Oneida Total Integrated Enterprises
1220 Kennestone Circle, Suite 106 ● Atlanta, GA 30060 ● (678) 355-5550 ● (770) 528-0167 (Fax)

MEMORANDUM

Date: June 11, 2012
To: Russell Henderson, Project Manager, OTIE
Superfund Technical Assessment and Response Team (START) for Region 4
Prepared by: Renea Anglin, START chemist for Region 4
QA/QC Limari Krebs
Concurrence by:
Subject: Data Validation for
35th Avenue - Five Mile Creek
Birmingham, AL
Project TDD No. TNA-05-003-0169

Laboratory: Spectrum Analytical, Inc. in Tampa, Florida.
Sample Delivery Group (SDG): 3505892

1.0 INTRODUCTION

The START chemist for Region 4 validated analytical data for 1 soil samples for semivolatile organic compounds (SVOCs), polycyclic aromatic hydrocarbons (PAH), for polychlorinated biphenyls (PCBs) metals, and Total Organic Carbon (TOC) , 3 water samples for SVOCs, PAH, PCBs, metals, mercury, and hardness and 1 water sample for metals, mercury and hardness. Samples were collected at the 35th Avenue - Five Mile Creek site on April 26, 2012. The samples were analyzed under SDG 3505892 by Spectrum Analytical, Inc. of Tampa, Florida using U.S. Environmental Protection Agency (U.S. EPA) methods 8270D, 8270D-SIM, 8082, 6010B, 7471A, 7470, 7481and 9060.

Laboratory data were validated using guidelines set forth in the U.S. EPA Contract Laboratory Program National Functional Guidelines (NFG) for Superfund Organic Methods Data Review (EPA-540-R-08-01, June 2008), NFG for Inorganic Superfund Data Review (EPA-540-R-10-011, January 2010), and applicable methodologies. The purpose of the chemical data quality evaluation process is to assess the usability of data for the project decision-making process.

Organic data validation consisted of a review of the following QC audits:

- Chain of custody and sample receipt forms review
- Sample preservation and holding time
- Blank results
- Surrogate recoveries
- Matrix spike and Matrix Spike Duplicate (MS/MSD) recovery results
- Laboratory Control Sample (LCS)/Laboratory Control Sample Duplicate (LCSD) recovery results
- Field Duplicates (when applicable)
- Initial Calibration Curve
- Continuing Calibration Verification (CCV)
- Tune Criteria

Inorganic data validation consisted of a review of the following QC audits:

- Chain of custody and sample receipt forms review

- Sample preservation and holding time
- Blank results
- Duplicate Sample Results
- LCS recovery results
- MS/MSD recovery results
- Field Duplicates (when applicable)
- Laboratory Sample Duplicates
- Serial Dilutions
- Initial Calibration Curve
- Initial and Continuing Calibration Verification

Section 2.0 of this memorandum discusses the results of organic data validation. Section 3.0 of this memorandum discusses the results of inorganic data validation. Section 4.0 of this memorandum discusses the results of the wet chemistry validation. Section 5.0 presents an overall assessment of the data. The attachment to this memorandum contains the laboratory reporting forms as well as START's handwritten data qualifications where warranted.

2.0 ORGANIC DATA VALIDATION RESULTS

The results of START's organic data validation are summarized below by QC audit reviewed. The data qualifiers listed below were applied to sample analytical results where warranted (see attachment):

- J – The analyte was detected. The reported concentration was considered estimated.
- U – The analyte was not detected.
- UJ – The analyte was not detected. The reporting limit was considered estimated.

After the START project staff received the data packages, they were inventoried for completeness and then reviewed according to matrix-specific protocols and data quality objectives established for the project.

2.1 SOIL SAMPLES BY METHOD 8270D

2.1.1 SAMPLE HANDLING

Chain of custody documentation and sample receipt forms were reviewed to ensure requested analyses were performed and that samples arrived at the laboratory intact. The soil sample was collected on April 26, 2012 and was received on ice within 4°C ± 2°C.

2.1.2 SAMPLE PRESERVATION AND HOLDING TIME

The samples were extracted on May 3, 2012 and analyzed on May 4, 2012. SVOC samples were analyzed within holding time criteria. No discrepancies were noted.

2.1.3 *BLANK RESULTS*

The purpose of laboratory (or field) blank analysis is to determine the existence and magnitude of contamination resulting from laboratory (or field) activities. One laboratory method blank sample (128824MB) was run with this SDG.

Bis(2-ethylhexyl)phthalate was detected at 144 µg/Kg in the Method Blank. Bis(2-ethylhexyl)phthalate was not detected in the associated sample therefore no further action is required. Bis(2-ethylhexyl)phthalate is a common laboratory contaminate.

2.1.4 *SURROGATE RECOVERIES*

Laboratory performance on individual samples is established by means of fortifying each sample with surrogate compounds. Surrogate spike compounds included 2-fluorophenol, phenol-d5, nitrobenzene-d5, 2-fluorobiphenyl, 2,4,6-tribromophenol, and terphenyl-d14.

Surrogate recoveries were within QC limits.

2.1.5 *MS/MSD RECOVERY RESULTS*

Data for MS/MSD are generated to determine long-term precision and accuracy of the analytical method on various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis.

No MS/MSD analysis was requested for this SDG.

2.1.6 *LCS RECOVERY RESULTS*

Data for the LCS is generated to provide information on the accuracy of the analytical method and on the laboratory performance. The LCS were fortified with the full list of SVOCs and analyzed with each batch of samples. The LCS accuracy performance is measured by %R.

The LCS recoveries were outside QC limits for the following analytes: Bis(2-ethylhexyl) phthalate biased high at 162%R. Sample EPAFMC-SD-30 in non-detect for bis(2-ethylhexyl)phthalate, therefore no further action was taken.

2.1.7 *INITIAL CALIBRATION*

A calibration curve is a method for determining the concentration of a substance in an unknown sample by comparing the unknown to a set of standard samples of known concentrations. The calibration curve plots instrument response verses known concentrations and plots these using either relative response factors or linear regression to determine the best fit for the line.

At least 5 standards were used to calibrate the instrument. Relative response factor and linear regression were used for the calibration curves and the analytes were all within limits. System performance check compounds (SPCCs) and Calibration check compounds (CCCs) are all within QC limits. The %RSD and relative response factor (RRF) calculations for 2-methylnaphthalene were verified for the 04/23/12 calibration curve.

2.1.8 *INITIAL AND CONTINUING CALIBRATION VERIFICATION*

Initial calibration checks are performed to verify the validity of the calibration curve and continuing calibration checks at the beginning and end of the analytical run and periodically throughout the run to verify that the instrument calibration is still valid.

The secondary source calibration verification standard had isophorone biased high with a 24.9%D. No other discrepancies were noted. Since isophorone is biased high and none of the samples have isophorone detected no further action was required.

2.1.9 *INTERNAL STANDARD RESULTS*

Internal standards are dueterated chemicals that do not occur in nature that are add to all samples, standards and QC samples and are used to correct for losses during sample analysis.

No discrepancies were noted.

2.1.10 *INSTRUMENT PERFORMANCE CHECKS*

GC/MS instrument performance checks are performed to ensure adequate mass resolution, identification, and to some degree, sensitivity. DFTPP must pass specific criteria and all samples must be analyzed with 12 hours of their associated DFTPP.

Three DFTPP were reported with this analysis. All DFTPP met the ion abundance criteria and all samples were analyzed within 12 hours of their respective DFTPP. The DFTPP results for DFTPP1 on May 4, 2012 at 0753 was checked and verified against the raw data. . No discrepancies were noted.

2.2 SOIL SAMPLES BY METHOD 8270D-SIM

2.2.1 *SAMPLE HANDLING*

Chain of custody documentation and sample receipt forms were reviewed to ensure requested analyses were performed and that samples arrived at the laboratory intact. Soil samples were collected on April 26, 2012 and were received on ice within 4°C ± 2°C.

2.2.2 *SAMPLE PRESERVATION AND HOLDING TIME*

The samples were extracted on May 2, 2012 and analyzed May 3, 2012. SVOC samples were analyzed within holding time criteria. No discrepancies were noted.

2.2.3 *BLANK RESULTS*

The purpose of laboratory (or field) blank analysis is to determine the existence and magnitude of contamination resulting from laboratory (or field) activities. Laboratory method blank sample (128646MB) was run with this SDG.

No laboratory method blank detects were noted.

2.2.4 *SURROGATE RECOVERIES*

Laboratory performance on individual samples is established by means of fortifying each sample with surrogate compounds. Surrogate spike compounds included 2-fluorobiphenyl and terphenyl-d14.

No discrepancies were noted.

2.2.5 *MS/MSD RECOVERY RESULTS*

Data for MS/MSD are generated to determine long-term precision and accuracy of the analytical method on various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis.

No MS/MSD sample was requested for this.

2.2.6 *LCS RECOVERY RESULTS*

Data for the LCS is generated to provide information on the accuracy of the analytical method and on the laboratory performance. The LCS were fortified with the full list of SVOCs and analyzed with each batch of samples. The LCS accuracy performance is measured by %R.

LCS recoveries were within limits.

2.2.7 *INITIAL CALIBRATION*

A calibration curve is a method for determining the concentration of a substance in an unknown sample by comparing the unknown to a set of standard samples of known concentrations. The calibration curve plots instrument response verses known concentrations and plots these using either relative response factors or linear regression to determine the best fit for the line.

One calibration curve was used with this SDG. At least 5 standards were used to calibrate the instrument for both calibration curves. Relative response factor were used for the calibration curves and the analytes were all within limits. Calibration check compounds (CCCs) are all within QC limits. The RSD for 2-methylnaphthalene was verified from the 04/10/12 calibration curve. No discrepancies were noted.

2.2.8 *INITIAL AND CONTINUING CALIBRATION VERIFICATION*

Initial calibration checks are performed to verify the validity of the calibration curve and continuing calibration checks are analyzed at the beginning the analytical run to verify that the instrument calibration is still valid.

No discrepancies were noted.

2.2.9 *INTERNAL STANDARD RESULTS*

Internal standards are dueterated chemicals that do not occur in nature that are add to all samples, standards and QC samples and are used to correct for losses during sample analysis.

No discrepancies were noted.

2.2.10 *INSTRUMENT PERFORMANCE CHECKS*

GC/MS instrument performance checks are performed to ensure adequate mass resolution, identification, and to some degree, sensitivity. DFTPP must pass specific criteria and all samples must be analyzed with 12 hours of their associated DFTPP.

Three DFTPP were reported with this analysis. All DFTPPs met the ion abundance criteria and all samples were analyzed within 12 hours of their respective DFTPP. The DFTPP results for DFTPP2 on May 3, 2012 at 0703 was checked and verified against the raw data. No discrepancies were noted.

2.3 SOIL SAMPLES BY METHOD 8082

2.3.1 *SAMPLE HANDLING*

Chain of custody documentation and sample receipt forms were reviewed to ensure requested analyses were performed and that samples arrived at the laboratory intact. The soil sample was collected on April 26, 2012 and was received on ice within 4°C ± 2°C.

2.3.2 *SAMPLE PRESERVATION AND HOLDING TIME*

Samples were extracted on May 2, 2012 and analyzed on May 9, 2012. Samples were shipped on ice and were analyzed within holding time criteria. No discrepancies were noted.

2.3.3 *BLANK RESULTS*

The purpose of laboratory blank analysis is to determine the existence and magnitude of contamination resulting from laboratory activities. A laboratory method blank sample (128641MB) was run with this SDG.

No laboratory method blank detects were noted.

2.3.4 *SURROGATE RECOVERIES*

Laboratory performance on individual samples is established by means of fortifying each sample with surrogate compounds. The surrogate spike compound included decachlorobiphenyl.

No discrepancies were noted.

2.3.5 *MS/MSD RECOVERY RESULTS*

Data for MS/MSD are generated to determine long-term precision and accuracy of the analytical method on various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis.

No MS/MSD samples were requested for this analysis.

2.3.6 *LCS RECOVERY RESULTS*

Data for the LCS is generated to provide information on the accuracy of the analytical method and on the laboratory performance. The LCS was fortified and analyzed with each batch of samples. The LCS accuracy performance is measured by %R.

The LCS recoveries were all within QC limits.

2.3.7 *INITIAL CALIBRATION*

A calibration curve is a method for determining the concentration of a substance in an unknown sample by comparing the unknown to a set of standard samples of known concentrations. The calibration curve plots instrument response verses known concentrations and plots these using either relative response factors or linear regression to determine the best fit for the line.

At least five standards including a zero standard were used to calibrate the instrument. Relative response factor RSDs for these calibrations were all within limits. The RSD was verified for the 1260-1 peak. No discrepancies were noted.

2.3.8 *INITIAL AND CONTINUING CALIBRATION VERIFICATION*

Initial calibration checks are performed to verify the validity of the calibration curve and continuing calibration checks at the beginning and end of the analytical run and periodically throughout the run to verify that the instrument calibration is still valid.

The average for the initial and continuing calibration checks on both columns were with QC limits. CCV1077745 (column STX-CLP1) had 1260-1 with a recovery of 20.2%D, CCV1077743 (column STX-CLP1) had 1260-1 at 25.8%D and 1260-3 at 23.1%D. The samples were non-detect for all analytes and the chromatograms did not contain peaks that might be aroclors, therefore no further action was required.

2.4 WATER SAMPLES BY METHOD 8270D

2.4.1 *SAMPLE HANDLING*

Chain of custody documentation and sample receipt forms were reviewed to ensure requested analyses were performed and that samples arrived at the laboratory intact. Water samples were collected on April 26, 2012 and were received on ice within 4 °C± 2 °C.

2.4.2 *SAMPLE PRESERVATION AND HOLDING TIME*

The samples were extracted on May 3, 2012 and analyzed on May 4, 2012. SVOC samples were analyzed within holding time criteria. No discrepancies were noted.

2.4.3 *BLANK RESULTS*

The purpose of laboratory (or field) blank analysis is to determine the existence and magnitude of contamination resulting from laboratory (or field) activities. Laboratory method blank sample (128809MB) was run with this SDG.

No laboratory method blank detects were noted.

2.4.4 *SURROGATE RECOVERIES*

Laboratory performance on individual samples is established by means of fortifying each sample with surrogate compounds. Surrogate spike compounds included 2-fluorophenol, phenol-d5, nitrobenzene-d5, 2-fluorobiphenyl, 2,4,6-tribromophenol, and terphenyl-d14.

No discrepancies were noted.

2.4.5 *MS/MSD RECOVERY RESULTS*

Data for MS/MSD are generated to determine long-term precision and accuracy of the analytical method on various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis.

No MS/MSD samples were requested for this SDG.

2.4.6 *LCS RECOVERY RESULTS*

Data for the LCS is generated to provide information on the accuracy of the analytical method and on the laboratory performance. The LCS were fortified with the full list of SVOCs and analyzed with each batch of samples. The LCS accuracy performance is measured by %R.

The LCS had the following analytes outside of QC limits: 2,4-dinitrophenol biased high at 124%R and benzo(b)fluoranthene biased high at 116%R. All analytes were within QC limits for the LCSD, however hexachlorocyclopentadiene had a RPD of 20.6%RPD. The samples were non-detect for all analytes, therefore no further action is required.

2.4.7 *FIELD DUPLICATES*

Data for field duplicates were collected and analyzed for chemical constituents to measure the cumulative uncertainty (i.e., precision) of the sample collection, splitting, handling, storage, preparation and analysis operations, as well as natural sample heterogeneity that is not eliminated through simple mixing in the field. Field duplicates are two samples prepared by mixing a volume of sample and splitting it into two separate sample containers that are labeled as individual field samples.

