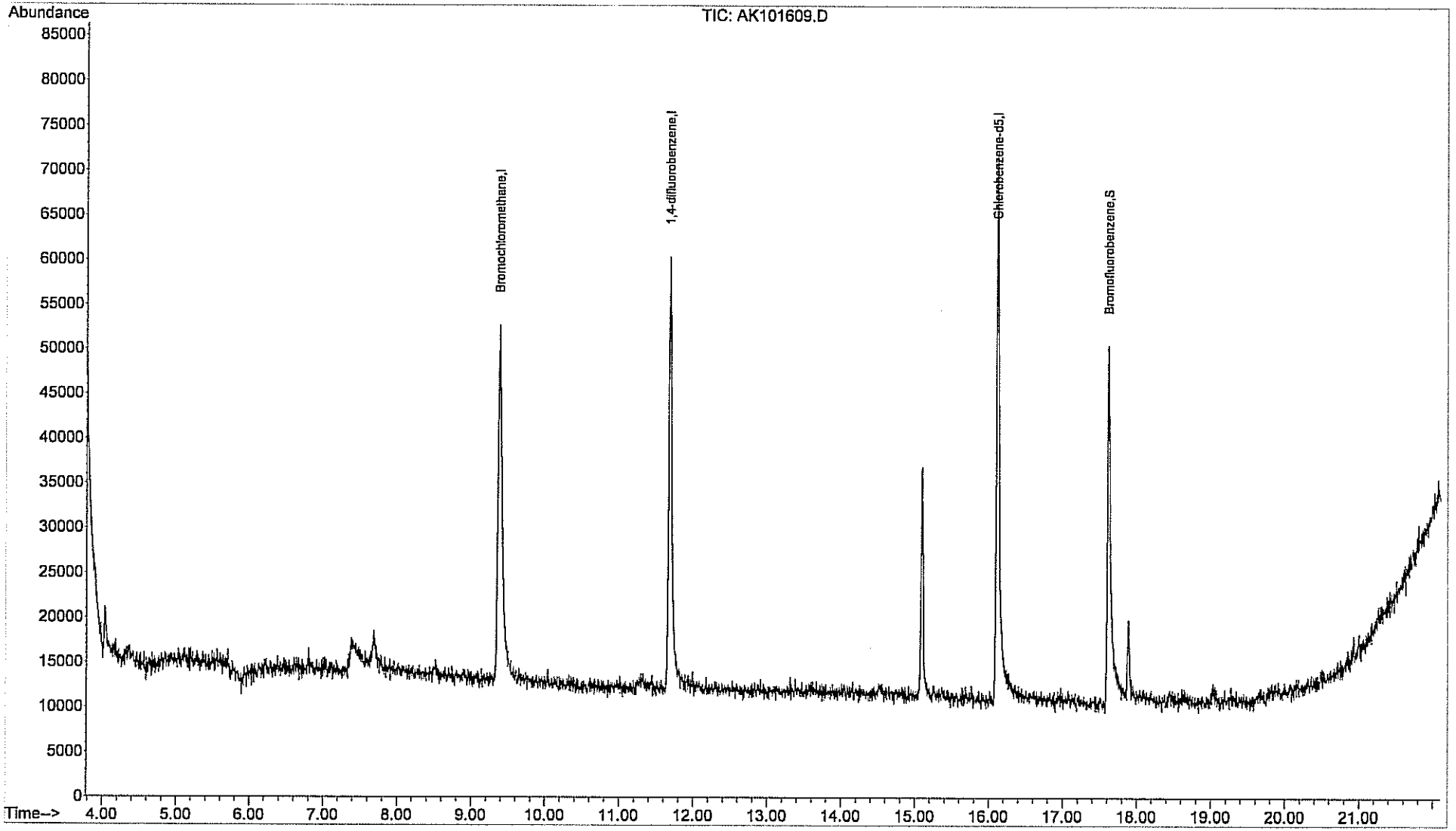
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.38	128	22745	1.00	ppb	0.02
34) 1,4-difluorobenzene	11.68	114	64593	1.00	ppb	0.01
49) Chlorobenzene-d5	16.11	117	57271	1.00	ppb	0.00
System Monitoring Compounds						
62) Bromofluorobenzene	17.61	95	25694m	0.76	ppb	0.00
Spiked Amount 1.000	Range 70 - 130		Recovery = 76.00%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed
AK101609.D AO15_1UG.M Tue Dec 17 15:15:13 2013 MSD1 Page 1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\2013 OCT\AK101609.D Vial: 9
Acq On : 16 Oct 2013 2:11 pm Operator: RJP
Sample : WAC101613E Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 17 9:21 2013 Quant Results File: AO15_1UG.RES

Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Wed Dec 11 11:55:01 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\2013 OCT\AK101610.D Vial: 10
Acq On : 16 Oct 2013 2:47 pm Operator: RJP
Sample : WAC101613F Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 17 08:08:09 2013 Quant Results File: AO15_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Oct 15 18:12:29 2013
Response via : Initial Calibration
DataAcq Meth : 1UG_TO15

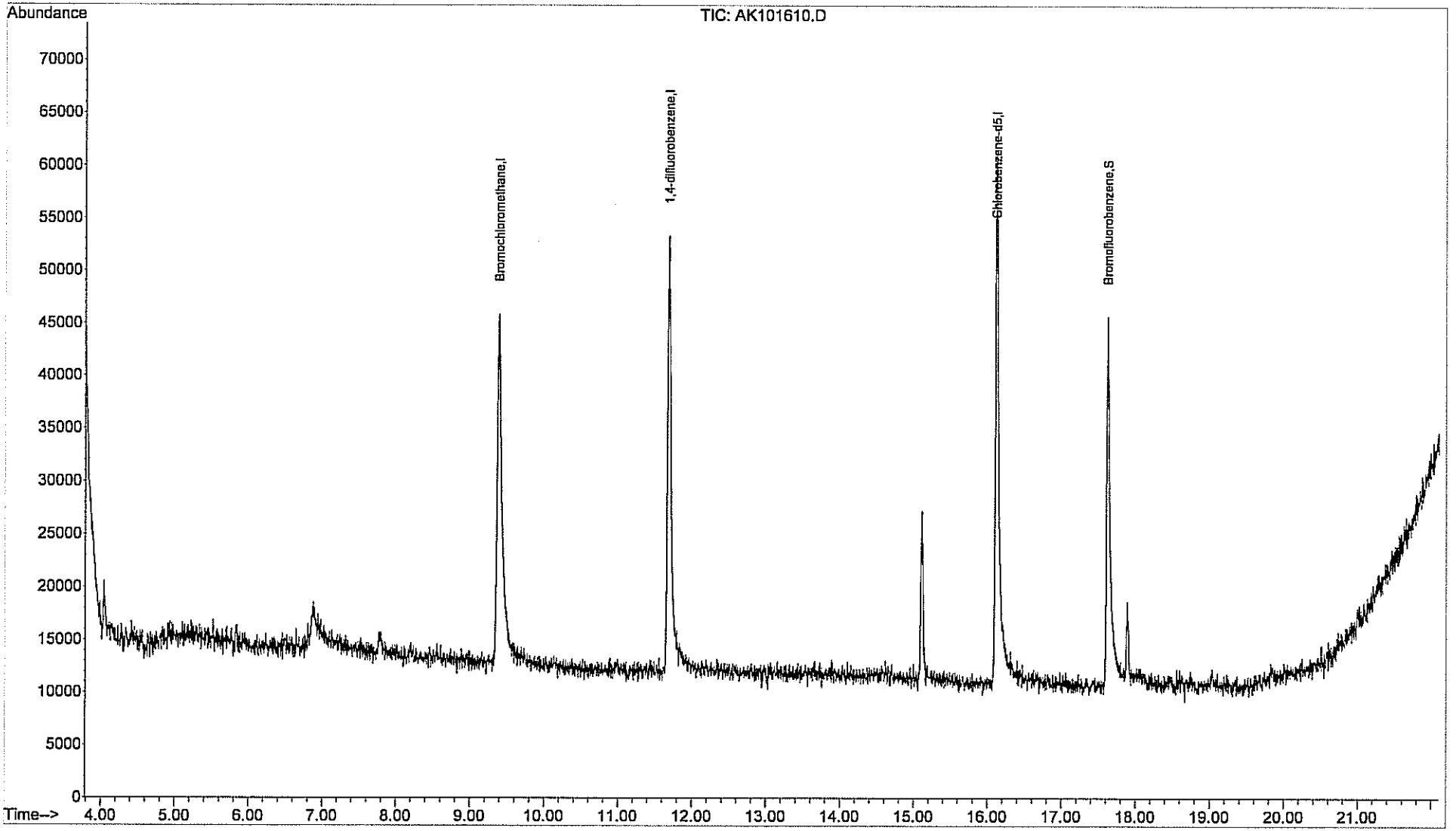
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.38	128	21327	1.00	ppb	0.02
34) 1,4-difluorobenzene	11.69	114	60202	1.00	ppb	0.02
49) Chlorobenzene-d5	16.11	117	55638	1.00	ppb	0.02
System Monitoring Compounds						
62) Bromofluorobenzene	17.62	95	24956m	0.76	ppb	0.01
Spiked Amount 1.000	Range 70 - 130		Recovery = 76.00%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed
AK101610.D AO15_1UG.M Tue Dec 17 15:15:18 2013 MSD1 Page 1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\2013 OCT\AK101610.D Vial: 10
Acq On : 16 Oct 2013 2:47 pm Operator: RJP
Sample : WAC101613F Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 17 9:21 2013 Quant Results File: AO15_1UG.RES

Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Wed Dec 11 11:55:01 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\AK111106.D Vial: 1
Acq On : 11 Nov 2013 2:00 pm Operator: RJP
Sample : WAC111113A Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 11 20:10:31 2013 Quant Results File: AO15_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Oct 15 18:12:29 2013
Response via : Initial Calibration
DataAcq Meth : 1UG_T015

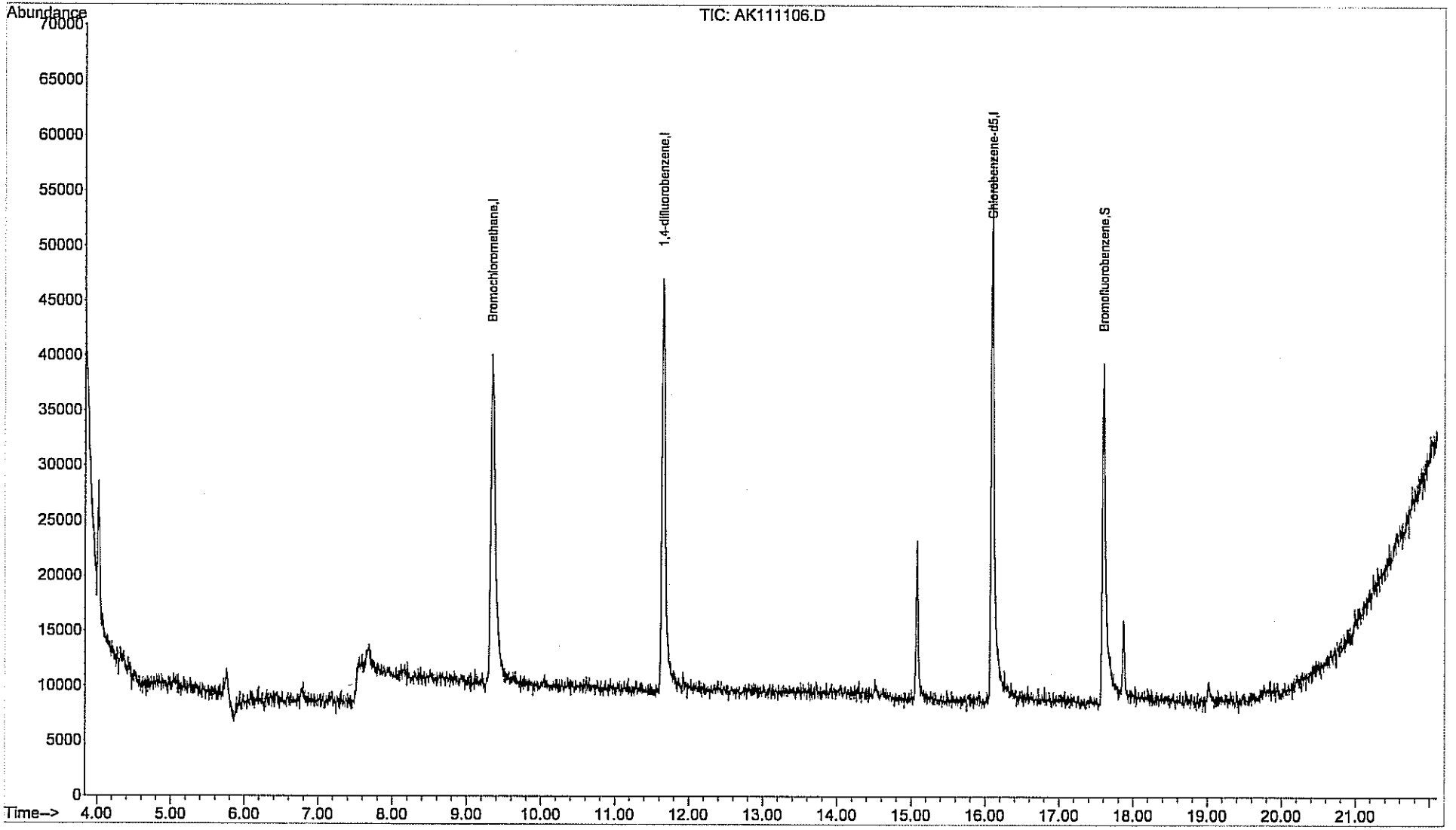
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.34	128	19684	1.00	ppb	-0.02
34) 1,4-difluorobenzene	11.65	114	50541	1.00	ppb	-0.02
49) Chlorobenzene-d5	16.09	117	46161	1.00	ppb	-0.01
System Monitoring Compounds						
62) Bromofluorobenzene	17.59	95	20939m	0.77	ppb	0.00
Spiked Amount 1.000	Range 70 - 130		Recovery = 77.00%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed
AK111106.D AO15_1UG.M Tue Dec 17 15:14:26 2013 MSD1 Page 1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\AK111106.D Vial: 1
Acq On : 11 Nov 2013 2:00 pm Operator: RJP
Sample : WAC111113A Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 12 15:13 2013 Quant Results File: AO15_1UG.RES

Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Wed Dec 11 11:55:01 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\AK111107.D Vial: 2
Acq On : 11 Nov 2013 2:35 pm Operator: RJP
Sample : WAC111113B Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 11 20:10:32 2013 Quant Results File: AO15_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Oct 15 18:12:29 2013
Response via : Initial Calibration
DataAcq Meth : 1UG_T015