Sample EPAFMC-SW-01R had a duplicate collected (EPAFMC-SW-03R) for SVOC analysis. No analytes were detected in either sample.

2.4.8 *INITIAL CALIBRATION*

A calibration curve is a method for determining the concentration of a substance in an unknown sample by comparing the unknown to a set of standard samples of known concentrations. The calibration curve plots instrument response verses known concentrations and plots these using either relative response factors or linear regression to determine the best fit for the line.

At least 5 standards were used to calibrate the instrument. Relative response factor and linear regression were used for the calibration curves and the analytes were all within limits. System performance check compounds (SPCCs) and Calibration check compounds (CCCs) are all within QC limits. The %RSD and relative response factor (RRF) calculations for 2-methylnaphthalene were verified for the 04/23/12 calibration curve.

2.4.9 *INITIAL AND CONTINUING CALIBRATION VERIFICATION*

Initial calibration checks are performed to verify the validity of the calibration curve and continuing calibration checks at the beginning and end of the analytical run and periodically throughout the run to verify that the instrument calibration is still valid.

The secondary source calibration verification standard had isophorone biased high with a 24.9%D. No other discrepancies were noted. Since isophorone is biased high and none of the samples have isophorone detected no further action was required.

2.4.10 *INTERNAL STANDARD RESULTS*

Internal standards are dueterated chemicals that do not occur in nature that are add to all samples, standards and QC samples and are used to correct for losses during sample analysis.

No discrepancies were noted.

2.4.11 *INSTRUMENT PERFORMANCE CHECKS*

GC/MS instrument performance checks are performed to ensure adequate mass resolution, identification, and to some degree, sensitivity. DFTPP must pass specific criteria and all samples must be analyzed with 12 hours of their associated DFTPP.

Two DFTPP were reported with this matrix. All DFTPP met the ion abundance criteria and all samples were analyzed within 12 hours of their respective DFTPP. The DFTPP results for DFTPP2 on May 3, 2012 at 1449 was checked and verified against the raw data. No discrepancies were noted.

2.5 WATER SAMPLES BY METHOD 8270D-SIM

2.5.1 *SAMPLE HANDLING*

Chain of custody documentation and sample receipt forms were reviewed to ensure requested analyses were performed and that samples arrived at the laboratory intact. Water samples were collected on April 26, 2012 and were received on ice within 4 °C± 2 °C. No discrepancies were noted.

2.5.2 *SAMPLE PRESERVATION AND HOLDING TIME*

The samples were extracted on May 1, 2012 and analyzed May 2, 2012. PAH samples were analyzed within holding time criteria. No discrepancies were noted.

2.5.3 *BLANK RESULTS*

The purpose of laboratory (or field) blank analysis is to determine the existence and magnitude of contamination resulting from laboratory (or field) activities. One laboratory method blank sample (128334MB) was run with this SDG.

No discrepancies were noted.

2.5.4 *SURROGATE RECOVERIES*

Laboratory performance on individual samples is established by means of fortifying each sample with surrogate compounds. Surrogate spike compounds 2-fluorobiphenyl and terphenyl-d14.

No discrepancies were noted.

2.5.5 *MS/MSD RECOVERY RESULTS*

Data for MS/MSD are generated to determine long-term precision and accuracy of the analytical method on various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis.

No MS/MSD samples were requested for this SDG.

2.5.6 *LCS RECOVERY RESULTS*

Data for the LCS is generated to provide information on the accuracy of the analytical method and on the laboratory performance. The LCS were fortified with the full list of SVOCs and analyzed with each batch of samples. The LCS accuracy performance is measured by %R.

All analytes in the LCS and LCSD were within the laboratory derived QC limits however the RPD for dibenzo(a,h)anthracene was biased high at 22.8%RPD. No further action was required.

2.5.7 *FIELD DUPLICATES*

Data for field duplicates were collected and analyzed for chemical constituents to measure the cumulative uncertainty (i.e., precision) of the sample collection, splitting, handling, storage, preparation and analysis operations, as well as natural sample heterogeneity that is not eliminated through simple mixing in the field. Field duplicates are two samples prepared by mixing a volume of sample and splitting it into two separate sample containers that are labeled as individual field samples.

Sample EPAFMC-SW-01R had a duplicate collected (EPAFMC-SW-03R) for PAH analysis. No discrepancies were noted.

2.5.8 *INITIAL CALIBRATION*

A calibration curve is a method for determining the concentration of a substance in an unknown sample by comparing the unknown to a set of standard samples of known concentrations. The calibration curve plots instrument response verses known concentrations and plots these using either relative response factors or linear regression to determine the best fit for the line.

One calibration curve was used with this SDG. At least 5 standards were used to calibrate the instrument for both calibration curves. Relative response factor were used for the calibration curves and the analytes were all within limits. Calibration check compounds (CCCs) are all within QC limits. The RSD for 2-methylnaphthalene was verified for the 04/10/12 calibration. No discrepancies were noted.

2.5.9 *INITIAL AND CONTINUING CALIBRATION VERIFICATION*

Initial calibration checks are performed to verify the validity of the calibration curve and continuing calibration checks are analyzed at the beginning the analytical run to verify that the instrument calibration is still valid.

No discrepancies were noted.

2.5.10 *INTERNAL STANDARD RESULTS*

Internal standards are dueterated chemicals that do not occur in nature that are add to all samples, standards and QC samples and are used to correct for losses during sample analysis.

No discrepancies were noted.

2.5.11 *INSTRUMENT PERFORMANCE CHECKS*

GC/MS instrument performance checks are performed to ensure adequate mass resolution, identification, and to some degree, sensitivity. DFTPP must pass specific criteria and all samples must be analyzed with 12 hours of their associated DFTPP.

Two DFTPP were reported with this matrix. All DFTPP met the ion abundance criteria and all samples were analyzed within 12 hours of their respective DFTPP. The DFTPP results for DFTPP2 on May 2, 2012 at 0731 was checked and verified against the raw data. No discrepancies were noted.

2.6 WATER SAMPLES BY METHOD 8082

2.6.1 *SAMPLE HANDLING*

Chain of custody documentation and sample receipt forms were reviewed to ensure requested analyses were performed and that samples arrived at the laboratory intact. Water samples were collected on April 26, 2012 and were received on ice within 4 °C± 2 °C. No discrepancies were noted.

2.6.2 *SAMPLE PRESERVATION AND HOLDING TIME*

Samples were shipped on ice. The samples were extracted on May 2, 2012 and analyzed May 3, 2012. The PCB samples were analyzed within holding time criteria. No discrepancies were noted.

2.6.3 *BLANK RESULTS*

The purpose of laboratory (or field) blank analysis is to determine the existence and magnitude of contamination resulting from laboratory (or field) activities. One laboratory method blank sample (128626MB) was run with this SDG.

No laboratory method blank detects were noted.

2.6.4 *SURROGATE RECOVERIES*

Laboratory performance on individual samples is established by means of fortifying each sample with surrogate compounds. The surrogate spike compound included Decachlorobiphenyl.

No discrepancies were noted.

2.6.5 *MS/MSD RECOVERY RESULTS*

Data for MS/MSD are generated to determine long-term precision and accuracy of the analytical method on various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis.

An MS/MSD was not requested for this SDG.

2.6.6 *LCS and LCSD RECOVERY RESULTS*

Data for the LCS and LCSD is generated to provide information on the accuracy of the analytical method and on the laboratory performance. The LCS and LCSD are fortified and analyzed with each batch of samples. The LCS and LCSD accuracy performance is measured by %R.

The LCS and LCSD were within laboratory derived QC limits.

2.6.7 *FIELD DUPLICATES*

Data for field duplicates were collected and analyzed for chemical constituents to measure the cumulative uncertainty (i.e., precision) of the sample collection, splitting, handling, storage, preparation and analysis operations, as well as natural sample heterogeneity that is not eliminated through simple mixing in the field. Field duplicates are two samples prepared by mixing a volume of sample and splitting it into two separate sample containers that are labeled as individual field samples.

Sample EPAFMC-SW-01R had a duplicate collected (EPAFMC-SW-03R) for PCB analysis. No analytes were detected in either sample.

2.6.8 INITIAL CALIBRATION

A calibration curve is a method for determining the concentration of a substance in an unknown sample by comparing the unknown to a set of standard samples of known concentrations. The calibration curve plots instrument response verses known concentrations and plots these using either relative response factors or linear regression to determine the best fit for the line.

At least five standards including a zero standard were used to calibrate the instrument. Relative response factor RSDs for these calibrations were all within limits. The RSD was verified for the 1260-1 peak. No discrepancies were noted.

2.6.9 INITIAL AND CONTINUING CALIBRATION VERIFICATION

Initial calibration checks are performed to verify the validity of the calibration curve and continuing calibration checks at the beginning and end of the analytical run and periodically throughout the run to verify that the instrument calibration is still valid.

The average for the initial and continuing calibration checks on both columns were with QC limits. CCV1077745 (column STX-CLP1) had 1260-1 with a recovery of 20.2%D, CCV1077743 (column STX-CLP1) had 1260-1 at 25.8%D and 1260-3 at 23.1%D. The samples were non-detect for all analytes and the chromatograms did not contain peaks that might be aroclors, therefore no further action was required.

3.0 INORGANIC DATA VALIDATION RESULTS

The results of START's inorganic data validation are summarized below by QC audit reviewed. The data qualifiers listed below were applied to sample analytical results where warranted:

- J – The analyte was detected. The reported concentration was considered estimated.
- U – The analyte was not detected.
- UJ – The analyte was not detected. The reporting limit was considered estimated.

After the START project staff received the data packages, they were inventoried for completeness and then reviewed according to matrix-specific protocols and data quality objectives established for the project.

3.1 SOIL SAMPLES BY METHOD 6010 B

3.1.1 SAMPLE HANDLING

Chain of custody documentation and sample receipt forms were reviewed to ensure requested analyses were performed and that samples arrived at the laboratory intact. Soil samples were collected on April 26, 2012 and were received on ice within 4 °C± 2 °C.

3.1.2 SAMPLE PRESERVATION AND HOLDING TIME

Samples were prepared on May 1, 2012 and analyzed on May 4, 2012. Samples were analyzed within the holding time criteria. No discrepancies were noted.

3.1.3 *BLANK RESULTS*

The assessment of blank analysis results is to determine the existence and magnitude of contamination resulting from laboratory and/or field activities. A laboratory method blank sample for method 6010(128613MB) was run with this SDG.

The method blank had the following analytes detected above the MDL but below the RL: calcium at 6.44 mg/Kg, iron at 0.686 mg/Kg, selenium at 0.497 mg/Kg, and thallium at 0.354 mg/Kg. Sample EPAFMC-SD-30 had thallium detected at 0.479 mg/Kg. Therefore thallium was raised to the RL (.624 mg/Kg) in samples EPAFMC-SD-30 and flagged as U (undetected). No other qualifications were warranted since affected analytes were either not detected or detected at concentrations in exceedance of 10x the concentration detected in the blank.

The initial calibration blank (ICB1076959) had beryllium, chromium, cobalt, and iron detected between the MDL and RL. Sample EPAFMC-SD-30 was greater than 10x the levels in the blank for all analytes.

The following analytes were detected at concentrations between the MDL and the RL in the blanks: beryllium and chromium in CCB1077429, aluminum, barium, beryllium, iron, and selenium in CCB1077442, and beryllium and iron in CCB1077454. No qualifications were warranted since affected analytes were either not detected or detected at concentrations in exceedance of 10x the concentration detected in the associated blanks.

3.1.4 *LCS RECOVERY RESULTS*

The LCS serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. The LCS is fortified with each analyte of interest and analyzed with each batch of samples. The LCS accuracy performance is measured by %R.

The LCS/LCSD recoveries were within QC limits.

3.1.5 *MS/MSD RECOVERY RESULTS*

The spiked sample analysis is designed to provide information about the effect of each sample matrix on the sample preparation procedures and the measurement methodology. The MS/MSD accuracy performance is measured by %R.

No MS/MSD was requested for this SDG.

3.1.6 *LABORATORY SAMPLE DUPLICATES*

Two sample aliquots of the same sample are taken in the analytical laboratory and analyzed separately with identical procedures. Analyses of the sample and duplicate give a measure of the precision associated with laboratory procedures, but not with sample collection. Analytes that are present at greater than five times the RL are evaluated for %RPD.

The laboratory used the LSC/LCSD as the sample duplicates for this analysis. No discrepancies were noted.

3.1.7 *SERIAL DILUTIONS*

The serial dilution of samples determines whether or not significant physical or chemical interferences exist due to sample matrix. Serial dilutions on analytes that are greater than 50x the MDL must be within 10% RPD.

A serial dilution was performed on sample from a different SDG. No discrepancies were noted.

3.1.8 *INITIAL CALIBRATION*

A calibration curve is a method for determining the concentration of a substance in an unknown sample by comparing the unknown to a set of standard samples of known concentrations. The calibration curve plots instrument response verses known concentrations and plots these using either relative response factors or linear regression to determine the best fit for the line.

At least three standards including a zero standard were used to calibrate the instrument for all analytes. The coefficient of determination (r2) value is greater than 0.995 for all analytes using weighted linear regression and the y-intercept was below the RL.

3.1.9 *INITIAL AND CONTINUING CALIBRATION VERIFICATION*

Initial calibration checks are performed to verify the validity of the calibration curve and continuing calibration checks at the beginning and end of the analytical run and periodically throughout the run to verify that the instrument calibration is still valid.

The Initial and continuing calibration checks were with QC limits.

3.1.10 *GENERAL LABORATORY OBSERVATIONS*

The laboratory noted that samples EPAFMC-SC-30, required a dilution for calcium and manganese. Therefore, the results from the dilution runs were reported for calcium and manganese.

3.2 SOIL SAMPLES BY METHOD 7471

3.2.1 *SAMPLE HANDLING*

Chain of custody documentation and sample receipt forms were reviewed to ensure requested analyses were performed and that samples arrived at the laboratory intact. Soil samples were collected on April 26, 2012 and were received on ice within 4°C ± 2°C. No discrepancies were noted.

3.2.2 *SAMPLE PRESERVATION AND HOLDING TIME*

Samples were prepared on May 1, 2012 and analyzed on May 1, 2012. Samples were analyzed within the holding time criteria. No discrepancies were noted.

3.2.3 *BLANK RESULTS*

The assessment of blank analysis results is to determine the existence and magnitude of contamination resulting from laboratory and/or field activities. A laboratory method blank sample (128391MB) for method 7471 was run with this SDG.

No laboratory method blank detects were noted.

ICB1075798 and CCB1075800 had mercury detected between the MDL and the RL. Sample EPAFMC-SD-01 had mercury detected just above the RL but mercury is not detected at greater than 10x the level in the blanks, therefore mercury will be flagged as J in sample EPAFMC-SD-01.

3.2.4 *LCS RECOVERY RESULTS*

The LCS serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. The LCS is fortified with each analyte of interest and analyzed with each batch of samples. The LCS accuracy performance is measured by %R.

The LCS/LCSD recoveries were all within acceptable recovery limits.

3.2.5 *MS/MSD RECOVERY RESULTS*

The spiked sample analysis is designed to provide information about the effect of each sample matrix on the sample preparation procedures and the measurement methodology. The MS/MSD accuracy performance is measured by %R.

N0 MS/MSD was requested for this SDG.

3.2.6 *LABORATORY SAMPLE DUPLICATES*

Two sample aliquots of the same sample are taken in the analytical laboratory and analyzed separately with identical procedures. Analyses of the sample and duplicate give a measure of the precision associated with laboratory procedures, but not with sample collection. Analytes that are present at greater than five times the RL are evaluated for %RPD.

The laboratory used the LSC/LCSD as the sample duplicates for this analysis. No discrepancies were noted

3.2.7 *SERIAL DILUTIONS*

The serial dilution of samples determines whether or not significant physical or chemical interferences exist due to sample matrix. Serial dilutions on analytes that are greater than 50x the MDL must be within 10% RPD.

A serial dilution was performed on a sample from another SDG. No discrepancies were noted

3.2.8 *INITIAL CALIBRATION*

A calibration curve is a method for determining the concentration of a substance in an unknown sample by comparing the unknown to a set of standard samples of known concentrations. The calibration curve plots instrument response verses known concentrations and plots these using either relative response factors or linear regression to determine the best fit for the line.

At least 5 standards including a zero standard were used to calibrate the instrument. The coefficient of determination (r2) value is greater than 0.995 for mercury (.999). The linear regression was checked to for mercury and verified. No discrepancies were noted.

3.2.9 *INITIAL AND CONTINUING CALIBRATION VERIFICATION*

Initial calibration checks are performed to verify the validity of the calibration curve and continuing calibration checks at the beginning and end of the analytical run and periodically throughout the run to verify that the instrument calibration is still valid.

The Initial and continuing calibration checks were with QC limits.

3.3 WATER SAMPLES BY METHOD 6010 B

3.3.1 *SAMPLE HANDLING*

Chain of custody documentation and sample receipt forms were reviewed to ensure requested analyses were performed and that samples arrived at the laboratory intact. Water samples were collected on April 26, 2012 and were received on ice within 4°C ± 2°C. No discrepancies were noted.

3.3.2 *SAMPLE PRESERVATION AND HOLDING TIME*

Samples were prepared on May 3, 2012 and analyzed on May 4, 2012. Samples were analyzed within the holding time criteria. No discrepancies were noted.

3.3.3 *BLANK RESULTS*

The assessment of blank analysis results is to determine the existence and magnitude of contamination resulting from laboratory and/or field activities. A laboratory method blank sample (129086MB) for method 6010 was run with this SDG.

The MB had chromium, iron, and manganese detected between the MDL and RL. The following analytes were detected at concentrations between the MDL and the RL in the blanks: beryllium, chromium, cobalt and iron in ICB1076959, aluminum, barium, beryllium, iron and selenium in CCB1077442, beryllium and iron in CCB1077454, and beryllium, chromium, iron, selenium and silver in CCB1077466.

Therefore, the following analytes were qualified as non-detect at the elevated RL: aluminum, beryllium and chromium in samples EPAFMC-SW-01R, EPAFMC-SW-03R and EPAFMC-SW-04 and selenium in samples EPAFMC-SW-01R and EPAFMC-SW-03R.. Iron was flagged as J in samples EPAFMC-SW-01R, EPAFMC-SW-03R and EPAFMC-SW-04. No other qualifications were warranted since affected analytes were either not detected or detected at concentrations in exceedance of 10x the concentration detected in the associated blanks.

Sample EPAFMC-PB-01 was a preservative blank submitted with the samples. Sample EPAFMC-PB-01 had calcium detected at 120 µg/L and manganese detected between the MDL and RL. All the samples had calcium and manganese detected at greater than 10x the level in the preservative blank, therefore no further action is necessary.

3.3.4 *LCS RECOVERY RESULTS*

The LCS serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. The LCS is fortified with each analyte of interest and analyzed with each batch of samples. The LCS accuracy performance is measured by %R.

The LCS/LCSD recoveries were all within acceptable QC limits.

3.3.5 *MS/MSD RECOVERY RESULTS*

The spiked sample analysis is designed to provide information about the effect of each sample matrix on the sample preparation procedures and the measurement methodology. The MS/MSD accuracy performance is measured by %R.

No MS/MSD was requested for these analyses for this SDG.

3.3.6 *FIELD DUPLICATES*

Data for field duplicates were collected and analyzed for chemical constituents to measure the cumulative uncertainty (i.e., precision) of the sample collection, splitting, handling, storage, preparation and analysis operations, as well as natural sample heterogeneity that is not eliminated through simple mixing in the field. Field duplicates are two samples prepared by mixing a volume of sample and splitting it into two separate sample containers that are labeled as individual field samples.

Sample EPAFMC-SW-01R had a duplicate collected (EPAFMC-SW-03R) for metals analysis. Arsenic was detected at 6.47 µg/L in sample EPAFMC-SW-01R and was non-detect in EPAFMC-SW-03R, therefore arsenic will be lagged as J in sample EPAFMC-SW-01R and as UJ in EPAFMC-SW-03R.

3.3.7 *LABORATORY SAMPLE DUPLICATES*

Two sample aliquots of the same sample are taken in the analytical laboratory and analyzed separately with identical procedures. Analyses of the sample and duplicate give a measure of the precision associated with laboratory procedures, but not with sample collection. Analytes that are present at greater than five times the RL are evaluated for %RPD.

The laboratory used the LSC/LCSD as the sample duplicates for this analysis. No discrepancies were noted

3.3.8 *SERIAL DILUTIONS*

The serial dilution of samples determines whether or not significant physical or chemical interferences exist due to sample matrix. Serial dilutions on analytes that are greater than 50x the MDL must be within 10% RPD.

A serial dilution was performed on a sample from another SDG. No discrepancies were noted

3.3.9 *INITIAL CALIBRATION*

A calibration curve is a method for determining the concentration of a substance in an unknown sample by comparing the unknown to a set of standard samples of known concentrations. The calibration curve plots instrument response verses known concentrations and plots these using either relative response factors or linear regression to determine the best fit for the line.

At least 5 standards including a zero standard were used to calibrate the instrument. The coefficient of determination (r2) value is greater than 0.995 for mercury (.999). The linear regression was checked to for mercury and verified. No discrepancies were noted.

3.3.10 *INITIAL AND CONTINUING CALIBRATION VERIFICATION*

Initial calibration checks are performed to verify the validity of the calibration curve and continuing calibration checks at the beginning and end of the analytical run and periodically throughout the run to verify that the instrument calibration is still valid.

The Initial and continuing calibration checks were with QC limits.

3.4 WATER SAMPLES BY METHOD 7470

3.4.1 SAMPLE HANDLING

Chain of custody documentation and sample receipt forms were reviewed to ensure requested analyses were performed and that samples arrived at the laboratory intact. Water samples were collected on April 26, 2012 and were received on ice within 4°C ± 2°C. No discrepancies were noted.

3.4.2 SAMPLE PRESERVATION AND HOLDING TIME

Samples were prepared on May 1, 2012 and analyzed on May 1, 2012. Samples were analyzed within the holding time criteria. No discrepancies were noted.

3.4.3 BLANK RESULTS

The assessment of blank analysis results is to determine the existence and magnitude of contamination resulting from laboratory and/or field activities. A laboratory method blank sample (128584MB) for 7470 was run with this SDG.

Mercury was detected between the MDL and RL in the MB. ICB1075831 had mercury detected between the MDL and RL. CCB1075833 had mercury detected between the MDL and RL, CCB1075842 had mercury detected between the MDL and RL and CCB1075851 had mercury detected between the MDL and RL.

All the samples had mercury reported between the MDL and RL, therefore mercury was raised to the reporting level of .2 µg/L and flagged as U in samples EPAFMC-SW-01R, EPAFMC-SW-03R, EPAFMC-SW-04, and EPAFMC-PB-01.

3.4.4 LCS RECOVERY RESULTS

The LCS serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. The LCS is fortified with each analyte of interest and analyzed with each batch of samples. The LCS accuracy performance is measured by %R.

The LCS/LCSD recoveries were all within acceptable QC limits.

3.4.5 MS/MSD RECOVERY RESULTS

The spiked sample analysis is designed to provide information about the effect of each sample matrix on the sample preparation procedures and the measurement methodology. The MS/MSD accuracy performance is measured by %R.

No MS/MSD was requested for this SDG.

3.4.6 FIELD DUPLICATES

Data for field duplicates were collected and analyzed for chemical constituents to measure the cumulative uncertainty (i.e., precision) of the sample collection, splitting, handling, storage, preparation and analysis operations, as well as natural sample heterogeneity that is not eliminated through simple mixing in the field. Field duplicates are two samples prepared by mixing a volume of sample and splitting it into two separate sample containers that are labeled as individual field samples.

Sample EPAFMC-SW-01R had a duplicate collected (EPAFMC-SW-03R) for mercury analysis. No discrepancies were noted.

3.4.7 LABORATORY SAMPLE DUPLICATES

Two sample aliquots of the same sample are taken in the analytical laboratory and analyzed separately with identical procedures. Analyses of the sample and duplicate give a measure of the precision associated with laboratory procedures, but not with sample collection. Analytes that are present at greater than five times the RL are evaluated for %RPD.

The laboratory used the LSC/LCSD as the sample duplicates for this analysis. No discrepancies were noted

3.4.8 SERIAL DILUTIONS

The serial dilution of samples determines whether or not significant physical or chemical interferences exist due to sample matrix. Serial dilutions on analytes that are greater than 50x the MDL must be within 10% RPD.

A serial dilution was performed on a sample from another SDG. No discrepancies were noted

3.4.9 INITIAL CALIBRATION

A calibration curve is a method for determining the concentration of a substance in an unknown sample by comparing the unknown to a set of standard samples of known concentrations. The calibration curve plots instrument response verses known concentrations and plots these using either relative response factors or linear regression to determine the best fit for the line.

At least 5 standards including a zero standard were used to calibrate the instrument. The coefficient of determination (r2) value is greater than 0.995 for mercury (.999). The linear regression was checked to for mercury and verified. No discrepancies were noted.

3.4.10 INITIAL AND CONTINUING CALIBRATION VERIFICATION

Initial calibration checks are performed to verify the validity of the calibration curve and continuing calibration checks at the beginning and end of the analytical run and periodically throughout the run to verify that the instrument calibration is still valid.

The Initial and continuing calibration checks were with QC limits.

3.5 WATER SAMPLES BY METHOD 7841

3.5.1 SAMPLE HANDLING

Chain of custody documentation and sample receipt forms were reviewed to ensure requested analyses were performed and that samples arrived at the laboratory intact. Water samples were collected on April 26, 2012 and were received on ice within 4°C ± 2°C. No discrepancies were noted.

3.5.2 SAMPLE PRESERVATION AND HOLDING TIME

Samples were prepared on April 30, 2012 and analyzed on May 3, 2012. Samples were analyzed within the holding time criteria. No discrepancies were noted.

3.5.3 *BLANK RESULTS*

The assessment of blank analysis results is to determine the existence and magnitude of contamination resulting from laboratory and/or field activities. A laboratory method blank sample9128345MB) for method 7841 was run with this SDG.

No laboratory method blank detects were noted. No initial and continuing calibration blanks detects were noted.

Sample EPAFMC-PB-01 was a preservative submitted with this SDG, no thallium was detected above the MDL.

3.5.4 *LCS RECOVERY RESULTS*

The LCS serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. The LCS is fortified with each analyte of interest and analyzed with each batch of samples. The LCS accuracy performance is measured by %R.

The LCS/LCSD recoveries were all within acceptable QC limits.

3.5.5 *MS/MSD RECOVERY RESULTS*

The spiked sample analysis is designed to provide information about the effect of each sample matrix on the sample preparation procedures and the measurement methodology. The MS/MSD accuracy performance is measured by %R.

No MS/MSD was requested for these analyses for this SDG.

3.5.6 *FIELD DUPLICATES*

Data for field duplicates were collected and analyzed for chemical constituents to measure the cumulative uncertainty (i.e., precision) of the sample collection, splitting, handling, storage, preparation and analysis operations, as well as natural sample heterogeneity that is not eliminated through simple mixing in the field. Field duplicates are two samples prepared by mixing a volume of sample and splitting it into two separate sample containers that are labeled as individual field samples.

Sample EPAFMC-SW-01R had a duplicate collected (EPAFMC-SW-03R) for thallium analysis. No thallium was detected in either sample.

3.5.7 *LABORATORY SAMPLE DUPLICATES*

Two sample aliquots of the same sample are taken in the analytical laboratory and analyzed separately with identical procedures. Analyses of the sample and duplicate give a measure of the precision associated with laboratory procedures, but not with sample collection. Analytes that are present at greater than five times the RL are evaluated for %RPD.

The laboratory used the LSC/LCSD as the sample duplicates for this analysis. No discrepancies were noted

3.5.8 *SERIAL DILUTIONS*

The serial dilution of samples determines whether or not significant physical or chemical interferences exist due to sample matrix. Serial dilutions on analytes that are greater than 50x the MDL must be within 10% RPD.

A serial dilution was performed on a sample from another SDG. No discrepancies were noted

3.5.9 *INITIAL CALIBRATION*

A calibration curve is a method for determining the concentration of a substance in an unknown sample by comparing the unknown to a set of standard samples of known concentrations. The calibration curve plots instrument response verses known concentrations and plots these using either relative response factors or linear regression to determine the best fit for the line.

At least 5 standards including a zero standard were used to calibrate the instrument. The coefficient of determination (r2) value is greater than 0.995 for thallium (.999). The linear regression was checked to for thallium and verified. No discrepancies were noted.

3.5.10 *INITIAL AND CONTINUING CALIBRATION VERIFICATION*

Initial calibration checks are performed to verify the validity of the calibration curve and continuing calibration checks at the beginning and end of the analytical run and periodically throughout the run to verify that the instrument calibration is still valid.

The Initial and continuing calibration checks were with QC limits.

4.0 WET CHEMISTRY DATA VALIDATION RESULTS

The results of START's inorganic data validation are summarized below by QC audit reviewed. The data qualifiers listed below were applied to sample analytical results where warranted:

- J – The analyte was detected. The reported concentration was considered estimated.
- U – The analyte was not detected.
- UJ – The analyte was not detected. The reporting limit was considered estimated.

After the START project staff received the data packages, they were inventoried for completeness and then reviewed according to matrix-specific protocols and data quality objectives established for the project.

4.1 SOIL SAMPLES BY METHOD 9060

4.1.1 *SAMPLE HANDLING*

Chain of custody documentation and sample receipt forms were reviewed to ensure requested analyses were performed and that samples arrived at the laboratory intact. The soil sample was collected on April 26, 2012 and was received on ice within 4°C ± 2°C.

4.1.2 *SAMPLE PRESERVATION AND HOLDING TIME*

Samples were prepared and analyzed May 3, 2012. Samples were analyzed within the holding time criteria. No discrepancies were noted.

4.1.3 *BLANK RESULTS*

The assessment of blank analysis results is to determine the existence and magnitude of contamination resulting from laboratory and/or field activities. A laboratory method blank sample (129552MB) for method was run with this SDG.

No laboratory method blank detects were noted. No initial and continuing calibration blanks detects were noted.

4.1.4 LCS RECOVERY RESULTS

The LCS serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. The LCS is fortified with each analyte of interest and analyzed with each batch of samples. The LCS accuracy performance is measured by %R.

The LCS/LCSD recoveries were within acceptable recovery limits.

4.1.5 LABORATORY SAMPLE DUPLICATES

Two sample aliquots of the same sample are taken in the analytical laboratory and analyzed separately with identical procedures. Analyses of the sample and duplicate give a measure of the precision associated with laboratory procedures, but not with sample collection. Analytes that are present at greater than five times the RL are evaluated for %RPD.