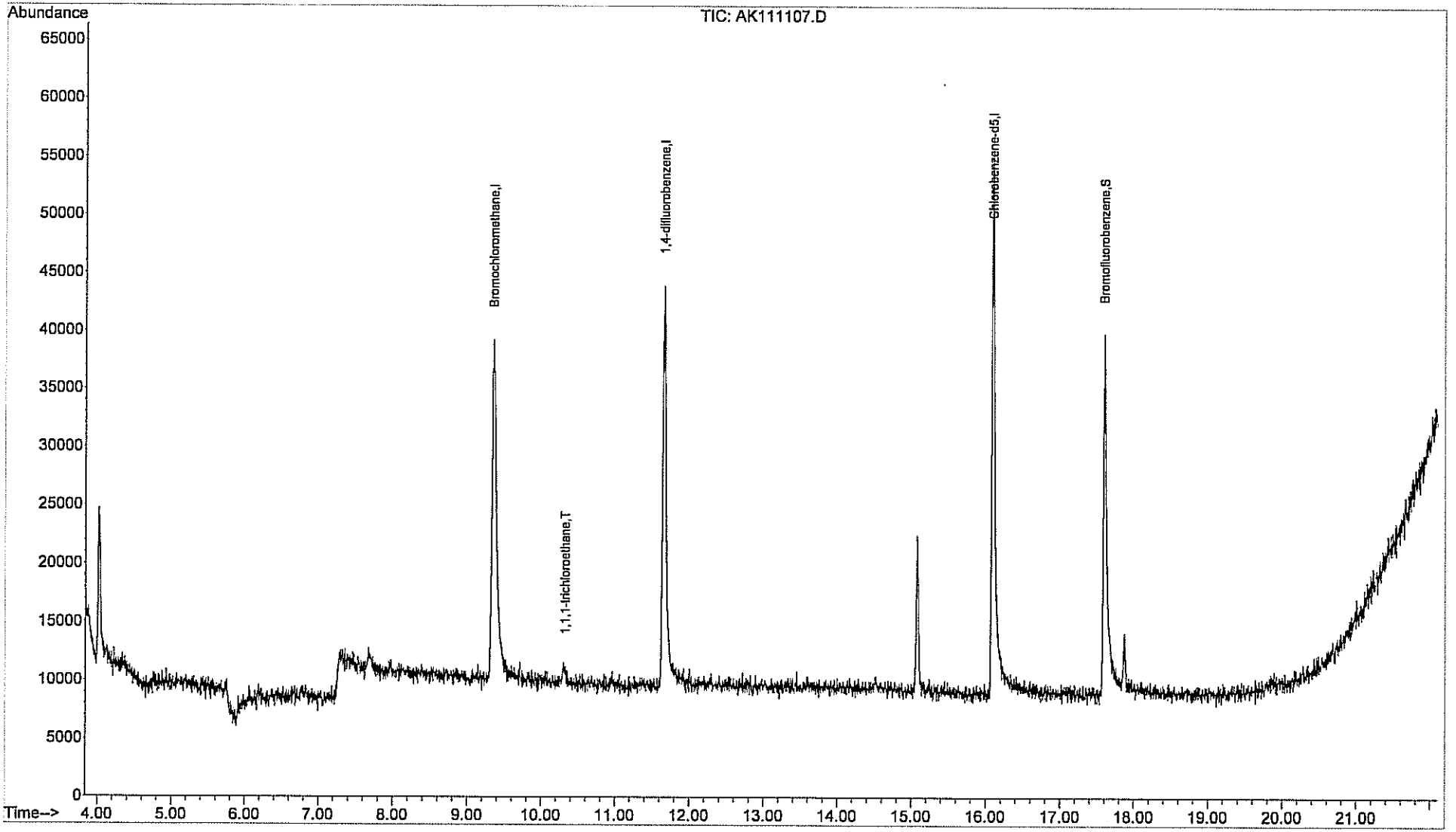
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.35	128	19004	1.00	ppb	-0.02
34) 1,4-difluorobenzene	11.66	114	47860	1.00	ppb	0.00
49) Chlorobenzene-d5	16.09	117	46877	1.00	ppb	0.00
System Monitoring Compounds						
62) Bromofluorobenzene	17.60	95	20988m N	0.76	ppb	0.00
Spiked Amount 1.000	Range 70 - 130		Recovery = 76.00%			
Target Compounds						Qvalue
35) 1,1,1-trichloroethane	10.32	97	1620	0.04	ppb	95

(#) = qualifier out of range (m) = manual integration (+) = signals summed
AK111107.D AO15_1UG.M Tue Dec 17 15:14:28 2013 MSD1 Page 1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\AK111107.D Vial: 2
Acq On : 11 Nov 2013 2:35 pm Operator: RJP
Sample : WAC111113B Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 12 15:13 2013 Quant Results File: AO15_1UG.RES

Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Wed Dec 11 11:55:01 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\AK111108.D Vial: 3
Acq On : 11 Nov 2013 3:10 pm Operator: RJP
Sample : WAC111113C Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 11 20:10:33 2013 Quant Results File: AO15_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Oct 15 18:12:29 2013
Response via : Initial Calibration
DataAcq Meth : 1UG_T015

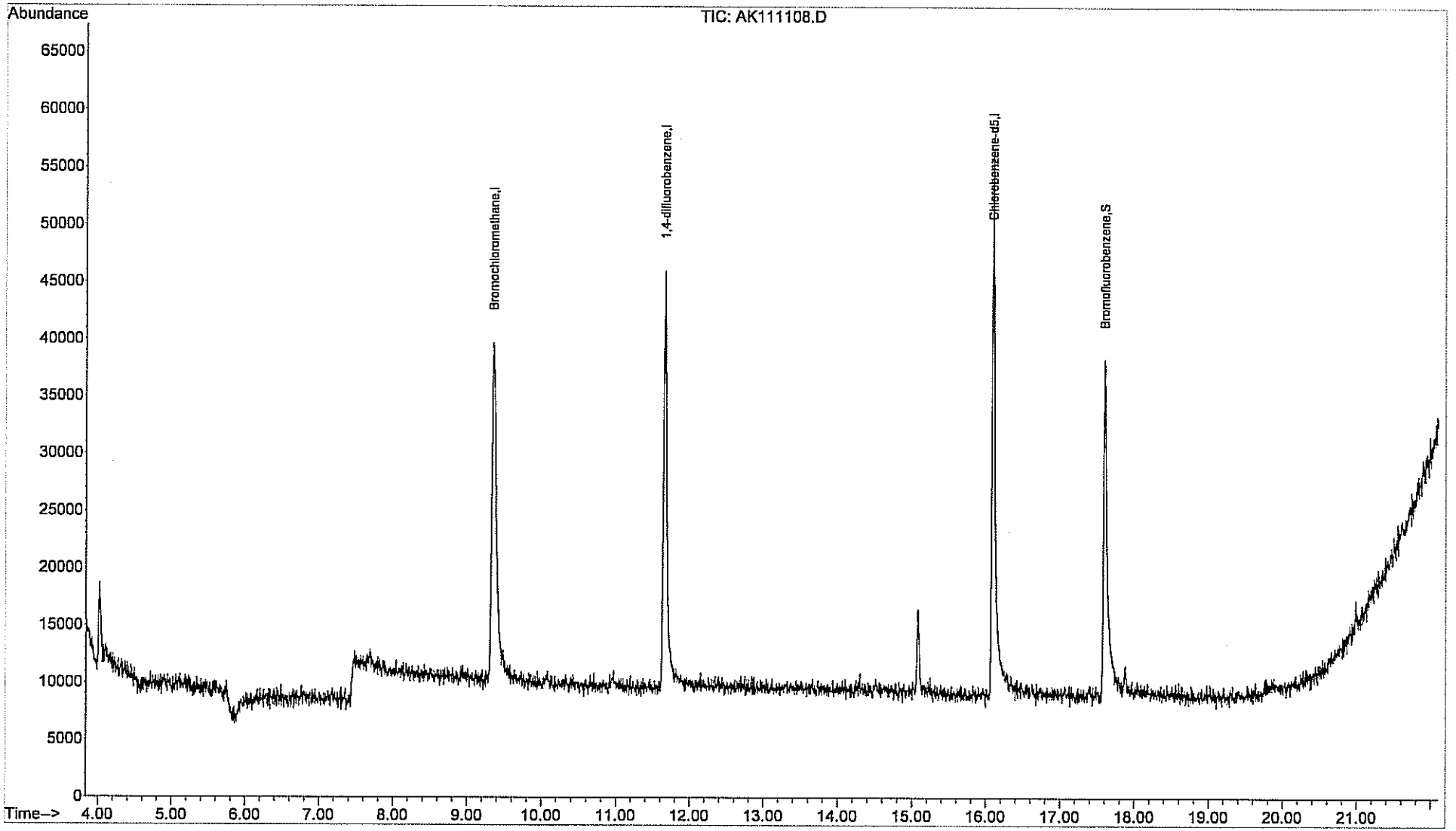
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.35	128	19698	1.00	ppb	-0.02
34) 1,4-difluorobenzene	11.66	114	48370	1.00	ppb	-0.01
49) Chlorobenzene-d5	16.09	117	46464	1.00	ppb	-0.01
System Monitoring Compounds						
62) Bromofluorobenzene	17.60	95	21512m	0.79	ppb	0.00
Spiked Amount 1.000	Range 70 - 130		Recovery = 79.00%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed
AK111108.D AO15_1UG.M Tue Dec 17 15:14:30 2013 MSD1 Page 1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\AK111108.D Vial: 3
Acq On : 11 Nov 2013 3:10 pm Operator: RJP
Sample : WAC111113C Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 12 15:14 2013 Quant Results File: AO15_1UG.RES

Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Wed Dec 11 11:55:01 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\AK111109.D Vial: 4
Acq On : 11 Nov 2013 3:46 pm Operator: RJP
Sample : WAC111113D Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 11 20:10:34 2013 Quant Results File: AO15_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Oct 15 18:12:29 2013
Response via : Initial Calibration
DataAcq Meth : 1UG_T015