A duplicate analysis was performed on sample from another SDG. No discrepancies were noted

4.1.6 INITIAL CALIBRATION

A calibration curve is a method for determining the concentration of a substance in an unknown sample by comparing the unknown to a set of standard samples of known concentrations. The calibration curve plots instrument response verses known concentrations and plots these using either relative response factors or linear regression to determine the best fit for the line.

At least 5 standards including a zero standard were used to calibrate the instrument. The coefficient of determination (r2) value is greater than 0.995 for TOC (0.9982). The linear regression was checked to for TOC and verified. No discrepancies were noted.

4.1.7 INITIAL AND CONTINUING CALIBRATION VERIFICATION

Initial calibration checks are performed to verify the validity of the calibration curve and continuing calibration checks at the beginning and end of the analytical run and periodically throughout the run to verify that the instrument calibration is still valid.

The initial and continuing calibration checks were with QC limits.

5.0 OVERALL ASSESSMENT OF DATA

The analytical results meet the data quality objectives defined by the applicable method and validation guidance documentation. The analytical data is usable and acceptable as reported by the laboratory.

ATTACHMENT

SUMMARY OF VALIDATED ANALYTICAL RESULTS

AND

CHAIN-OF-CUSTODY

USEPA Region 4 COC (LAB COPY)
DateShipped: 4/26/2012
CarrierName: FedEx
AirbillNo: 793498896553

CHAIN OF CUSTODY RECORD
Site #: 1392
Project Number: OTIE-FIVE MILE CREEK
Cooler #:

3505892
N

No: EPAFMC 4-26-12
Lab: PEL/SPECTRUM LAB
Lab Contact: KEVIN DUNHAM
Lab Phone: 813-888-9507

Sample #	Media/Sampler	Coll. Method	Analysis/Turnaround	Tag/Preservative/Bottles	Station Location	Collected	For Lab Use Only
EPAFMC-SD-30	Sediment/ AMANDA MIOLEN & DOUG FRALEY	Grab	SVOA+PAHS+PCB+TOC(14), TAL METALS + Hg(14)	A (Ice), B (Ice) (3)	EPAFMC28	04/26/2012 09:55	-01
EPAFMC-SW-01R	Surface Water/ DUSTIN MORIN & RYAN STUBBS	Grab	SVOA+PAHS(14), PCB(14), TAL METALS + Hg(14) Hardness	A (Ice), B (Ice), C (HNO3 pH<2) (7)	EPAFMC11	04/26/2012 09:08	-02
EPAFMC-SW-03R	Surface Water/ DUSTIN MORIN & RYAN STUBBS	Grab	SVOA+PAHS(14), PCB(14), TAL METALS + Hg(14) Hardness	A (Ice), B (Ice), C (HNO3 pH<2) (5)	EPAFMC11	04/26/2012 09:13	-03
EPAFMC-SW-04	Surface Water/ AMANDA MIOLEN & DOUG FRALEY	Grab	SVOA+PAHS(14), PCB(14), TAL METALS + Hg(14) Hardness	A (Ice), B (Ice), C (HNO3 pH<2) (7)	EPAFMC28	04/26/2012 09:40	-04
EPAFMC-PB-01	Ryan Stubbs	Grab	TAL metals + Hg (14) Hardness	HNO3 pH<2	#R4DART#	04/26/2012 1100	-05

Special Instructions: Temp 4.3, 4.1C pltd 6010

Shipment for Case Complete? N
Samples Transferred From Chain of Custody #

Analysis Key

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
Coolers + Samples	Nairimer Berrios	4/26/12 1200								4/27/12	945

5-31-12

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: EPAFMC-SD-30

Lab Name: Spectrum Analytical, Inc. Contract: OTIE-Five Mile Creek / Site 13

Lab Code : PEL Case No. SAS No: SDG No.: 3505892

Matrix: SOIL Lab Sample ID: 350589201 Lab File ID: 89201.D

Sample wt/vol: 25.15 Units: G Date Received: 04/27/12

Concentrated Extract Volume: 1 Date Extracted: 05/03/12

Level:(low/med) LOW Date Analyzed: 05/04/12 Time: 1122

PercentSolids: 84.4 decanted : Dilution Factor: 1

Extraction: OTHER Station ID: EPAFMC28 Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/KG

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*RL*
111-44-4	Bis(2-chloroethyl)ether	63.1	U	63.1	254
108-95-2	Phenol	61.2	U	61.2	1260
95-57-8	2-Chlorophenol	65	U	65	254
108-60-1	2,2'-Oxybis(1-chloropropane)	207	U	207	254
95-48-7	2-Methylphenol	90.4	U	90.4	252
67-72-1	Hexachloroethane	47.1	U	47.1	254
621-64-7	N-Nitroso-di-n-propylamine	57.5	U	57.5	254
106-44-5	4-Methylphenol	55.6	U	55.6	254
98-95-3	Nitrobenzene	56.5	U	56.5	254
78-59-1	Isophorone	55.6	U	55.6	254
88-75-5	2-Nitrophenol	67.8	U	67.8	254
105-67-9	2,4-Dimethylphenol	53.7	U	53.7	252
111-91-1	Bis(2-chloroethoxy)methane	53.7	U	53.7	252
120-83-2	2,4-Dichlorophenol	70.7	U	70.7	252
91-20-3	Naphthalene	60.3	U	60.3	254
106-47-8	4-Chloroaniline	59.4	U	59.4	254
91-57-6	2-Methylnaphthalene	54.6	U	54.6	254
87-68-3	Hexachlorobutadiene	54.6	U	54.6	254
59-50-7	4-Chloro-3-methylphenol	52.8	U	52.8	254
77-47-4	Hexachlorocyclopentadiene	37.7	U	37.7	628
88-06-2	2,4,6-Trichlorophenol	64.1	U	64.1	252
95-95-4	2,4,5-Trichlorophenol	69.7	U	69.7	252
91-58-7	2-Chloronaphthalene	62.8	U	62.8	254
88-74-4	2-Nitroaniline	53.7	U	53.7	254
208-96-8	Acenaphthylene	51.8	U	51.8	254
131-11-3	Dimethylphthalate	55.6	U	55.6	254

1

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: EPAFMC-SD-30

Lab Name: Spectrum Analytical, Inc. Contract: OTIE-Five Mile Creek / Site 13

Lab Code : PEL Case No. SAS No: SDG No.: 3505892

Matrix: SOIL Lab Sample ID: 350589201 Lab File ID: 89201.D

Sample wt/vol: 25.15 Units: G Date Received: 04/27/12

Concentrated Extract Volume: 1 Date Extracted: 05/03/12

Level:(low/med) LOW Date Analyzed: 05/04/12 Time: 1122

PercentSolids: 84.4 decanted : Dilution Factor: 1

Extraction: OTHER Station ID: EPAFMC28 Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/KG

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*RL*
606-20-2	2,6-Dinitrotoluene	47.1	U	47.1	254
83-32-9	Acenaphthene	46.2	U	46.2	254
99-09-2	3-Nitroaniline	75.4	U	75.4	252
51-28-5	2,4-Dinitrophenol	207	U	207	1260
132-64-9	Dibenzofuran	50.9	U	50.9	254
121-14-2	2,4-Dinitrotoluene	46.2	U	46.2	254
100-02-7	4-Nitrophenol	49.9	U	49.9	628
86-73-7	Fluorene	48	U	48	254
7005-72-3	4-Chlorophenyl-phenylether	48	U	48	254
84-66-2	Diethylphthalate	48	U	48	254
100-01-6	4-Nitroaniline	82.9	U	82.9	252
534-52-1	4,6-Dinitro-2-methylphenol	251	U	251	254
86-30-6	N-Nitrosodiphenylamine	59.4	U	59.4	252
101-55-3	4-Bromophenyl-phenylether	46.2	U	46.2	254
118-74-1	Hexachlorobenzene	49.9	U	49.9	252
87-86-5	Pentachlorophenol	125	U	125	254
85-01-8	Phenanthrene	52.8	U	52.8	254
120-12-7	Anthracene	56.5	U	56.5	254
84-74-2	Di-n-butylphthalate	41.4	U	41.4	254
206-44-0	Fluoranthene	45.2	U	45.2	254
129-00-0	Pyrene	86.7	U	86.7	254
85-68-7	Butylbenzylphthalate	59.4	U	59.4	254
91-94-1	3,3'-Dichlorobenzidine	55.6	U	55.6	254
56-55-3	Benzo(a)anthracene	53.7	U	53.7	254
218-01-9	Chrysene	32	U	32	252
117-81-7	Bis(2-ethylhexyl)phthalate	78.2	U	78.2	254

5-31-12

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: EPAFMC-SD-30

Lab Name: Spectrum Analytical, Inc. Contract: OTIE-Five Mile Creek / Site 13

Lab Code : PEL Case No. SAS No: SDG No.: 3505892

Matrix: SOIL Lab Sample ID: 350589201 Lab File ID: 89201.D

Sample wt/vol: 25.15 Units: G Date Received: 04/27/12

Concentrated Extract Volume: 1 Date Extracted: 05/03/12

Level:(low/med) LOW Date Analyzed: 05/04/12 Time: 1122

PercentSolids: 84.4 decanted : Dilution Factor: 1

Extraction: OTHER Station ID: EPAFMC28 Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/KG

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*RL*
117-84-0	Di-n-octylphthalate	54.6	U	54.6	254
205-99-2	Benzo(b)fluoranthene	59.4	U	59.4	254
207-08-9	Benzo(k)fluoranthene	53.7	U	53.7	254
50-32-8	Benzo(a)pyrene	40.5	U	40.5	254
193-39-5	Indeno(1,2,3-cd)pyrene	49	U	49	254
53-70-3	Dibenzo(a,h)anthracene	38.6	U	38.6	254
191-24-2	Benzo(g,h,i)perylene	37.7	U	37.7	254
98-86-2	Acetophenone	94.2	U	94.2	254
95-94-3	1,2,4,5-Tetrachlorobenzene	44.3	U	44.3	254
86-74-8	Carbazole	50.9	U	50.9	254
105-60-2	Caprolactam	132	U	132	254
92-52-4	1,1'-Biphenyl	57.5	U	57.5	254
1912-24-9	Atrazine	74.4	U	74.4	254
100-52-7	Benzaldehyde	42.4	U	42.4	254

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: EPAFMC-SW-01R

Lab Name: Spectrum Analytical, Inc. Contract: OTIE-Five Mile Creek / Site 13

Lab Code : PEL Case No. SAS No: SDG No.: 3505892

Matrix: WATER Lab Sample ID: 350589202 Lab File ID: 89202.D

Sample wt/vol: 980 Units: ML Date Received: 04/27/12

Concentrated Extract Volume: 1 Date Extracted: 05/03/12

Level:(low/med) LOW Date Analyzed: 05/03/12 Time: 2333

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: EPAFMC11 Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*RL*
111-44-4	Bis(2-chloroethyl)ether	3.1	U	3.1	4.1
108-95-2	Phenol	1.7	U	1.7	4.1
95-57-8	2-Chlorophenol	3	U	3	4.1
108-60-1	2,2'-Oxybis(1-chloropropane)	3.4	U	3.4	4.1
95-48-7	2-Methylphenol	2.6	U	2.6	4.1
67-72-1	Hexachloroethane	2.6	U	2.6	4.1
621-64-7	N-Nitroso-di-n-propylamine	3.1	U	3.1	4.1
106-44-5	4-Methylphenol	6.2	U	6.2	10.2
98-95-3	Nitrobenzene	1	U	1	4.1
78-59-1	Isophorone	3.9	U	3.9	4.1
88-75-5	2-Nitrophenol	0.78	U	0.78	4.1
105-67-9	2,4-Dimethylphenol	2.3	U	2.3	4.1
111-91-1	Bis(2-chloroethoxy)methane	3.6	U	3.6	4.1
120-83-2	2,4-Dichlorophenol	3.2	U	3.2	4.1
91-20-3	Naphthalene	2.8	U	2.8	4.1
106-47-8	4-Chloroaniline	3.1	U	3.1	4.1
91-57-6	2-Methylnaphthalene	2.8	U	2.8	4.1
87-68-3	Hexachlorobutadiene	2.6	U	2.6	4.1
59-50-7	4-Chloro-3-methylphenol	2.8	U	2.8	4.1
77-47-4	Hexachlorocyclopentadiene	0.84	U	0.84	4.1
88-06-2	2,4,6-Trichlorophenol	0.86	U	0.86	4.1
95-95-4	2,4,5-Trichlorophenol	3.5	U	3.5	4.1
91-58-7	2-Chloronaphthalene	2.8	U	2.8	4.1
88-74-4	2-Nitroaniline	3.1	U	3.1	4.1
208-96-8	Acenaphthylene	3.1	U	3.1	4.1
131-11-3	Dimethylphthalate	3.1	U	3.1	4.1

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: EPAFMC-SW-01R

Lab Name: Spectrum Analytical, Inc. Contract: OTIE-Five Mile Creek / Site 13

Lab Code : PEL Case No. SAS No: SDG No.: 3505892

Matrix: WATER Lab Sample ID: 350589202 Lab File ID: 89202.D

Sample wt/vol: 980 Units: ML Date Received: 04/27/12

Concentrated Extract Volume: 1 Date Extracted: 05/03/12

Level:(low/med) LOW Date Analyzed: 05/03/12 Time: 2333

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: EPAFMC11 Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*RL*
606-20-2	2,6-Dinitrotoluene	2.8	U	2.8	4.1
83-32-9	Acenaphthene	2.8	U	2.8	4.1
99-09-2	3-Nitroaniline	2.8	U	2.8	4.1
51-28-5	2,4-Dinitrophenol	5.7	U	5.7	20.4
132-64-9	Dibenzofuran	2.8	U	2.8	4.1
121-14-2	2,4-Dinitrotoluene	2.8	U	2.8	4.1
100-02-7	4-Nitrophenol	4.1	U	4.1	4.1
86-73-7	Fluorene	3	U	3	4.1
7005-72-3	4-Chlorophenyl-phenylether	2.6	U	2.6	4.1
84-66-2	Diethylphthalate	2.8	U	2.8	4.1
100-01-6	4-Nitroaniline	1.5	U	1.5	4.1
534-52-1	4,6-Dinitro-2-methylphenol	4.1	U	4.1	4.1
86-30-6	N-Nitrosodiphenylamine	3.5	U	3.5	4.1
101-55-3	4-Bromophenyl-phenylether	2.3	U	2.3	4.1
118-74-1	Hexachlorobenzene	0.42	U	0.42	4.1
87-86-5	Pentachlorophenol	1.4	U	1.4	10.2
85-01-8	Phenanthrene	2.8	U	2.8	4.1
120-12-7	Anthracene	2.8	U	2.8	4.1
84-74-2	Di-n-butylphthalate	0.88	U	0.88	4.1
206-44-0	Fluoranthene	2.8	U	2.8	4.1
129-00-0	Pyrene	1.2	U	1.2	4.1
85-68-7	Butylbenzylphthalate	3.1	U	3.1	4.1
91-94-1	3,3'-Dichlorobenzidine	2.8	U	2.8	4.1
56-55-3	Benzo(a)anthracene	2.6	U	2.6	4.1
218-01-9	Chrysene	3	U	3	4.1
117-81-7	Bis(2-ethylhexyl)phthalate	4.5	U	4.5	5.1