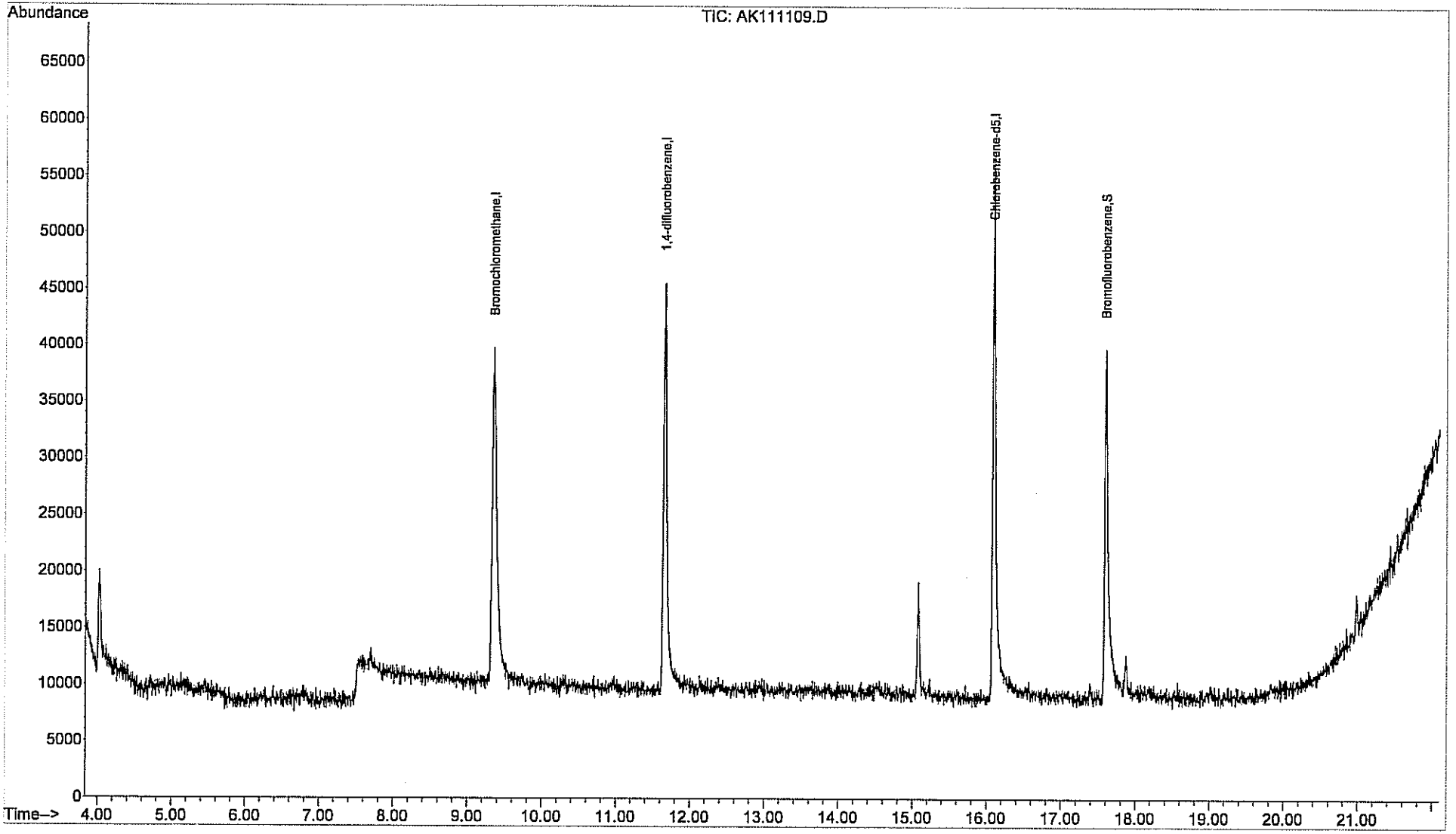
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.35	128	19406	1.00	ppb	-0.01
34) 1,4-difluorobenzene	11.66	114	49415	1.00	ppb	0.00
49) Chlorobenzene-d5	16.09	117	46751	1.00	ppb	0.00
System Monitoring Compounds						
62) Bromofluorobenzene	17.60	95	21748m	0.79	ppb	0.00
Spiked Amount 1.000	Range 70 - 130		Recovery = 79.00%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed
AK111109.D AO15_1UG.M Tue Dec 17 15:14:32 2013 MSD1 Page 1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\AK111109.D Vial: 4
Acq On : 11 Nov 2013 3:46 pm Operator: RJP
Sample : WAC111113D Inst : MSD #1
Misc : AO15_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 12 15:14 2013 Quant Results File: AO15_1UG.RES

Method : C:\HPCHEM\1\METHODS\AO15_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Wed Dec 11 11:55:01 2013
Response via : Initial Calibration



Appendix G
Data Usability Summary Reports

Data Validation Services

120 Cobble Creek Road P.O. Box 208
North Creek, NY 12853

Phone 518-251-4429
harry@frontiernet.net

October 18, 2013

Patricia Parvis
HDR
One Blue Hill Plaza
Pearl River, NY 10965

RE: Validation of the Aluminum Louvre Site Analytical Data
Spectrum Analytical SDG No. M1759

Dear Ms. Parvis:

Review has been completed for the data packages generated by Spectrum Analytical Laboratories that pertain to analysis of samples collected between 09/17/13 and 09/20/13 at the Aluminum Louvre site. Seven aqueous samples were analyzed for a full volatile list by USEPA method 8260B.

Data validation was performed with guidance from the USEPA National Functional Guidelines for data review and the USEPA Region 2 validation SOP HW-6, with consideration for the specific requirements of the analytical methodology.

The following items were reviewed:

* Data Completeness
* Case Narrative
* Custody Documentation
* Holding Times
* Surrogate and Internal Standard Recoveries
* Method/Field/Trip Blanks
* Matrix Spike Recoveries/Duplicate Correlations
* Laboratory Control Samples (LCSs)
* Instrumental Tunes
* Instrument Performance
* Initial and Continuing Calibration Standards
* Method Compliance
* Sample Result Verification

Those items listed above which show deficiencies are discussed within the text of this narrative. All of the other items were determined to be acceptable.

In summary, sample reported results are usable either as reported or with minor qualification or edit. Results for detected analytes in five of the samples and two trip blanks are qualified as estimated due to non-compliant elevated recovery of one of the surrogate standards. The laboratory erroneously

states in the case narrative that the outliers are permitted by the analytical protocol, and did not reanalyze the affected samples. Surrogate standard outliers are intended to be representative of matrix effects; trip blanks have not matrix, and processing anomalies are indicated.

Copies of the client sample identifications and the laboratory case narrative are attached to this text, and should be reviewed in conjunction with this report. Also attached are laboratory results forms with recommended qualifiers and edits applied.

Chains-of-Custody

The identifications of four samples were revised to include the suffix "-CSIA" after sample receipt.

Volatile Analyses by EPA8260B

Results for analytes initially reported with the "E" flag are to be derived from the dilution analyses of those samples. All other results can be derived from the initial analyses.

Due to non-compliant elevated surrogate recoveries, the detected results in the undiluted analyses of MW-195-1-I-CSIA, MW-NEMF-3-D, MW-NEMF-2-D, EW-7C-CSIA, MW-301-1-S-CSIA, TB091713, and TB091813 are qualified as estimated in value. These samples were all analyzed the same day; a rocessing error is indicated. Reanalyses should have been performed to correct the outliers.

The matrix spike evaluation of all target analytes was performed on EW-7C-CSIA. Fourteen analytes show outlying recoveries in the matrix spike, but recoveries in the matrix spike duplicate were acceptable. Iodomethane shows a low recovery in the MS (57%) and an elevated duplicate correlation (47%RPD). The result for that analyte has been qualified as estimated in the parent sample.

The results for 2,2-dichloropropane in the seven samples analyzed on 9/28/13 have been qualified as estimated due to low recoveries in the associated LCSs (62% and 60%).

Results for the following analytes have been qualified as estimated in the indicated samples due to outlying calibration standard (ICV and CCV) responses:

- 2-butanone (low RRF and 36%D), acetone (low RRF and 46%D), 2,2-dichloropropane, bromoform, cis-1,3-dichloropropene, trans-1,3-dichloropropene, t-butylbenzene, and 1,2-dibromo-3-chloropropane (16%RSD to 23%RSD), and 1,1,2,2-tetrachloroethane, hexachlorobutadiene, 1,2,3-trichlorobenzene, and 1,2,4-trichlorobenzene (25%D to 27%D) in MW-195-1-I-CSIA, MW-NEMF-3-D, MW-NEMF-2-D, EW-7C-CSIA, MW-301-1-S-CSIA, TB091713, and TB091813
- iodomethane (22%RSD) in MW-412-1-S-CSIA, TB091913, EW-7D-CSIA, FB092013, and TB092013
- 2-butanone, acetone, 2,2-dichloropropane, 2-hexanone, 1,1,2,2-tetrachloroethane, and 1,2-dibromo-3-chloropropane (23%D to 38%D) in MW-412-1S
- 1,2,3-tricholorobenzene, naphthalene, 1,1,2,2-tetrachloroethane, and 1,2-dibromo-3-chloropropane (27%D to 33%D) in TB091913, EW-7D-CSIA
- acetone and 1,1,2,2-tetrachloroethane (31%D and 25%D) in FB092013 and TB092013

Holding time requirements were met, and instrument tunes meet fragmentation requirements. Internal standard recoveries are compliant with protocol and validation requirements. Blanks show no contamination of analytes detected in project samples.