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: EPAFMC-SW-01R

Lab Name: Spectrum Analytical, Inc. Contract: OTIE-Five Mile Creek / Site 13

Lab Code : PEL Case No. SAS No: SDG No.: 3505892

Matrix: WATER Lab Sample ID: 350589202 Lab File ID: 89202.D

Sample wt/vol: 980 Units: ML Date Received: 04/27/12

Concentrated Extract Volume: 1 Date Extracted: 05/03/12

Level:(low/med) LOW Date Analyzed: 05/03/12 Time: 2333

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: EPAFMC11 Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*RL*
117-84-0	Di-n-octylphthalate	2	U	2	4.1
205-99-2	Benzo(b)fluoranthene	2.6	U	2.6	4.1
207-08-9	Benzo(k)fluoranthene	3	U	3	4.1
50-32-8	Benzo(a)pyrene	2.8	U	2.8	4.1
193-39-5	Indeno(1,2,3-cd)pyrene	1.6	U	1.6	4.1
53-70-3	Dibenzo(a,h)anthracene	1.2	U	1.2	4.1
191-24-2	Benzo(g,h,i)perylene	2.6	U	2.6	4.1
98-86-2	Acetophenone	4.1	U	4.1	4.1
95-94-3	1,2,4,5-Tetrachlorobenzene	2.2	U	2.2	4.1
86-74-8	Carbazole	3.2	U	3.2	4.1
105-60-2	Caprolactam	4.1	U	4.1	4.1
92-52-4	1,1'-Biphenyl	0.78	U	0.78	4.1
1912-24-9	Atrazine	0.55	U	0.55	4.1
100-52-7	Benzaldehyde	0.5	U	0.5	4.1

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: EPAFMC-SW-03R

Lab Name: Spectrum Analytical, Inc. Contract: OTIE-Five Mile Creek / Site 13

Lab Code : PEL Case No. SAS No: SDG No.: 3505892

Matrix: WATER Lab Sample ID: 350589203 Lab File ID: 89203.D

Sample wt/vol: 980 Units: ML Date Received: 04/27/12

Concentrated Extract Volume: 1 Date Extracted: 05/03/12

Level:(low/med) LOW Date Analyzed: 05/03/12 Time: 2356

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: EPAFMC11 Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*RL*
111-44-4	Bis(2-chloroethyl)ether	3.1	U	3.1	4.1
108-95-2	Phenol	1.7	U	1.7	4.1
95-57-8	2-Chlorophenol	3	U	3	4.1
108-60-1	2,2'-Oxybis(1-chloropropane)	3.4	U	3.4	4.1
95-48-7	2-Methylphenol	2.6	U	2.6	4.1
67-72-1	Hexachloroethane	2.6	U	2.6	4.1
621-64-7	N-Nitroso-di-n-propylamine	3.1	U	3.1	4.1
106-44-5	4-Methylphenol	6.2	U	6.2	10.2
98-95-3	Nitrobenzene	1	U	1	4.1
78-59-1	Isophorone	3.9	U	3.9	4.1
88-75-5	2-Nitrophenol	0.78	U	0.78	4.1
105-67-9	2,4-Dimethylphenol	2.3	U	2.3	4.1
111-91-1	Bis(2-chloroethoxy)methane	3.6	U	3.6	4.1
120-83-2	2,4-Dichlorophenol	3.2	U	3.2	4.1
91-20-3	Naphthalene	2.8	U	2.8	4.1
106-47-8	4-Chloroaniline	3.1	U	3.1	4.1
91-57-6	2-Methylnaphthalene	2.8	U	2.8	4.1
87-68-3	Hexachlorobutadiene	2.6	U	2.6	4.1
59-50-7	4-Chloro-3-methylphenol	2.8	U	2.8	4.1
77-47-4	Hexachlorocyclopentadiene	0.84	U	0.84	4.1
88-06-2	2,4,6-Trichlorophenol	0.86	U	0.86	4.1
95-95-4	2,4,5-Trichlorophenol	3.5	U	3.5	4.1
91-58-7	2-Chloronaphthalene	2.8	U	2.8	4.1
88-74-4	2-Nitroaniline	3.1	U	3.1	4.1
208-96-8	Acenaphthylene	3.1	U	3.1	4.1
131-11-3	Dimethylphthalate	3.1	U	3.1	4.1

1

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: EPAFMC-SW-03R

Lab Name: Spectrum Analytical, Inc. Contract: OTIE-Five Mile Creek / Site 13

Lab Code : PEL Case No. SAS No: SDG No.: 3505892

Matrix: WATER Lab Sample ID: 350589203 Lab File ID: 89203.D

Sample wt/vol: 980 Units: ML Date Received: 04/27/12

Concentrated Extract Volume: 1 Date Extracted: 05/03/12

Level:(low/med) LOW Date Analyzed: 05/03/12 Time: 2356

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: EPAFMC11 Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*RL*
606-20-2	2,6-Dinitrotoluene	2.8	U	2.8	4.1
83-32-9	Acenaphthene	2.8	U	2.8	4.1
99-09-2	3-Nitroaniline	2.8	U	2.8	4.1
51-28-5	2,4-Dinitrophenol	5.7	U	5.7	20.4
132-64-9	Dibenzofuran	2.8	U	2.8	4.1
121-14-2	2,4-Dinitrotoluene	2.8	U	2.8	4.1
100-02-7	4-Nitrophenol	4.1	U	4.1	4.1
86-73-7	Fluorene	3	U	3	4.1
7005-72-3	4-Chlorophenyl-phenylether	2.6	U	2.6	4.1
84-66-2	Diethylphthalate	2.8	U	2.8	4.1
100-01-6	4-Nitroaniline	1.5	U	1.5	4.1
534-52-1	4,6-Dinitro-2-methylphenol	4.1	U	4.1	4.1
86-30-6	N-Nitrosodiphenylamine	3.5	U	3.5	4.1
101-55-3	4-Bromophenyl-phenylether	2.3	U	2.3	4.1
118-74-1	Hexachlorobenzene	0.42	U	0.42	4.1
87-86-5	Pentachlorophenol	1.4	U	1.4	10.2
85-01-8	Phenanthrene	2.8	U	2.8	4.1
120-12-7	Anthracene	2.8	U	2.8	4.1
84-74-2	Di-n-butylphthalate	0.88	U	0.88	4.1
206-44-0	Fluoranthene	2.8	U	2.8	4.1
129-00-0	Pyrene	1.2	U	1.2	4.1
85-68-7	Butylbenzylphthalate	3.1	U	3.1	4.1
91-94-1	3,3'-Dichlorobenzidine	2.8	U	2.8	4.1
56-55-3	Benzo(a)anthracene	2.6	U	2.6	4.1
218-01-9	Chrysene	3	U	3	4.1
117-81-7	Bis(2-ethylhexyl)phthalate	4.5	U	4.5	5.1

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: EPAFMC-SW-03R

Lab Name: Spectrum Analytical, Inc. Contract: OTIE-Five Mile Creek / Site 13

Lab Code : PEL Case No. SAS No: SDG No.: 3505892

Matrix: WATER Lab Sample ID: 350589203 Lab File ID: 89203.D

Sample wt/vol: 980 Units: ML Date Received: 04/27/12

Concentrated Extract Volume: 1 Date Extracted: 05/03/12

Level:(low/med) LOW Date Analyzed: 05/03/12 Time: 2356

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: EPAFMC11 Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*RL*
117-84-0	Di-n-octylphthalate	2	U	2	4.1
205-99-2	Benzo(b)fluoranthene	2.6	U	2.6	4.1
207-08-9	Benzo(k)fluoranthene	3	U	3	4.1
50-32-8	Benzo(a)pyrene	2.8	U	2.8	4.1
193-39-5	Indeno(1,2,3-cd)pyrene	1.6	U	1.6	4.1
53-70-3	Dibenzo(a,h)anthracene	1.2	U	1.2	4.1
191-24-2	Benzo(g,h,i)perylene	2.6	U	2.6	4.1
98-86-2	Acetophenone	4.1	U	4.1	4.1
95-94-3	1,2,4,5-Tetrachlorobenzene	2.2	U	2.2	4.1
86-74-8	Carbazole	3.2	U	3.2	4.1
105-60-2	Caprolactam	4.1	U	4.1	4.1
92-52-4	1,1'-Biphenyl	0.78	U	0.78	4.1
1912-24-9	Atrazine	0.55	U	0.55	4.1
100-52-7	Benzaldehyde	0.5	U	0.5	4.1

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: EPAFMC-SW-04

Lab Name: Spectrum Analytical, Inc. Contract: OTIE-Five Mile Creek / Site 13

Lab Code : PEL Case No. SAS No: SDG No.: 3505892

Matrix: WATER Lab Sample ID: 350589204 Lab File ID: 89204.D

Sample wt/vol: 980 Units: ML Date Received: 04/27/12

Concentrated Extract Volume: 1 Date Extracted: 05/03/12

Level:(low/med) LOW Date Analyzed: 05/04/12 Time: 0020

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: EPAFMC28 Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*RL*
111-44-4	Bis(2-chloroethyl)ether	3.1	U	3.1	4.1
108-95-2	Phenol	1.7	U	1.7	4.1
95-57-8	2-Chlorophenol	3	U	3	4.1
108-60-1	2,2'-Oxybis(1-chloropropane)	3.4	U	3.4	4.1
95-48-7	2-Methylphenol	2.6	U	2.6	4.1
67-72-1	Hexachloroethane	2.6	U	2.6	4.1
621-64-7	N-Nitroso-di-n-propylamine	3.1	U	3.1	4.1
106-44-5	4-Methylphenol	6.2	U	6.2	10.2
98-95-3	Nitrobenzene	1	U	1	4.1
78-59-1	Isophorone	3.9	U	3.9	4.1
88-75-5	2-Nitrophenol	0.78	U	0.78	4.1
105-67-9	2,4-Dimethylphenol	2.3	U	2.3	4.1
111-91-1	Bis(2-chloroethoxy)methane	3.6	U	3.6	4.1
120-83-2	2,4-Dichlorophenol	3.2	U	3.2	4.1
91-20-3	Naphthalene	2.8	U	2.8	4.1
106-47-8	4-Chloroaniline	3.1	U	3.1	4.1
91-57-6	2-Methylnaphthalene	2.8	U	2.8	4.1
87-68-3	Hexachlorobutadiene	2.6	U	2.6	4.1
59-50-7	4-Chloro-3-methylphenol	2.8	U	2.8	4.1
77-47-4	Hexachlorocyclopentadiene	0.84	U	0.84	4.1
88-06-2	2,4,6-Trichlorophenol	0.86	U	0.86	4.1
95-95-4	2,4,5-Trichlorophenol	3.5	U	3.5	4.1
91-58-7	2-Chloronaphthalene	2.8	U	2.8	4.1
88-74-4	2-Nitroaniline	3.1	U	3.1	4.1
208-96-8	Acenaphthylene	3.1	U	3.1	4.1
131-11-3	Dimethylphthalate	3.1	U	3.1	4.1

1

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: EPAFMC-SW-04

Lab Name: Spectrum Analytical, Inc. Contract: OTIE-Five Mile Creek / Site 13

Lab Code : PEL Case No. SAS No: SDG No.: 3505892

Matrix: WATER Lab Sample ID: 350589204 Lab File ID: 89204.D

Sample wt/vol: 980 Units: ML Date Received: 04/27/12

Concentrated Extract Volume: 1 Date Extracted: 05/03/12

Level:(low/med) LOW Date Analyzed: 05/04/12 Time: 0020

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: EPAFMC28 Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*RL*
606-20-2	2,6-Dinitrotoluene	2.8	U	2.8	4.1
83-32-9	Acenaphthene	2.8	U	2.8	4.1
99-09-2	3-Nitroaniline	2.8	U	2.8	4.1
51-28-5	2,4-Dinitrophenol	5.7	U	5.7	20.4
132-64-9	Dibenzofuran	2.8	U	2.8	4.1
121-14-2	2,4-Dinitrotoluene	2.8	U	2.8	4.1
100-02-7	4-Nitrophenol	4.1	U	4.1	4.1
86-73-7	Fluorene	3	U	3	4.1
7005-72-3	4-Chlorophenyl-phenylether	2.6	U	2.6	4.1
84-66-2	Diethylphthalate	2.8	U	2.8	4.1
100-01-6	4-Nitroaniline	1.5	U	1.5	4.1
534-52-1	4,6-Dinitro-2-methylphenol	4.1	U	4.1	4.1
86-30-6	N-Nitrosodiphenylamine	3.5	U	3.5	4.1
101-55-3	4-Bromophenyl-phenylether	2.3	U	2.3	4.1
118-74-1	Hexachlorobenzene	0.42	U	0.42	4.1
87-86-5	Pentachlorophenol	1.4	U	1.4	10.2
85-01-8	Phenanthrene	2.8	U	2.8	4.1
120-12-7	Anthracene	2.8	U	2.8	4.1
84-74-2	Di-n-butylphthalate	0.88	U	0.88	4.1
206-44-0	Fluoranthene	2.8	U	2.8	4.1
129-00-0	Pyrene	1.2	U	1.2	4.1
85-68-7	Butylbenzylphthalate	3.1	U	3.1	4.1
91-94-1	3,3'-Dichlorobenzidine	2.8	U	2.8	4.1
56-55-3	Benzo(a)anthracene	2.6	U	2.6	4.1
218-01-9	Chrysene	3	U	3	4.1
117-81-7	Bis(2-ethylhexyl)phthalate	10.3		4.5	5.1

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: EPAFMC-SW-04

Lab Name: Spectrum Analytical, Inc. Contract: OTIE-Five Mile Creek / Site 13

Lab Code : PEL Case No. SAS No: SDG No.: 3505892

Matrix: WATER Lab Sample ID: 350589204 Lab File ID: 89204.D

Sample wt/vol: 980 Units: ML Date Received: 04/27/12

Concentrated Extract Volume: 1 Date Extracted: 05/03/12

Level:(low/med) LOW Date Analyzed: 05/04/12 Time: 0020

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: EPAFMC28 Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*RL*
117-84-0	Di-n-octylphthalate	2	U	2	4.1
205-99-2	Benzo(b)fluoranthene	2.6	U	2.6	4.1
207-08-9	Benzo(k)fluoranthene	3	U	3	4.1
50-32-8	Benzo(a)pyrene	2.8	U	2.8	4.1
193-39-5	Indeno(1,2,3-cd)pyrene	1.6	U	1.6	4.1
53-70-3	Dibenzo(a,h)anthracene	1.2	U	1.2	4.1
191-24-2	Benzo(g,h,i)perylene	2.6	U	2.6	4.1
98-86-2	Acetophenone	4.1	U	4.1	4.1
95-94-3	1,2,4,5-Tetrachlorobenzene	2.2	U	2.2	4.1
86-74-8	Carbazole	3.2	U	3.2	4.1
105-60-2	Caprolactam	4.1	U	4.1	4.1
92-52-4	1,1'-Biphenyl	0.78	U	0.78	4.1
1912-24-9	Atrazine	0.55	U	0.55	4.1
100-52-7	Benzaldehyde	0.5	U	0.5	4.1

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: 128809MB

Lab Name: Spectrum Analytical, Inc. Contract: OTIE-Five Mile Creek / Site 1392

Lab Code : PEL Case No.: SAS No: SDG No.: 3505892

Matrix: WATER Lab Sample ID: 128809MB Lab File ID: 9295MB.D

Sample wt/vol: 1000 Units: ML Date Received: 05/03/12

Concentrated Extract Volume: 1 Date Extracted: 05/03/12

Level:(low/med) LOW Date Analyzed: 05/03/12 Time: 1711

PercentSolids: 0 decanted : (Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*RL*
111-44-4	Bis(2-chloroethyl)ether	3	U	3	4
108-95-2	Phenol	1.7	U	1.7	4
95-57-8	2-Chlorophenol	2.9	U	2.9	4
108-60-1	2,2'-Oxybis(1-chloropropane)	3.3	U	3.3	4
95-48-7	2-Methylphenol	2.6	U	2.6	4
67-72-1	Hexachloroethane	2.6	U	2.6	4
621-64-7	N-Nitroso-di-n-propylamine	3	U	3	4
106-44-5	4-Methylphenol	6.1	U	6.1	10
98-95-3	Nitrobenzene	1	U	1	4
78-59-1	Isophorone	3.8	U	3.8	4
88-75-5	2-Nitrophenol	0.77	U	0.77	4
105-67-9	2,4-Dimethylphenol	2.3	U	2.3	4
111-91-1	Bis(2-chloroethoxy)methane	3.5	U	3.5	4
120-83-2	2,4-Dichlorophenol	3.1	U	3.1	4
91-20-3	Naphthalene	2.8	U	2.8	4
106-47-8	4-Chloroaniline	3	U	3	4
91-57-6	2-Methylnaphthalene	2.8	U	2.8	4
87-68-3	Hexachlorobutadiene	2.5	U	2.5	4
59-50-7	4-Chloro-3-methylphenol	2.7	U	2.7	4
77-47-4	Hexachlorocyclopentadiene	0.82	U	0.82	4
88-06-2	2,4,6-Trichlorophenol	0.84	U	0.84	4
95-95-4	2,4,5-Trichlorophenol	3.4	U	3.4	4
91-58-7	2-Chloronaphthalene	2.8	U	2.8	4
88-74-4	2-Nitroaniline	3	U	3	4
208-96-8	Acenaphthylene	3	U	3	4
131-11-3	Dimethylphthalate	3	U	3	4
606-20-2	2,6-Dinitrotoluene	2.8	U	2.8	4

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: 128809MB

Lab Name: Spectrum Analytical, Inc. Contract: OTIE-Five Mile Creek / Site 1392

Lab Code : PEL Case No.: SAS No: SDG No.: 3505892

Matrix: WATER Lab Sample ID: 128809MB Lab File ID: 9295MB.D

Sample wt/vol: 1000 Units: ML Date Received: 05/03/12

Concentrated Extract Volume: 1 Date Extracted: 05/03/12

Level:(low/med) LOW Date Analyzed: 05/03/12 Time: 1711

PercentSolids: 0 decanted : (Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*RL*
83-32-9	Acenaphthene	2.8	U	2.8	4
99-09-2	3-Nitroaniline	2.8	U	2.8	4
51-28-5	2,4-Dinitrophenol	5.6	U	5.6	20
132-64-9	Dibenzofuran	2.7	U	2.7	4
121-14-2	2,4-Dinitrotoluene	2.8	U	2.8	4
100-02-7	4-Nitrophenol	4	U	4	4
86-73-7	Fluorene	2.9	U	2.9	4
7005-72-3	4-Chlorophenyl-phenylether	2.5	U	2.5	4
84-66-2	Diethylphthalate	2.8	U	2.8	4
100-01-6	4-Nitroaniline	1.5	U	1.5	4
534-52-1	4,6-Dinitro-2-methylphenol	4	U	4	4
86-30-6	N-Nitrosodiphenylamine	3.4	U	3.4	4
101-55-3	4-Bromophenyl-phenylether	2.3	U	2.3	4
118-74-1	Hexachlorobenzene	0.41	U	0.41	4
87-86-5	Pentachlorophenol	1.4	U	1.4	10
85-01-8	Phenanthrene	2.8	U	2.8	4
120-12-7	Anthracene	2.8	U	2.8	4
84-74-2	Di-n-butylphthalate	0.86	U	0.86	4
206-44-0	Fluoranthene	2.8	U	2.8	4
129-00-0	Pyrene	1.2	U	1.2	4
85-68-7	Butylbenzylphthalate	3	U	3	4
91-94-1	3,3'-Dichlorobenzidine	2.7	U	2.7	4
56-55-3	Benzo(a)anthracene	2.6	U	2.6	4
218-01-9	Chrysene	2.9	U	2.9	4
117-81-7	Bis(2-ethylhexyl)phthalate	4.4	U	4.4	5
117-84-0	Di-n-octylphthalate	2	U	2	4
205-99-2	Benzo(b)fluoranthene	2.6	U	2.6	4

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: 128809MB

Lab Name: Spectrum Analytical, Inc. Contract: OTIE-Five Mile Creek / Site 1392

Lab Code : PEL Case No.: SAS No: SDG No.: 3505892

Matrix: WATER Lab Sample ID: 128809MB Lab File ID: 9295MB.D

Sample wt/vol: 1000 Units: ML Date Received: 05/03/12

Concentrated Extract Volume: 1 Date Extracted: 05/03/12

Level:(low/med) LOW Date Analyzed: 05/03/12 Time: 1711

PercentSolids: 0 decanted : (Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*RL*
207-08-9	Benzo(k)fluoranthene	2.9	U	2.9	4
50-32-8	Benzo(a)pyrene	2.8	U	2.8	4
193-39-5	Indeno(1,2,3-cd)pyrene	1.6	U	1.6	4
53-70-3	Dibenzo(a,h)anthracene	1.2	U	1.2	4
191-24-2	Benzo(g,h,i)perylene	2.6	U	2.6	4
98-86-2	Acetophenone	4	U	4	4
95-94-3	1,2,4,5-Tetrachlorobenzene	2.2	U	2.2	4
86-74-8	Carbazole	3.1	U	3.1	4
105-60-2	Caprolactam	4	U	4	4
92-52-4	1,1'-Biphenyl	0.76	U	0.76	4
1912-24-9	Atrazine	0.54	U	0.54	4
100-52-7	Benzaldehyde	0.49	U	0.49	4

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: 128824MB

Lab Name: Spectrum Analytical, Inc. Contract: OTIE-Five Mile Creek / Site 1392

Lab Code : PEL Case No.: SAS No: SDG No.: 3505892

Matrix: SOIL Lab Sample ID: 128824MB Lab File ID: 9300MB.D

Sample wt/vol: 20.34 Units: G Date Received: 05/03/12

Concentrated Extract Volume: 1 Date Extracted: 05/03/12

Level:(low/med) LOW Date Analyzed: 05/03/12 Time: 1403

PercentSolids: 100 decanted : (Dilution Factor: 1

Extraction: OTHER Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/KG

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*RL*
111-44-4	Bis(2-chloroethyl)ether	65.9	U	65.9	265
108-95-2	Phenol	63.9	U	63.9	1310
95-57-8	2-Chlorophenol	67.8	U	67.8	265
108-60-1	2,2'-Oxybis(1-chloropropane)	216	U	216	265
95-48-7	2-Methylphenol	94.4	U	94.4	262
67-72-1	Hexachloroethane	49.2	U	49.2	265
621-64-7	N-Nitroso-di-n-propylamine	60	U	60	265
106-44-5	4-Methylphenol	58	U	58	265
98-95-3	Nitrobenzene	59	U	59	265
78-59-1	Isophorone	58	U	58	265
88-75-5	2-Nitrophenol	70.8	U	70.8	265
105-67-9	2,4-Dimethylphenol	56	U	56	262
111-91-1	Bis(2-chloroethoxy)methane	56	U	56	262
120-83-2	2,4-Dichlorophenol	73.7	U	73.7	262
91-20-3	Naphthalene	62.9	U	62.9	265
106-47-8	4-Chloroaniline	61.9	U	61.9	265
91-57-6	2-Methylnaphthalene	57	U	57	265
87-68-3	Hexachlorobutadiene	57	U	57	265
59-50-7	4-Chloro-3-methylphenol	55.1	U	55.1	265
77-47-4	Hexachlorocyclopentadiene	39.3	U	39.3	656
88-06-2	2,4,6-Trichlorophenol	66.9	U	66.9	262
95-95-4	2,4,5-Trichlorophenol	72.8	U	72.8	262
91-58-7	2-Chloronaphthalene	65.6	U	65.6	265
88-74-4	2-Nitroaniline	56	U	56	265
208-96-8	Acenaphthylene	54.1	U	54.1	265
131-11-3	Dimethylphthalate	58	U	58	265
606-20-2	2,6-Dinitrotoluene	49.2	U	49.2	265

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: 128824MB

Lab Name: Spectrum Analytical, Inc. Contract: OTIE-Five Mile Creek / Site 1392

Lab Code : PEL Case No.: SAS No: SDG No.: 3505892

Matrix: SOIL Lab Sample ID: 128824MB Lab File ID: 9300MB.D

Sample wt/vol: 20.34 Units: G Date Received: 05/03/12

Concentrated Extract Volume: 1 Date Extracted: 05/03/12

Level:(low/med) LOW Date Analyzed: 05/03/12 Time: 1403

PercentSolids: 100 decanted : (Dilution Factor: 1

Extraction: OTHER Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/KG

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*RL*
83-32-9	Acenaphthene	48.2	U	48.2	265
99-09-2	3-Nitroaniline	78.7	U	78.7	262
51-28-5	2,4-Dinitrophenol	216	U	216	1320
132-64-9	Dibenzofuran	53.1	U	53.1	265
121-14-2	2,4-Dinitrotoluene	48.2	U	48.2	265
100-02-7	4-Nitrophenol	52.1	U	52.1	656
86-73-7	Fluorene	50.1	U	50.1	265
7005-72-3	4-Chlorophenyl-phenylether	50.1	U	50.1	265
84-66-2	Diethylphthalate	50.1	U	50.1	265
100-01-6	4-Nitroaniline	86.5	U	86.5	262
534-52-1	4,6-Dinitro-2-methylphenol	262	U	262	265
86-30-6	N-Nitrosodiphenylamine	61.9	U	61.9	262
101-55-3	4-Bromophenyl-phenylether	48.2	U	48.2	265
118-74-1	Hexachlorobenzene	52.1	U	52.1	262
87-86-5	Pentachlorophenol	131	U	131	265
85-01-8	Phenanthrene	55.1	U	55.1	265
120-12-7	Anthracene	59	U	59	265
84-74-2	Di-n-butylphthalate	43.3	U	43.3	265
206-44-0	Fluoranthene	47.2	U	47.2	265
129-00-0	Pyrene	90.5	U	90.5	265
85-68-7	Butylbenzylphthalate	61.9	U	61.9	265
91-94-1	3,3'-Dichlorobenzidine	58	U	58	265
56-55-3	Benzo(a)anthracene	56	U	56	265
218-01-9	Chrysene	33.4	U	33.4	262
117-81-7	Bis(2-ethylhexyl)phthalate	144	J	81.6	265
117-84-0	Di-n-octylphthalate	57	U	57	265
205-99-2	Benzo(b)fluoranthene	61.9	U	61.9	265

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: 128824MB

Lab Name: Spectrum Analytical, Inc. Contract: OTIE-Five Mile Creek / Site 1392

Lab Code : PEL Case No.: SAS No: SDG No.: 3505892

Matrix: SOIL Lab Sample ID: 128824MB Lab File ID: 9300MB.D

Sample wt/vol: 20.34 Units: G Date Received: 05/03/12

Concentrated Extract Volume: 1 Date Extracted: 05/03/12

Level:(low/med) LOW Date Analyzed: 05/03/12 Time: 1403

PercentSolids: 100 decanted : (Dilution Factor: 1

Extraction: OTHER Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/KG

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*RL*
207-08-9	Benzo(k)fluoranthene	56	U	56	265
50-32-8	Benzo(a)pyrene	42.3	U	42.3	265
193-39-5	Indeno(1,2,3-cd)pyrene	51.1	U	51.1	265
53-70-3	Dibenzo(a,h)anthracene	40.3	U	40.3	265
191-24-2	Benzo(g,h,i)perylene	39.3	U	39.3	265
98-86-2	Acetophenone	98.3	U	98.3	265
95-94-3	1,2,4,5-Tetrachlorobenzene	46.2	U	46.2	265
86-74-8	Carbazole	53.1	U	53.1	265
105-60-2	Caprolactam	138	U	138	265
92-52-4	1,1'-Biphenyl	60	U	60	265
1912-24-9	Atrazine	77.7	U	77.7	265
100-52-7	Benzaldehyde	44.2	U	44.2	265

1

PCB ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: EPAFMC-SD-30

Lab Name: Spectrum Analytical, Inc. Contract: OTIE-Five Mile Creek / Site 13

Lab Code : PEL Case No. SAS No: SDG No.: 3505892

Matrix: SOIL Lab Sample ID: 350589201 Lab File ID: 892-01.D

Sample wt/vol: 33.74 Units: G Date Received: 04/27/12

Concentrated Extract Volume: 10 Date Extracted: 05/02/12

Level:(low/med) LOW Date Analyzed: 05/09/12 Time: 2328

PercentSolids: 84.4 decanted : Dilution Factor: 1

Extraction: SONC Station ID: EPAFMC28 Method: 8082

GPC Cleanup : (Y/N) N pH:

Column(1): STX-CLP1 ID: 0.32 (mm)

CONCENTRATION UNITS: UG/KG

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*RL*
12674-11-2	Aroclor-1016	15	U	15	35
11096-82-5	Aroclor-1260	8.1	U	8.1	35
11104-28-2	Aroclor-1221	14	U	14	35
11141-16-5	Aroclor-1232	23	U	23	35
53469-21-9	Aroclor-1242	13	U	13	35
12672-29-6	Aroclor-1248	13	U	13	35
11097-69-1	Aroclor-1254	11	U	11	35

PCB ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: EPAFMC-SW-01R

Lab Name: Spectrum Analytical, Inc. Contract: OTIE-Five Mile Creek / Site 13

Lab Code : PEL Case No. SAS No: SDG No.: 3505892

Matrix: WATER Lab Sample ID: 350589202 Lab File ID: 892-2.D

Sample wt/vol: 980 Units: ML Date Received: 04/27/12

Concentrated Extract Volume: 10 Date Extracted: 05/02/12

Level:(low/med) LOW Date Analyzed: 05/03/12 Time: 1119

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: EPAFMC11 Method: 8082

GPC Cleanup : (Y/N) N pH:

Column(1): STX-CLP1 ID: 0.32 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*RL*
12674-11-2	Aroclor-1016	0.37	U	0.37	0.51
11096-82-5	Aroclor-1260	0.26	U	0.26	0.51
11104-28-2	Aroclor-1221	0.44	U	0.44	0.51
11141-16-5	Aroclor-1232	0.2	U	0.2	0.51
53469-21-9	Aroclor-1242	0.32	U	0.32	0.51
12672-29-6	Aroclor-1248	0.2	U	0.2	0.51
11097-69-1	Aroclor-1254	0.2	U	0.2	0.51

PCB ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: EPAFMC-SW-03R

Lab Name: Spectrum Analytical, Inc. Contract: OTIE-Five Mile Creek / Site 13

Lab Code : PEL Case No. SAS No: SDG No.: 3505892

Matrix: WATER Lab Sample ID: 350589203 Lab File ID: 892-3.D

Sample wt/vol: 980 Units: ML Date Received: 04/27/12

Concentrated Extract Volume: 10 Date Extracted: 05/02/12

Level:(low/med) LOW Date Analyzed: 05/03/12 Time: 1134

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: EPAFMC11 Method: 8082

GPC Cleanup : (Y/N) N pH:

Column(1): STX-CLP1 ID: 0.32 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*RL*
12674-11-2	Aroclor-1016	0.37	U	0.37	0.51
11096-82-5	Aroclor-1260	0.26	U	0.26	0.51
11104-28-2	Aroclor-1221	0.44	U	0.44	0.51
11141-16-5	Aroclor-1232	0.2	U	0.2	0.51
53469-21-9	Aroclor-1242	0.32	U	0.32	0.51
12672-29-6	Aroclor-1248	0.2	U	0.2	0.51
11097-69-1	Aroclor-1254	0.2	U	0.2	0.51