Please do not hesitate to contact me if questions or comments arise during your review of this report.

Very truly yours,

Judy Harry

VALIDATION DATA QUALIFIER DEFINITIONS

U	The analyte was analyzed for, but was not detected above the level of the associated reported quantitation limit.
J	The analyte was positively identified; the associated numerical value is an approximate concentration of the analyte in the sample.
UJ	The analyte was not detected. The associated reported quantitation limit is an estimate and may be inaccurate or imprecise.
NJ	The detection is tentative in identification and estimated in value. Although there is presumptive evidence of the analyte, the result should be used with caution as a potential false positive and/or elevated quantitative value.
R	The data are unusable. The analyte may or may not be present.
EMPC	The results do not meet all criteria for a confirmed identification. The quantitative value represents the Estimated Maximum Possible Concentration of the analyte in the sample.

CLIENT and LABORATORY SAMPLE IDs and LABORATORY CASE NARRATIVE

Spectrum Analytical Inc. - North Kingstown RI -- Rhode Island Division

New York State Department of Environmental Conservation
Sample Identification and Analytical Requirements Summary

Project Name : Aluminum Louvre **SDG :** M1749

Customer Sample ID	Laboratory Sample ID	Analytical Requirements				
		MSVOA Method #	MSSEMI Method #	GC* Method #	ME	Other
MW-195-1-I-CSIA	M1749-01	SW8260_W				
MW-NEMF-3-D	M1749-02	SW8260_W				
TB091713	M1749-03	SW8260_W				
MW-NEMF-2-D	M1749-04	SW8260_W				
EW-7C-CSIA	M1749-05	SW8260_W				
TB091813	M1749-06	SW8260_W				
MW-301-1-S-CSIA	M1749-07	SW8260_W				
MW-412-1-S	M1749-08	SW8260_W				
TB091913	M1749-09	SW8260_W				
EW-7D-CSIA	M1749-10	SW8260_W				
FB092013	M1749-11	SW8260_W				
TB092013	M1749-12	SW8260_W				

REPORT NARRATIVE

Spectrum Analytical, Inc. Featuring Hanibal Technology, RI Division.

Client : HDR LMS, Inc.

Project: Aluminum Louvre

Laboratory Workorder / SDG #: M1749

SW846 8260C, VOC by GC-MS

I. SAMPLE RECEIPT

No exceptions or unusual conditions were encountered unless a Sample Condition Notification Form, or other record of communication is included with the Sample Receipt Documentation.

II. HOLDING TIMES

A. Sample Preparation:

All samples were prepared within the method-specified holding times.

B. Sample Analysis:

All samples were analyzed within the method-specified holding times.

III. METHODS

Samples were analyzed following procedures in laboratory test code: SW846 8260C

IV. PREPARATION

Aqueous Samples were prepared following procedures in laboratory test code: SW5030B

V. INSTRUMENTATION

The following instrumentation was used

Instrument Code: V10
Instrument Type: GCMS-VOA

Description: HP7890A
Manufacturer: Agilent
Model: 7890A / 5975C
GC Column used: 30 m X 0.25 mm ID [1.40 um thickness] DB-624 capillary column.

VI. ANALYSIS

A. Calibration:

Calibrations met the method/SOP acceptance criteria.

B. Blanks:

All method blanks were within the acceptance criteria.

C. Surrogates:

Surrogate standard percent recoveries were within the QC limits with the following exceptions. Please note that the acceptance criteria allow one surrogate recovery outside of the QC limits per fraction.

(LCS-73996), recovery is above criteria for Dibromofluoromethane at 118% with criteria of (85-115).

MW-195-1-I-CSIA (M1749-01A), recovery is above criteria for Dibromofluoromethane at 122% with criteria of (85-115).

MW-NEMF-3-D (M1749-02A), recovery is above criteria for Dibromofluoromethane at 121% with criteria of (85-115).

TB091713 (M1749-03A), recovery is above criteria for Dibromofluoromethane at 118% with criteria of (85-115).

MW-NEMF-2-D (M1749-04A), recovery is above criteria for Dibromofluoromethane at 119% with criteria of (85-115).

EW-7C-CSIA (M1749-05A), recovery is above criteria for Dibromofluoromethane at 119% with criteria of (85-115).

EW-7C-CSIA (M1749-05AMSD), recovery is above criteria for Dibromofluoromethane at 115% with criteria of (85-115).

TB091813 (M1749-06A), recovery is above criteria for Dibromofluoromethane at 120% with criteria of (85-115).

MW-301-1-S-CSIA (M1749-07A), recovery is above criteria for

Dibromofluoromethane at 121% with criteria of (85-115).

D. Spikes:

1. Laboratory Control Spikes (LCS):

Percent recoveries for lab control samples were within the QC limits with the following exceptions. Please note that most test procedures allow for several compounds outside of the QC limits for the LCS, although this may indicate a bias for this specific compound.

LCS-73996 in batch 73996, recovery is above criteria for 1,1,1-Trichloroethane at 136% with criteria of (65-130), 1,2-Dichloroethane at 141% with criteria of (70-130) and Carbon tetrachloride at 148% with criteria of (65-140).

LCS-74002 in batch 74002, recovery is below criteria for 1,2,3-Trichloropropane at 72% with criteria of (75-125) and 2,2-Dichloropropane at 62% with criteria of (70-135).

LCS-74070 in batch 74070, recovery is above criteria for Bromodichloromethane at 126% with criteria of (75-120).

LCSD-74002 in batch 74002, recovery is below criteria for 2,2-Dichloropropane at 60% with criteria of (70-135).

LCSD-74047 in batch 74047, recovery is above criteria for Bromodichloromethane at 120% with criteria of (75-120).

2. Matrix Spike / Matrix Spike Duplicate (MS/MSD):

Matrix spikes were performed on samples: EW-7C-CSIA (M1749-05AMS) and EW-7C-CSIA (M1749-05AMSD).

Percent recoveries were within the QC limits with the following exceptions:

EW-7C-CSIA (M1749-05AMS), recovery is below criteria for 1,2,3-Trichloropropane at 75% with criteria of (75-125), 1,2,4-Trimethylbenzene at 75% with criteria of (75-130), 1,3,5-Trimethylbenzene at 73% with criteria of (75-130), 1,3-Dichlorobenzene at 72% with criteria of (75-125), 1,4-Dichlorobenzene at 72% with criteria of (75-125), 2-Chlorotoluene at 72% with criteria of (75-125), 4-Chlorotoluene at 73% with criteria of (75-130), 4-Isopropyltoluene at 72% with criteria of (75-130), Bromobenzene at 71% with criteria of (75-125),

Chlorobenzene at 77% with criteria of (80-120), Iodomethane at 57% with criteria of (72-121), n-Propylbenzene at 67% with criteria of (70-130), Trichloroethene at 46% with criteria of (70-125) and Xylene (Total) at 80% with criteria of (81-121).

EW-7C-CSIA (M1749-05AMSD), recovery is below criteria for Trichloroethene at 65% with criteria of (70-125).

Replicate RPDs were within the advisory QC limits with the exception of the following:

EW-7C-CSIA (M1749-05AMSD), Relative Percent Difference is greater than RPD limit for Iodomethane.

E. **Internal Standards:**

Internal standard peak areas were within the QC limits.

F. **Dilutions:**

The following samples were analyzed at dilution:

EW-7C-CSIA (M1749-05ADL) : Dilution Factor: 4
MW-301-1-S-CSIA (M1749-07ADL) : Dilution Factor: 50
MW-412-1-S (M1749-08ADL) : Dilution Factor: 50

G. **Samples:**

No other unusual occurrences were noted during sample analysis.