5-31-12

PCB ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: EPAFMC-SW-04

Lab Name: Spectrum Analytical, Inc. Contract: OTIE-Five Mile Creek / Site 13

Lab Code : PEL Case No. SAS No: SDG No.: 3505892

Matrix: WATER Lab Sample ID: 350589204 Lab File ID: 892-4.D

Sample wt/vol: 980 Units: ML Date Received: 04/27/12

Concentrated Extract Volume: 10 Date Extracted: 05/02/12

Level:(low/med) LOW Date Analyzed: 05/03/12 Time: 1150

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: EPAFMC28 Method: 8082

GPC Cleanup : (Y/N) N pH:

Column(1): STX-CLP1 ID: 0.32 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*RL*
12674-11-2	Aroclor-1016	0.37	U	0.37	0.51
11096-82-5	Aroclor-1260	0.26	U	0.26	0.51
11104-28-2	Aroclor-1221	0.44	U	0.44	0.51
11141-16-5	Aroclor-1232	0.2	U	0.2	0.51
53469-21-9	Aroclor-1242	0.32	U	0.32	0.51
12672-29-6	Aroclor-1248	0.2	U	0.2	0.51
11097-69-1	Aroclor-1254	0.2	U	0.2	0.51

PCB ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: 128626MB

Lab Name: Spectrum Analytical, Inc. Contract: OTIE-Five Mile Creek / Site 1392

Lab Code : PEL Case No.: SAS No: SDG No.: 3505892

Matrix: WATER Lab Sample ID: 128626MB Lab File ID: 9277MB.D

Sample wt/vol: 1000 Units: ML Date Received: 05/02/12

Concentrated Extract Volume: 10 Date Extracted: 05/02/12

Level:(low/med) LOW Date Analyzed: 05/03/12 Time: 0949

PercentSolids: 0 decanted : (Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8082

GPC Cleanup : (Y/N) N pH:

Column(1): STX-CLP1 ID: 0.32 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*RL*
12674-11-2	Aroclor-1016	0.36	U	0.36	0.5
11096-82-5	Aroclor-1260	0.25	U	0.25	0.5
11104-28-2	Aroclor-1221	0.43	U	0.43	0.5
11141-16-5	Aroclor-1232	0.2	U	0.2	0.5
53469-21-9	Aroclor-1242	0.31	U	0.31	0.5
12672-29-6	Aroclor-1248	0.2	U	0.2	0.5
11097-69-1	Aroclor-1254	0.2	U	0.2	0.5

PCB ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: 128641MB

Lab Name: Spectrum Analytical, Inc. Contract: OTIE-Five Mile Creek / Site 1392

Lab Code : PEL Case No.: SAS No: SDG No.: 3505892

Matrix: SOIL Lab Sample ID: 128641MB Lab File ID: 9281MB.D

Sample wt/vol: 33.2 Units: G Date Received: 05/02/12

Concentrated Extract Volume: 10 Date Extracted: 05/02/12

Level:(low/med) LOW Date Analyzed: 05/04/12 Time: 1146

PercentSolids: 100 decanted : (Dilution Factor: 1

Extraction: SONC Station ID: Method: 8082

GPC Cleanup : (Y/N) N pH:

Column(1): STX-CLP1 ID: 0.32 (mm)

CONCENTRATION UNITS: UG/KG

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*RL*
12674-11-2	Aroclor-1016	13	U	13	30
11096-82-5	Aroclor-1260	7	U	7	30
11104-28-2	Aroclor-1221	12	U	12	30
11141-16-5	Aroclor-1232	20	U	20	30
53469-21-9	Aroclor-1242	11	U	11	30
12672-29-6	Aroclor-1248	11	U	11	30
11097-69-1	Aroclor-1254	9.4	U	9.4	30

1

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: EPAFMC-SD-30

Lab Name: Spectrum Analytical, Inc. Contract: OTIE-Five Mile Creek / Site 13

Lab Code : PEL Case No. SAS No: SDG No.: 3505892

Matrix: SOIL Lab Sample ID: 350589201 Lab File ID: 89201.D

Sample wt/vol: 25.73 Units: G Date Received: 04/27/12

Concentrated Extract Volume: 1 Date Extracted: 05/02/12

Level:(low/med) LOW Date Analyzed: 05/03/12 Time: 1350

PercentSolids: 84.4 decanted : Dilution Factor: 1

Extraction: OTHER Station ID: EPAFMC28 Method: 8270 SIM

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/KG

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*RL*
90-12-0	1-Methylnaphthalene	1.2	U	1.2	3.1
91-57-6	2-Methylnaphthalene	2.4	J	1.2	3.1
83-32-9	Acenaphthene	1.2	U	1.2	3.1
208-96-8	Acenaphthylene	1.2	U	1.2	3.1
120-12-7	Anthracene	4.9		1.2	3.1
56-55-3	Benzo(a)anthracene	56		1.3	3.1
50-32-8	Benzo(a)pyrene	62.4		1.6	3.1
205-99-2	Benzo(b)fluoranthene	94.9		1.7	3.1
191-24-2	Benzo(g,h,i)perylene	35.7		2.8	3.1
207-08-9	Benzo(k)fluoranthene	24.4		1.9	3.1
218-01-9	Chrysene	44.2		1.2	3.1
53-70-3	Dibenzo(a,h)anthracene	10.5		2.4	3.1
206-44-0	Fluoranthene	96.7		1.2	3.1
86-73-7	Fluorene	1.2	U	1.2	3.1
193-39-5	Indeno(1,2,3-cd)pyrene	32.8		2.8	3.1
91-20-3	Naphthalene	2	J	1.3	3.1
85-01-8	Phenanthrene	24.6		1.2	3.1
129-00-0	Pyrene	66		1.2	3.1

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: EPAFMC-SW-01R

Lab Name: Spectrum Analytical, Inc. Contract: OTIE-Five Mile Creek / Site 13

Lab Code : PEL Case No. SAS No: SDG No.: 3505892

Matrix: WATER Lab Sample ID: 350589202 Lab File ID: 89202.D

Sample wt/vol: 980 Units: ML Date Received: 04/27/12

Concentrated Extract Volume: 1 Date Extracted: 05/01/12

Level:(low/med) LOW Date Analyzed: 05/02/12 Time: 1828

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: EPAFMC11 Method: 8270 SIM

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*RL*
90-12-0	1-Methylnaphthalene	0.02	U	0.02	0.051
91-57-6	2-Methylnaphthalene	0.02	U	0.02	0.051
83-32-9	Acenaphthene	0.02	U	0.02	0.051
208-96-8	Acenaphthylene	0.02	U	0.02	0.051
120-12-7	Anthracene	0.02	U	0.02	0.051
56-55-3	Benzo(a)anthracene	0.02	U	0.02	0.051
50-32-8	Benzo(a)pyrene	0.02	U	0.02	0.051
205-99-2	Benzo(b)fluoranthene	0.02	U	0.02	0.051
191-24-2	Benzo(g,h,i)perylene	0.02	U	0.02	0.051
207-08-9	Benzo(k)fluoranthene	0.02	U	0.02	0.051
218-01-9	Chrysene	0.02	U	0.02	0.051
53-70-3	Dibenzo(a,h)anthracene	0.02	U	0.02	0.051
206-44-0	Fluoranthene	0.031	J	0.02	0.051
86-73-7	Fluorene	0.02	U	0.02	0.051
193-39-5	Indeno(1,2,3-cd)pyrene	0.02	U	0.02	0.051
91-20-3	Naphthalene	0.038	J	0.02	0.051
85-01-8	Phenanthrene	0.03	J	0.02	0.051
129-00-0	Pyrene	0.02	U	0.02	0.051

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: EPAFMC-SW-03R

Lab Name: Spectrum Analytical, Inc. Contract: OTIE-Five Mile Creek / Site 13

Lab Code : PEL Case No. SAS No: SDG No.: 3505892

Matrix: WATER Lab Sample ID: 350589203 Lab File ID: 89203.D

Sample wt/vol: 980 Units: ML Date Received: 04/27/12

Concentrated Extract Volume: 1 Date Extracted: 05/01/12

Level:(low/med) LOW Date Analyzed: 05/02/12 Time: 1852

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: EPAFMC11 Method: 8270 SIM

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*RL*
90-12-0	1-Methylnaphthalene	0.02	U	0.02	0.051
91-57-6	2-Methylnaphthalene	0.02	U	0.02	0.051
83-32-9	Acenaphthene	0.02	U	0.02	0.051
208-96-8	Acenaphthylene	0.02	U	0.02	0.051
120-12-7	Anthracene	0.02	U	0.02	0.051
56-55-3	Benzo(a)anthracene	0.021	J	0.02	0.051
50-32-8	Benzo(a)pyrene	0.02	U	0.02	0.051
205-99-2	Benzo(b)fluoranthene	0.023	J	0.02	0.051
191-24-2	Benzo(g,h,i)perylene	0.02	U	0.02	0.051
207-08-9	Benzo(k)fluoranthene	0.02	U	0.02	0.051
218-01-9	Chrysene	0.02	U	0.02	0.051
53-70-3	Dibenzo(a,h)anthracene	0.02	U	0.02	0.051
206-44-0	Fluoranthene	0.032	J	0.02	0.051
86-73-7	Fluorene	0.02	U	0.02	0.051
193-39-5	Indeno(1,2,3-cd)pyrene	0.02	U	0.02	0.051
91-20-3	Naphthalene	0.043	J	0.02	0.051
85-01-8	Phenanthrene	0.029	J	0.02	0.051
129-00-0	Pyrene	0.021	J	0.02	0.051

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: EPAFMC-SW-04

Lab Name: Spectrum Analytical, Inc. Contract: OTIE-Five Mile Creek / Site 13

Lab Code : PEL Case No. SAS No: SDG No.: 3505892

Matrix: WATER Lab Sample ID: 350589204 Lab File ID: 89204.D

Sample wt/vol: 980 Units: ML Date Received: 04/27/12

Concentrated Extract Volume: 1 Date Extracted: 05/01/12

Level:(low/med) LOW Date Analyzed: 05/02/12 Time: 1916

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: EPAFMC28 Method: 8270 SIM

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*RL*
90-12-0	1-Methylnaphthalene	0.02	U	0.02	0.051
91-57-6	2-Methylnaphthalene	0.02	U	0.02	0.051
83-32-9	Acenaphthene	0.02	U	0.02	0.051
208-96-8	Acenaphthylene	0.02	U	0.02	0.051
120-12-7	Anthracene	0.02	U	0.02	0.051
56-55-3	Benzo(a)anthracene	0.02	U	0.02	0.051
50-32-8	Benzo(a)pyrene	0.02	U	0.02	0.051
205-99-2	Benzo(b)fluoranthene	0.02	U	0.02	0.051
191-24-2	Benzo(g,h,i)perylene	0.02	U	0.02	0.051
207-08-9	Benzo(k)fluoranthene	0.02	U	0.02	0.051
218-01-9	Chrysene	0.02	U	0.02	0.051
53-70-3	Dibenzo(a,h)anthracene	0.02	U	0.02	0.051
206-44-0	Fluoranthene	0.02	U	0.02	0.051
86-73-7	Fluorene	0.02	U	0.02	0.051
193-39-5	Indeno(1,2,3-cd)pyrene	0.02	U	0.02	0.051
91-20-3	Naphthalene	0.02	U	0.02	0.051
85-01-8	Phenanthrene	0.02	U	0.02	0.051
129-00-0	Pyrene	0.02	U	0.02	0.051

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: 128334MB

Lab Name: Spectrum Analytical, Inc. Contract: OTIE-Five Mile Creek / Site 1392

Lab Code : PEL Case No.: SAS No: SDG No.: 3505892

Matrix: WATER Lab Sample ID: 128334MB Lab File ID: 9264MB.D

Sample wt/vol: 1000 Units: ML Date Received: 05/01/12

Concentrated Extract Volume: 1 Date Extracted: 05/01/12

Level:(low/med) LOW Date Analyzed: 05/02/12 Time: 0931

PercentSolids: 0 decanted : (Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270 SIM

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*RL*
90-12-0	1-Methylnaphthalene	0.02	U	0.02	0.05
91-57-6	2-Methylnaphthalene	0.02	U	0.02	0.05
83-32-9	Acenaphthene	0.02	U	0.02	0.05
208-96-8	Acenaphthylene	0.02	U	0.02	0.05
120-12-7	Anthracene	0.02	U	0.02	0.05
56-55-3	Benzo(a)anthracene	0.02	U	0.02	0.05
50-32-8	Benzo(a)pyrene	0.02	U	0.02	0.05
205-99-2	Benzo(b)fluoranthene	0.02	U	0.02	0.05
191-24-2	Benzo(g,h,i)perylene	0.02	U	0.02	0.05
207-08-9	Benzo(k)fluoranthene	0.02	U	0.02	0.05
218-01-9	Chrysene	0.02	U	0.02	0.05
53-70-3	Dibenzo(a,h)anthracene	0.02	U	0.02	0.05
206-44-0	Fluoranthene	0.02	U	0.02	0.05
86-73-7	Fluorene	0.02	U	0.02	0.05
193-39-5	Indeno(1,2,3-cd)pyrene	0.02	U	0.02	0.05
91-20-3	Naphthalene	0.02	U	0.02	0.05
85-01-8	Phenanthrene	0.02	U	0.02	0.05
129-00-0	Pyrene	0.02	U	0.02	0.05

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: 128646MB

Lab Name: Spectrum Analytical, Inc. Contract: OTIE-Five Mile Creek / Site 1392

Lab Code : PEL Case No.: SAS No: SDG No.: 3505892

Matrix: SOIL Lab Sample ID: 128646MB Lab File ID: 9282MB.D

Sample wt/vol: 20.34 Units: G Date Received: 05/02/12

Concentrated Extract Volume: 1 Date Extracted: 05/02/12

Level:(low/med) LOW Date Analyzed: 05/02/12 Time: 1025

PercentSolids: 100 decanted : (Dilution Factor: 1

Extraction: OTHER Station ID: Method: 8270 SIM

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/KG

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*RL*
90-12-0	1-Methylnaphthalene	1.3	U	1.3	3.3
91-57-6	2-Methylnaphthalene	1.3	U	1.3	3.3
83-32-9	Acenaphthene	1.3	U	1.3	3.3
208-96-8	Acenaphthylene	1.3	U	1.3	3.3
120-12-7	Anthracene	1.3	U	1.3	3.3
56-55-3	Benzo(a)anthracene	1.4	U	1.4	3.3
50-32-8	Benzo(a)pyrene	1.8	U	1.8	3.3
205-99-2	Benzo(b)fluoranthene	1.9	U	1.9	3.3
191-24-2	Benzo(g,h,i)perylene	3	U	3	3.3
207-08-9	Benzo(k)fluoranthene	2.1	U	2.1	3.3
218-01-9	Chrysene	1.3	U	1.3	3.3
53-70-3	Dibenzo(a,h)anthracene	2.6	U	2.6	3.3
206-44-0	Fluoranthene	1.3	U	1.3	3.3
86-73-7	Fluorene	1.3	U	1.3	3.3
193-39-5	Indeno(1,2,3-cd)pyrene	2.9	U	2.9	3.3
91-20-3	Naphthalene	1.4	U	1.4	3.3
85-01-8	Phenanthrene	1.3	U	1.3	3.3
129-00-0	Pyrene	1.3	U	1.3	3.3