H. **Manual Integration**

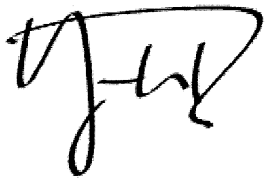
Where needed, manual integrations were performed to improve data quality. The corrections were reviewed and associated hardcopies generated and reported as required. Manual integrations are coded to provide the data reviewer justification for such action. The codes are labeled on the ion chromatogram signal (GC/MS signal) and chromatogram for GC based analysis as follows:

- M1 peak tailing or fronting
- M2 peak co-elution
- M3 rising or falling baseline
- M4 retention time shift
- M5 miscellaneous - under this category, the justification is explained
- M6 software did not integrate peak
- M7 partial peak integration

Manual integration was performed on the following:

MW-301-1-S-CSIA (M1749-07A) Trichloroethene due to M6

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Spectrum, both technically and for completeness, except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.



Signed:_____ _____

Date:_____10/9/13_____

Data Validation Services

120 Cobble Creek Road P.O. Box 208
North Creek, NY 12853

Phone 518-251-4429
harry@frontiernet.net

December 27, 2013

Patricia Parvis
HDR
One Blue Hill Plaza
Pearl River, NY 10965

RE: Validation of the Aluminum Louvre Site Analytical Data
Spectrum Analytical SDG Nos. M2168, M2361, M2391, and M2448
Centek SDG C1311058

Dear Ms. Parvis:

Review has been completed for the data packages generated by Spectrum Analytical Laboratories that pertain to analysis of samples collected between 11/04/13 and 12/13/13 at the Aluminum Louvre site. Twenty-six aqueous samples and two field duplicates were analyzed for a full volatile list by USEPA method 8260B. Eight soil vapor samples were analyzed for volatiles by USEPA method TO-15.

Data validation was performed with guidance from the USEPA CLP National Functional Guidelines for Organic Data Review and the USEPA Region 2 validation SOPs, with consideration for the specific requirements of the analytical methodology.

The following items were reviewed:

* Data Completeness
* Case Narrative
* Custody Documentation
* Holding Times
* Surrogate and Internal Standard Recoveries
* Method/Field/Rinse/Trip/Canister Blanks
* Matrix Spike Recoveries/Duplicate Correlations
* Blind Field Duplicate Correlations
* Laboratory Control Samples (LCSs)
* Instrumental Tunes
* Instrument Performance
* Initial and Continuing Calibration Standards
* Method Compliance
* Sample Result Verification

Those items listed above which show deficiencies are discussed within the text of this narrative. All of the other items were determined to be acceptable.

In summary, sample reported results are usable either as reported or with minor qualification or edit. Accuracy, precision, completeness, and representativeness are acceptable

Copies of the client sample identifications and the laboratory case narrative are attached to this text, and should be reviewed in conjunction with this report. Also attached are client Equis tables with recommended qualifiers and edits applied in red.

Chains-of-Custody/Sample Receipt

A variance between custody and bottle identifications was resolved with the client at sample receipt.

The custody forms do not include fields for relinquish date and time entries. The custody pertaining to samples collected 12/04/13, reported in SDG M2361, has no entry for the relinquish signature and date.

The time of receipt is not entered onto the custody associated with the air samples. The down-arrows were not present on the collection date and requested analysis fields of that custody, and the strikeouts on that custody should have been dated and initialed.

Preservation codes were omitted from some of the custody forms pertaining to aqueous samples. The analysis raw data logs show proper sample pHs.

The trip blank associated with the samples reported in SDG M2168 was not entered onto the custody form. The client was contacted and authorized the analysis.

The samples collected 12/05/13 were not received by the laboratory until four days after collection, beyond the allowable two day interval. The samples appeared (per the date/time relinquish and receipt entries) to be in transit three days, but the temperature at receipt was acceptable; no qualification is made.

Volatile Analyses by EPA8260B

The matrix spike evaluations of all target analytes were performed on MW-NEMF-3-D and MW-NEMF-4-D. Iodomethane shows low recoveries in (44% and 59%) in MW-NEMF-3-D, and the result for that analyte has been qualified as estimated in the parent sample.

The blind field duplicates of MW-195-1-D and MW-NEMF-4-VD show acceptable correlations.

The results for 2,2-dichloropropane in the samples and trip blanks reported in SDG M2361 have been qualified as estimated due to low recovery in the associated LCS (60%).

The results for iodomethane in eleven of the samples and trip blanks reported in SDG M2168 have been qualified as estimated due to low recoveries in the associated LCSs (64% and 60%).

Results for the following analytes have been qualified as estimated in the indicated samples due to outlying calibration standard (ICV and CCV) responses:

- acetone (low RRF) in samples reported in SDG M2361

- acetone and 2-butanone (low RRFs) in samples reported in SDGs M2168, M2391, and M2448
- dichlorodifluoromethane, 1,2,3-trichlorobenzene, and naphthalene (27%D to 31%D) in samples reported in SDG M2361
- iodomethane (22 %RSD and 38%RSD) in the samples reported in SDG M2448 and in nine of the samples reported in SDG M2168
- dichlorodifluoromethane, 2-hexanone, iodomethane, trichlorofluoromethane, bromomethane, 1,2,3-trichlorobenzene, and 1,2-dibromo-3-chloropropane (21%D to 28%D) in eleven of the samples reported in SDG M2168

Holding time requirements were met, and instrument tunes meet fragmentation requirements. Surrogate and internal standard recoveries are compliant with protocol and validation requirements. Blanks show no contamination of target analytes.

The Tentatively Identified Compounds (TICs) reported at the elution time of 1.68' are considered external contamination (due to presence in the associated trip blank), and are to be removed from consideration as field sample components.

Volatile Analyses by EPA TO-15

The following detected results are qualified as tentative in identification and estimated in value due to interferences in the mass spectra:

- 1,1-dichloroethane, hexane, and carbon tetrachloride in 175-WA-IA
- 4-ethyltoluene and methylene chloride in 175-W-SS
- carbon tetrachloride and methylene chloride in 303-E-IA
- 2-butanone in 303-E-SS, 303-E-SSD, and 303-W-IA
- styrene in 303-W-IA

Samples 303-E-IA and 303-E-SSD exhibited elevated responses for one or more internal standard on the initial analyses. Therefore, the result for detected compounds associated with the outlying internal standards are qualified as estimated in those respective samples. They are the following:

- carbon tetrachloride and tetrachloroethene in 303-E-IA
- 4-ethylbenzene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene in 303-S-SSD

The detected results of isopropyl alcohol in 175-W-SS and of 2-butanone in 303-E-IA are edited to non-detection due to very poor mass spectral quality, primarily due to matrix interferences. The adjusted reporting limits are significantly elevated.

The following compounds exhibited outlying recoveries in both of the matrix spikes of 175-W-SS. The results for those analytes are therefore qualified as estimated in the parent sample: 1,2,4-trimethylbenzene, 2,2,4-trimethylpentane, 4-ethyltoluene, o-xylene, tetrachloroethene, and toluene.

Initial and continuing calibration standard responses fall within analytical requirements and validation guidelines.

Holding times and instrument tunes meet requirements. Method and canister blanks show no contamination. The clean canister certifications were reviewed during validation.

Please do not hesitate to contact me if questions or comments arise during your review of this report.

Very truly yours,

Judy Harry

VALIDATION DATA QUALIFIER DEFINITIONS

U	The analyte was analyzed for, but was not detected above the level of the associated reported quantitation limit.
J	The analyte was positively identified; the associated numerical value is an approximate concentration of the analyte in the sample.
UJ	The analyte was not detected. The associated reported quantitation limit is an estimate and may be inaccurate or imprecise.
NJ	The detection is tentative in identification and estimated in value. Although there is presumptive evidence of the analyte, the result should be used with caution as a potential false positive and/or elevated quantitative value.
R	The data are unusable. The analyte may or may not be present.
EMPC	The results do not meet all criteria for a confirmed identification. The quantitative value represents the Estimated Maximum Possible Concentration of the analyte in the sample.

CLIENT and LABORATORY SAMPLE IDs and LABORATORY CASE NARRATIVES

Spectrum Analytical Inc. - North Kingstown RI -- Rhode Island Division

New York State Department of Environmental Conservation
Sample Identification and Analytical Requirements Summary

Project Name : Aluminum Louvre **SDG :** M2168

Customer Sample ID	Laboratory Sample ID	Analytical Requirements				
		MSVOA Method #	MSSEMI Method #	GC* Method #	ME	Other
MW-NEMF-1-D	M2168-01	SW8260_W				
MW-NEMF-1-I	M2168-02	SW8260_W				
MW-NEMF-1-S	M2168-03	SW8260_W				
MW-NEMF-2-S	M2168-04	SW8260_W				
MW-NEMF-2-I	M2168-05	SW8260_W				
TB-11042013	M2168-06	SW8260_W				
MW-NEMF-2-D	M2168-07	SW8260_W				
MW-NEMF-3-S	M2168-08	SW8260_W				
MW-NEMF-3-D	M2168-09	SW8260_W				
MW-NEMF-3-I	M2168-10	SW8260_W				
MW-195-1-S	M2168-11	SW8260_W				
MW-195-1-I	M2168-12	SW8260_W				
TB-11052013	M2168-13	SW8260_W				
MW-195-1-D	M2168-14	SW8260_W				
MW-206-2-D	M2168-15	SW8260_W				
MW-303-1-I	M2168-16	SW8260_W				
RB-11062013	M2168-17	SW8260_W				
MW-303-1-D	M2168-18	SW8260_W				
MW-303-1-S	M2168-19	SW8260_W				
TB-11062013	M2168-20	SW8260_W				

Spectrum Analytical Inc. - North Kingstown RI -- Rhode Island Division

New York State Department of Environmental Conservation
Sample Identification and Analytical Requirements Summary

Project Name : Aluminum Louvre **SDG :** M2361

Customer Sample ID	Laboratory Sample ID	Analytical Requirements				
		MSVOA Method #	MSSEMI Method #	GC* Method #	ME	Other
MW-175-1-D	M2361-01	SW8260_W				
MW-175-1-I	M2361-02	SW8260_W				
MW-175-1VD	M2361-03	SW8260_W				
TB-12032013	M2361-04	SW8260_W				
MW-NEMF-3-VD	M2361-05	SW8260_W				
MW-NEMF-2-VD	M2361-06	SW8260_W				
TB-12052013	M2361-07	SW8260_W				

Spectrum Analytical Inc. - North Kingstown RI -- Rhode Island Division

New York State Department of Environmental Conservation
Sample Identification and Analytical Requirements Summary

Project Name : Aluminum Louvre **SDG :** M2391

Customer Sample ID	Laboratory Sample ID	Analytical Requirements				
		MSVOA Method #	MSSEMI Method #	GC* Method #	ME	Other
MW-NEMF-4-D	M2391-01	SW8260_W				
MW-NEMF-4-VD	M2391-02	SW8260_W				
MW-NEMF-5-VD	M2391-03	SW8260_W				
MW-NEMF-2-ED	M2391-04	SW8260_W				
MW-NEMF-3-ED	M2391-05	SW8260_W				
FB-120513	M2391-06	SW8260_W				
TB-120513	M2391-07	SW8260_W				

Spectrum Analytical Inc. - North Kingstown RI -- Rhode Island Division

New York State Department of Environmental Conservation
Sample Identification and Analytical Requirements Summary

Project Name : Aluminum Louvre

SDG : M2448

Customer Sample ID	Laboratory Sample ID	Analytical Requirements				
		MSVOA Method #	MSSEMI Method #	GC* Method #	ME	Other
MW-NEMF-4-ED	M2448-01	SW8260_W				
MW-175-1-S	M2448-02	SW8260_W				
TB-121213	M2448-03	SW8260_W				

CENTEK LABORATORIES, LLC

Date: *17-Dec-13*

CLIENT: HDR, Inc.
Project: Aluminum Louvre
Lab Order: C1311058

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
C1311058-001A	175-W-IA	366,438	11/18/2013	11/20/2013
C1311058-002A	175-W-SS	217,308	11/18/2013	11/20/2013
C1311058-003A	OA-11-2013	190,373	11/18/2013	11/20/2013
C1311058-004A	303- E-IA	94,390	11/18/2013	11/20/2013
C1311058-005A	303-E-SS	365,436	11/18/2013	11/20/2013
C1311058-006A	303-E-SSD	406,436	11/18/2013	11/20/2013
C1311058-007A	303-W-IA	171,455	11/18/2013	11/20/2013

CLIENT:	HDR, Inc.
Project:	Aluminum Louvre
Lab Order:	C1311058

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
C1311058-008A	303-W-SS	133,384	11/18/2013	11/20/2013

REPORT NARRATIVE

Spectrum Analytical, Inc. Featuring Hanibal Technology, RI Division.

Client : HDR LMS, Inc.

Project: Aluminum Louvre

Laboratory Workorder / SDG #: M2168

SW846 8260C, VOC by GC-MS

I. SAMPLE RECEIPT

No exceptions or unusual conditions were encountered unless a Sample Condition Notification Form, or other record of communication is included with the Sample Receipt Documentation.

II. HOLDING TIMES

A. Sample Preparation:

All samples were prepared within the method-specified holding times.

B. Sample Analysis:

All samples were analyzed within the method-specified holding times.

III. METHODS

Samples were analyzed following procedures in laboratory test code: SW846 8260C

IV. PREPARATION

Aqueous Samples were prepared following procedures in laboratory test code: SW5030B

V. INSTRUMENTATION

The following instrumentation was used

Instrument Code: V1
Instrument Type: GCMS-VOA

Description: HP5890 II / HP5972
Manufacturer: Hewlett-Packard
Model: 5890 / 5972
GC Column used: 30 m X 0.25 mm ID [1.40 um thickness] DB-624 capillary column.

Instrument Code: V10
Instrument Type: GCMS-VOA
Description: HP7890A
Manufacturer: Agilent
Model: 7890A / 5975C
GC Column used: 30 m X 0.25 mm ID [1.40 um thickness] DB-624 capillary column.

VI. ANALYSIS

A. Calibration:

Calibrations met the method/SOP acceptance criteria.

B. Blanks:

All method blanks were within the acceptance criteria.

C. Surrogates:

Surrogate standard percent recoveries were within the QC limits.

D. Spikes:

1. Laboratory Control Spikes (LCS):

Percent recoveries for lab control samples were within the QC limits with the following exceptions. Please note that most test procedures allow for several compounds outside of the QC limits for the LCS, although this may indicate a bias for this specific compound.

LCS-74659 in batch 74659, recovery is above criteria for Acetone at 142% with criteria of (40-140).

LCS-74694 in batch 74694, recovery is below criteria for Iodomethane at 60% with criteria of (72-121).

LCSD-74694 in batch 74694, recovery is below criteria for Iodomethane at 64% with criteria of (72-121).

2. Matrix Spike / Matrix Spike Duplicate (MS/MSD):

Matrix spikes were performed on samples: MW-NEMF-3-D (M2168-09AMS) and MW-NEMF-3-D (M2168-09AMSD).

Percent recoveries were within the QC limits with the following exceptions:

MW-NEMF-3-D (M2168-09AMS), recovery is below criteria for Iodomethane at 44% with criteria of (72-121).

MW-NEMF-3-D (M2168-09AMSD), recovery is below criteria for Iodomethane at 59% with criteria of (72-121).

Replicate RPDs were within the advisory QC limits.

E. Internal Standards:

Internal standard peak areas were within the QC limits.

F. Dilutions:

No sample in this SDG required analysis at dilution.

G. Samples:

No other unusual occurrences were noted during sample analysis.

H. Manual Integration

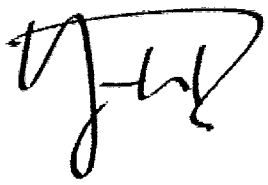
Where needed, manual integrations were performed to improve data quality. The corrections were reviewed and associated hardcopies generated and reported as required. Manual integrations are coded to provide the data reviewer justification for such action. The codes are labeled on the ion chromatogram signal (GC/MS signal) and chromatogram for GC based analysis as follows:

· M1 peak tailing or fronting
· M2 peak co-elution
· M3 rising or falling baseline
· M4 retention time shift
· M5 miscellaneous - under this category, the justification is explained
· M6 software did not integrate peak
· M7 partial peak integration

Manual integration was performed on the following:

VSTD0501C Dichlorodifluoromethane , due to M7

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Spectrum, both technically and for completeness, except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.



Signed:_____ _____

Date:_____11/19/2013_____

REPORT NARRATIVE

Spectrum Analytical, Inc. Featuring Hanibal Technology, RI Division.

Client : HDR LMS, Inc.

Project: Aluminum Louvre

Laboratory Workorder / SDG #: M2361

SW846 8260C, VOC by GC-MS

I. SAMPLE RECEIPT

No exceptions or unusual conditions were encountered unless a Sample Condition Notification Form, or other record of communication is included with the Sample Receipt Documentation.

II. HOLDING TIMES

A. Sample Preparation:

All samples were prepared within the method-specified holding times.

B. Sample Analysis:

All samples were analyzed within the method-specified holding times.

III. METHODS

Samples were analyzed following procedures in laboratory test code: SW846 8260C

IV. PREPARATION

Aqueous Samples were prepared following procedures in laboratory test code: SW5030B

V. INSTRUMENTATION

The following instrumentation was used

Instrument Code: V5
Instrument Type: GCMS-VOA

Description: HP6890 / HP6890
Manufacturer: Hewlett-Packard
Model: 6890 / 6890

VI. ANALYSIS

A. Calibration:

Calibrations met the method/SOP acceptance criteria.

B. Blanks:

All method blanks were within the acceptance criteria.

C. Surrogates:

Surrogate standard percent recoveries were within the QC limits.

D. Spikes:

1. Laboratory Control Spikes (LCS):

Percent recoveries for lab control samples were within the QC limits with the following exceptions. Please note that most test procedures allow for several compounds outside of the QC limits for the LCS, although this may indicate a bias for this specific compound.

LCS-75202 in batch 75202, recovery is below criteria for 2,2-Dichloropropane at 60% with criteria of (70-135).

2. Matrix Spike / Matrix Spike Duplicate (MS/MSD):

No client-requested MS/MSD analyses were included in this SDG.

E. Internal Standards:

Internal standard peak areas were within the QC limits.

F. Dilutions:

No sample in this SDG required analysis at dilution.

G. Samples:

No other unusual occurrences were noted during sample analysis.

H. Manual Integration

No manual integrations were performed on any sample or standard.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Spectrum, both technically and for completeness, except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Signed:_____ _____

Date:_____12/18/2013_____

REPORT NARRATIVE

Spectrum Analytical, Inc. Featuring Hanibal Technology, RI Division.

Client : HDR LMS, Inc.

Project: Aluminum Louvre

Laboratory Workorder / SDG #: M2391

SW846 8260C, VOC by GC-MS

I. SAMPLE RECEIPT

No exceptions or unusual conditions were encountered unless a Sample Condition Notification Form, or other record of communication is included with the Sample Receipt Documentation.

II. HOLDING TIMES

A. Sample Preparation:

All samples were prepared within the method-specified holding times.

B. Sample Analysis:

All samples were analyzed within the method-specified holding times.

III. METHODS

Samples were analyzed following procedures in laboratory test code: SW846 8260C

IV. PREPARATION

Aqueous Samples were prepared following procedures in laboratory test code: SW5030B

V. INSTRUMENTATION

The following instrumentation was used

Instrument Code: V1
Instrument Type: GCMS-VOA

Description: HP5890 II / HP5972
Manufacturer: Hewlett-Packard
Model: 5890 / 5972

VI. ANALYSIS

A. Calibration:

Calibrations met the method/SOP acceptance criteria.

B. Blanks:

All method blanks were within the acceptance criteria.

C. Surrogates:

Surrogate standard percent recoveries were within the QC limits.

D. Spikes:

1. Laboratory Control Spikes (LCS):

Percent recoveries for lab control samples were within the QC limits.

2. Matrix Spike / Matrix Spike Duplicate (MS/MSD):

Matrix spikes were performed on samples: MW-NEMF-4-D (M2391-01AMS) and MW-NEMF-4-D (M2391-01AMSD).

Percent recoveries were within the QC limits with the following exceptions:

MW-NEMF-4-D (M2391-01AMS), recovery is above criteria for 4-Methyl-2-pentanone at 137% with criteria of (60-135).

MW-NEMF-4-D (M2391-01AMSD), recovery is above criteria for 4-Methyl-2-pentanone at 140% with criteria of (60-135).

Replicate RPDs were within the advisory QC limits.

E. Internal Standards:

Internal standard peak areas were within the QC limits.

F. Dilutions:

No sample in this SDG required analysis at dilution.

G. Samples:

No other unusual occurrences were noted during sample analysis.

H. Manual Integration

Where needed, manual integrations were performed to improve data quality. The corrections were reviewed and associated hardcopies generated and reported as required. Manual integrations are coded to provide the data reviewer justification for such action. The codes are labeled on the ion chromatogram signal (GC/MS signal) and chromatogram for GC based analysis as follows:

- M1 peak tailing or fronting
- M2 peak co-elution
- M3 rising or falling baseline
- M4 retention time shift
- M5 miscellaneous - under this category, the justification is explained
- M6 software did not integrate peak
- M7 partial peak integration

Manual integration was performed on the following:

LCS-75233 Dichlorodifluoromethane due to M7

MW-NEMF-4-D (M2391-01AMSD) Dichlorodifluoromethane due to M7

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Signed:_____ _____

REPORT NARRATIVE

Spectrum Analytical, Inc. Featuring Hanibal Technology, RI Division.

Client : HDR LMS, Inc.

Project: Aluminum Louvre

Laboratory Workorder / SDG #: M2448

SW846 8260C, VOC by GC-MS

I. SAMPLE RECEIPT

No exceptions or unusual conditions were encountered unless a Sample Condition Notification Form, or other record of communication is included with the Sample Receipt Documentation.

II. HOLDING TIMES

A. Sample Preparation:

All samples were prepared within the method-specified holding times.

B. Sample Analysis:

All samples were analyzed within the method-specified holding times.

III. METHODS

Samples were analyzed following procedures in laboratory test code: SW846 8260C

IV. PREPARATION

Aqueous Samples were prepared following procedures in laboratory test code: SW5030B

V. INSTRUMENTATION

The following instrumentation was used

Instrument Code: V10
Instrument Type: GCMS-VOA

Description: HP7890A
Manufacturer: Agilent
Model: 7890A / 5975C

VI. ANALYSIS

A. Calibration:

Calibrations met the method/SOP acceptance criteria.

B. Blanks:

All method blanks were within the acceptance criteria.

C. Surrogates:

Surrogate standard percent recoveries were within the QC limits.

D. Spikes:

1. Laboratory Control Spikes (LCS):

Percent recoveries for lab control samples were within the QC limits.

2. Matrix Spike / Matrix Spike Duplicate (MS/MSD):

No client-requested MS/MSD analyses were included in this SDG.

E. Internal Standards:

Internal standard peak areas were within the QC limits.

F. Dilutions:

No sample in this SDG required analysis at dilution.

G. Samples:

No other unusual occurrences were noted during sample analysis.

H. Manual Integration

Where needed, manual integrations were performed to improve data quality. The corrections were reviewed and associated hardcopies generated and reported as required. Manual integrations are coded to provide the data reviewer justification for such action. The codes

are labeled on the ion chromatogram signal (GC/MS signal) and chromatogram for GC based analysis as follows:

· M1 peak tailing or fronting
· M2 peak co-elution
· M3 rising or falling baseline
· M4 retention time shift
· M5 miscellaneous - under this category, the justification is explained
· M6 software did not integrate peak
· M7 partial peak integration

Manual integration was performed on the following:

VSTD00110Z Iodomethane due to M7

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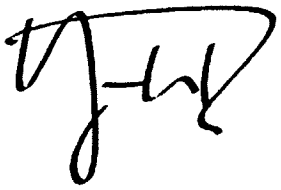

Signed:_____ _____

Date:_____12/20/2013_____

CENTEK LABORATORIES, LLC

Date: *17-Dec-13*

CLIENT: HDR Engineering
Project: Aluminum Louvre
Lab Order: C1311058

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

Compendium of Methods for the Determination of Toxic Organic Compounds, Compendium Method TO-15, January 1999 and Centek Laboratories, LLC SOP TS-80:

All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objective except as indicated in the corrective action report(s). All samples were received and analyzed within the EPA recommended holding times. Test results are not Method Blank (MB) corrected for contamination.

NYSDEC ASP samples:
Canisters should be evacuated to a reading of less than or equal to 50 millitorr prior to shipment to sampling personnel. The vacuum in the canister will be field checked prior to sampling, and must read 28" of Hg (±2", vacuum, absolute) before a sample can be collected. After the sample has been collected, the pressure of the canister will be read and recorded again, and must be 5" of Hg (±1", vacuum, absolute) for the sample to be valid. Once received at the laboratory, the canister vacuum should be confirmed to be 5" of Hg,±1". Please record and report the pressure/vacuum of received canisters on the sample receipt paperwork. A pressure/vacuum reading should also be taken just prior to the withdrawal of sample from the canister, and recorded on the sample preparation log sheet. All regulators are calibrated to meet these requirements before they leave the laboratory. However, due to environmental conditions and use of the equipment Centek can not guarantee that this criteria can always be achieved.

See Corrective Action: [2934] Sample ID's needed to be changed
See Corrective Action: [2944] IS did not meet criteria.
See Corrective Action: [2945] MS/MSD did not meet criteria.