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

EPAFMC-SW-01R

Lab Name: Spectrum Analytical, Inc. Contract: OTIE-Five Mile Creek / Site 1392

Lab Code : PEL Case No.: SAS No: SDG No.: 3505892

Matrix: WATER Lab Sample ID: 350589202

Level:(low/med) LOW Date Received: 4/27/2012

PercentSolids: 0 Station ID: EPAFMC11

CONCENTRATION UNITS: mg/L

CAS NO.	ANALYTE	Concentration	C	Q	M		MDL	RL
35-50-0	Hardness	188			P		0.2	1

Color Before: _____ Clarity Before: _____ Texture : _____

Color After : _____ Clarity After: _____ Artifacts: _____

Comments:

160512 1643

5-31-12

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

EPAFMC-SW-03R

Lab Name: Spectrum Analytical, Inc. Contract: OTIE-Five Mile Creek / Site 1392

Lab Code : PEL Case No.: SAS No: SDG No.: 3505892

Matrix: WATER Lab Sample ID: 350589203

Level:(low/med) LOW Date Received: 4/27/2012

PercentSolids: 0 Station ID: EPAFMC11

CONCENTRATION UNITS: mg/L

CAS NO.	ANALYTE	Concentration	C	Q	M		MDL	RL
35-50-0	Hardness	197			P		0.2	1

Color Before: _____ Clarity Before: _____ Texture :_____

Color After : _____ Clarity After: _____ Artifacts:_____

Comments:

160512 1643

5-31-12

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

EPAFMC-SW-04

Lab Name: Spectrum Analytical, Inc. Contract: OTIE-Five Mile Creek / Site 1392

Lab Code : PEL Case No.: SAS No: SDG No.: 3505892

Matrix: WATER Lab Sample ID: 350589204

Level:(low/med) LOW Date Received: 4/27/2012

PercentSolids: 0 Station ID: EPAFMC28

CONCENTRATION UNITS: mg/L

CAS NO.	ANALYTE	Concentration	C	Q	M		MDL	RL
35-50-0	Hardness	191			P		0.2	1

Color Before: _____ Clarity Before: _____ Texture : _____

Color After : _____ Clarity After: _____ Artifacts: _____

Comments:

160512 1643

5-31-12

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

EPAFMC-PB-01

Lab Name: Spectrum Analytical, Inc. Contract: OTIE-Five Mile Creek / Site 1392

Lab Code : PEL Case No.: SAS No: SDG No.: 3505892

Matrix: WATER Lab Sample ID: 350589205

Level:(low/med) LOW Date Received: 4/27/2012

PercentSolids: 0 Station ID: R4DART

CONCENTRATION UNITS: mg/L

CAS NO.	ANALYTE	Concentration	C	Q	M		MDL	RL
35-50-0	Hardness	0.34	J		P		0.2	1

Color Before: _____ Clarity Before: _____ Texture :_____

Color After : _____ Clarity After: _____ Artifacts:_____

Comments:

160512 1643

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

EPAFMC-SD-30

Lab Name: Spectrum Analytical, Inc. Contract: OTIE-Five Mile Creek / Site 1392

Lab Code : PEL Case No.: SAS No: SDG No.: 3505892

Matrix: SOIL Lab Sample ID: 350589201

Level:(low/med) LOW Date Received: 4/27/2012

PercentSolids: 84.4 Station ID: EPAFMC28

CONCENTRATION UNITS: MG/KG

CAS NO.	ANALYTE	Concentration	C	Q	M		MDL	RL
7429-90-5	Aluminum	5300			P		1.19	6.24
7440-36-0	Antimony	0.15	U		P		0.15	0.624
7440-38-2	Arsenic	9.57			P		0.312	0.624
7440-39-3	Barium	39.9			P		0.0999	0.312
7440-41-7	Beryllium	0.818			P		0.0999	0.312
7440-43-9	Cadmium	0.0312	U		P		0.0312	0.312
7440-47-3	Chromium	32.7			P		0.0999	0.312
7440-48-4	Cobalt	4.17			P		0.0312	0.312
7440-50-8	Copper	6.2			P		0.0999	0.312
7439-89-6	Iron	21800			P		0.374	3.12
7439-92-1	Lead	6.01			P		0.212	0.499
7439-95-4	Magnesium	1630			P		1.81	6.24
7439-97-6	Mercury	0.0152	J		CV		0.0028	0.0151
7440-02-0	Nickel	4.52			P		0.0999	0.312
7440-09-7	Potassium	605			P		3.12	31.2
7782-49-2	Selenium	0.25	U		P		0.25	1.25
7440-22-4	Silver	0.0999	U		P		0.0999	0.312
7440-23-5	Sodium	80.4			P		6.24	18.7
7440-28-0	Thallium	~~0.479~~ 0.624	U J		P		0.212	0.624
7440-62-2	Vanadium	33			P		0.0999	0.312
7440-66-6	Zinc	21.5			P		0.206	0.624

Color Before: _____ Clarity Before: _____ Texture : _____

Color After : _____ Clarity After: _____ Artifacts: _____

Comments:

160512 1642

5-31-12

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

EPAFMC-SD-30DL1

Lab Name: Spectrum Analytical, Inc. Contract: OTIE-Five Mile Creek / Site 1392

Lab Code : PEL Case No.: SAS No: SDG No.: 3505892

Matrix: SOIL Lab Sample ID: 350589201DL1

Level:(low/med) LOW Date Received: 4/27/2012

PercentSolids: 84.4 Station ID: EPAFMC28

CONCENTRATION UNITS: MG/KG

CAS NO.	ANALYTE	Concentration	C	Q	M		MDL	RL
7440-70-2	Calcium	30400			P		10.3	31.2
7439-96-5	Manganese	549			P		0.499	1.56

Color Before: _____ Clarity Before: _____ Texture :_____

Color After : _____ Clarity After: _____ Artifacts:_____

Comments:

160512 1642

5-31-12

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

EPAFMC-SW-01R

Lab Name: Spectrum Analytical, Inc. Contract: OTIE-Five Mile Creek / Site 1392

Lab Code : PEL Case No.: SAS No: SDG No.: 3505892

Matrix: WATER Lab Sample ID: 350589202

Level:(low/med) LOW Date Received: 4/27/2012

PercentSolids: 0 Station ID: EPAFMC11

CONCENTRATION UNITS: UG/L

CAS NO.	ANALYTE	Concentration	C	Q	M		MDL	RL
7429-90-5	Aluminum	~~78.7~~ 100	U J		P		9.3	100
7440-36-0	Antimony	3.3	U		P		3.3	10
7440-38-2	Arsenic	6.47	J		P		3.31	10
7440-39-3	Barium	33.8			P		0.22	10
7440-41-7	Beryllium	~~0.171~~ 5	U J		P		0.12	5
7440-43-9	Cadmium	0.72	U		P		0.72	5
7440-70-2	Calcium	41700			P		39	100
7440-47-3	Chromium	~~1.58~~ 10	U J		P		0.43	10
7440-48-4	Cobalt	0.37	U		P		0.37	10
7440-50-8	Copper	2.7	U		P		2.7	10
7439-89-6	Iron	126	J		P		5.5	50
7439-92-1	Lead	3.7	U		P		3.7	15
7439-95-4	Magnesium	20400			P		9.8	100
7439-96-5	Manganese	60.8			P		0.35	10
7439-97-6	Mercury	~~0.0515~~ 0.2	U J		CV		0.037	0.2
7440-02-0	Nickel	0.93	U		P		0.93	5
7440-09-7	Potassium	1130			P		71.7	500
7782-49-2	Selenium	~~6.67~~ 20	U J		P		4.1	20
7440-22-4	Silver	0.52	U		P		0.52	10
7440-23-5	Sodium	24200			P		180	300
7440-28-0	Thallium	0.34	U		F		0.34	2

Color Before: _____ Clarity Before: _____ Texture : _____

Color After : _____ Clarity After: _____ Artifacts: _____

Comments:

160512 1642

5-31-12

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

EPAFMC-SW-01R

Lab Name: Spectrum Analytical, Inc. Contract: OTIE-Five Mile Creek / Site 1392

Lab Code : PEL Case No.: SAS No: SDG No.: 3505892

Matrix: WATER Lab Sample ID: 350589202

Level:(low/med) LOW Date Received: 4/27/2012

PercentSolids: 0 Station ID: EPAFMC11

CONCENTRATION UNITS: UG/L

CAS NO.	ANALYTE	Concentration	C	Q	M		MDL	RL
7440-62-2	Vanadium	0.712	J		P		0.44	10
7440-66-6	Zinc	5.83	J		P		4	20

Color Before: _____ Clarity Before: _____ Texture : _____

Color After : _____ Clarity After: _____ Artifacts: _____

Comments:

160512 1642

5-31-12

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

EPAFMC-SW-03R

Lab Name: Spectrum Analytical, Inc. Contract: OTIE-Five Mile Creek / Site 1392

Lab Code : PEL Case No.: SAS No: SDG No.: 3505892

Matrix: WATER Lab Sample ID: 350589203

Level:(low/med) LOW Date Received: 4/27/2012

PercentSolids: 0 Station ID: EPAFMC11

CONCENTRATION UNITS: UG/L

CAS NO.	ANALYTE	Concentration	C	Q	M		MDL	RL
7429-90-5	Aluminum	~~63.2~~ 100	U J		P		9.3	100
7440-36-0	Antimony	3.3	U		P		3.3	10
7440-38-2	Arsenic	3.31	U		P		3.31	10
7440-39-3	Barium	35.6			P		0.22	10
7440-41-7	Beryllium	~~0.132~~ 5	U J		P		0.12	5
7440-43-9	Cadmium	0.72	U		P		0.72	5
7440-70-2	Calcium	44000			P		39	100
7440-47-3	Chromium	~~2.02~~ 10	10 J		P		0.43	10
7440-48-4	Cobalt	0.37	U		P		0.37	10
7440-50-8	Copper	2.7	U		P		2.7	10
7439-89-6	Iron	125	J		P		5.5	50
7439-92-1	Lead	3.7	U		P		3.7	15
7439-95-4	Magnesium	21200			P		9.8	100
7439-96-5	Manganese	75.8			P		0.35	10
7439-97-6	Mercury	~~0.056~~ 0.2	U J		CV		0.037	0.2
7440-02-0	Nickel	0.93	U		P		0.93	5
7440-09-7	Potassium	1160			P		71.7	500
7782-49-2	Selenium	~~5.78~~ 20	U J		P		4.1	20
7440-22-4	Silver	0.52	U		P		0.52	10
7440-23-5	Sodium	25300			P		180	300
7440-28-0	Thallium	0.34	U		F		0.34	2

Color Before: _____ Clarity Before: _____ Texture : _____

Color After : _____ Clarity After: _____ Artifacts: _____

Comments:

160512 1642

5-31-12

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

EPAFMC-SW-03R

Lab Name: Spectrum Analytical, Inc. Contract: OTIE-Five Mile Creek / Site 1392

Lab Code : PEL Case No.: SAS No: SDG No.: 3505892

Matrix: WATER Lab Sample ID: 350589203

Level:(low/med) LOW Date Received: 4/27/2012

PercentSolids: 0 Station ID: EPAFMC11

CONCENTRATION UNITS: UG/L

CAS NO.	ANALYTE	Concentration	C	Q	M		MDL	RL
7440-62-2	Vanadium	0.615	J		P		0.44	10
7440-66-6	Zinc	7.05	J		P		4	20

Color Before: _____ Clarity Before: _____ Texture :_____

Color After : _____ Clarity After: _____ Artifacts:_____

Comments:

160512 1642

5-31-12

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

EPAFMC-SW-04

Lab Name: Spectrum Analytical, Inc. Contract: OTIE-Five Mile Creek / Site 1392

Lab Code : PEL Case No.: SAS No: SDG No.: 3505892

Matrix: WATER Lab Sample ID: 350589204

Level:(low/med) LOW Date Received: 4/27/2012

PercentSolids: 0 Station ID: EPAFMC28

CONCENTRATION UNITS: UG/L

CAS NO.	ANALYTE	Concentration	C	Q	M		MDL	RL
7429-90-5	Aluminum	~~58.9~~ 100	U J		P		9.3	100
7440-36-0	Antimony	3.3	U		P		3.3	10
7440-38-2	Arsenic	3.31	J U		P		3.31	10
7440-39-3	Barium	30.9			P		0.22	10
7440-41-7	Beryllium	~~0.143~~ 5	U J		P		0.12	5
7440-43-9	Cadmium	0.72	U		P		0.72	5
7440-70-2	Calcium	41400			P		39	100
7440-47-3	Chromium	~~1.77~~ 10	U J		P		0.43	10
7440-48-4	Cobalt	0.37	U		P		0.37	10
7440-50-8	Copper	2.7	U		P		2.7	10
7439-89-6	Iron	64.3 *	J		P		5.5	50
7439-92-1	Lead	3.7	U		P		3.7	15
7439-95-4	Magnesium	21300			P		9.8	100
7439-96-5	Manganese	17.2			P		0.35	10
7439-97-6	Mercury	~~0.05~~ 0.2	U J		CV		0.037	0.2
7440-02-0	Nickel	0.93	U		P		0.93	5
7440-09-7	Potassium	795			P		71.7	500
7782-49-2	Selenium	4.1	U		P		4.1	20
7440-22-4	Silver	0.52	U		P		0.52	10
7440-23-5	Sodium	2830			P		180	300
7440-28-0	Thallium	0.34	U		F		0.34	2

Color Before: _____ Clarity Before: _____ Texture : _____

Color After : _____ Clarity After: _____ Artifacts: _____

Comments:

160512 1642

5-31-12

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

EPAFMC-SW-04

Lab Name: Spectrum Analytical, Inc. Contract: OTIE-Five Mile Creek / Site 1392

Lab Code : PEL Case No.: SAS No: SDG No.: 3505892

Matrix: WATER Lab Sample ID: 350589204

Level:(low/med) LOW Date Received: 4/27/2012

PercentSolids: 0 Station ID: EPAFMC28

CONCENTRATION UNITS: UG/L

CAS NO.	ANALYTE	Concentration	C	Q	M		MDL	RL
7440-62-2	Vanadium	0.66	J		P		0.44	10
7440-66-6	Zinc	4.09	J		P		4	20

Color Before: _____ Clarity Before: _____ Texture : _____

Color After : _____ Clarity After: _____ Artifacts: _____

Comments:

160512 1642

5-31-12

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

EPAFMC-PB-01

Lab Name: Spectrum Analytical, Inc. Contract: OTIE-Five Mile Creek / Site 1392

Lab Code : PEL Case No.: SAS No: SDG No.: 3505892

Matrix: WATER Lab Sample ID: 350589205

Level:(low/med) LOW Date Received: 4/27/2012

PercentSolids: 0 Station ID: R4DART

CONCENTRATION UNITS: UG/L

CAS NO.	ANALYTE	Concentration	C	Q	M		MDL	RL
7429-90-5	Aluminum	9.3	U		P		9.3	100
7440-36-0	Antimony	3.3	U		P		3.3	10
7440-38-2	Arsenic	3.31	U		P		3.31	10
7440-39-3	Barium	0.22	U		P		0.22	10
7440-41-7	Beryllium	0.129	J		P		0.12	5
7440-43-9	Cadmium	0.72	U		P		0.72	5
7440-70-2	Calcium	120			P		39	100
7440-47-3	Chromium	0.43	U		P		0.43	10
7440-48-4	Cobalt	0.37	U		P		0.37	10
7440-50-8	Copper	2.7	U		P		2.7	10
7439-89-6	Iron	5.5	U		P		5.5	50
7439-92-1	Lead	3.7	U		P		3.7	15
7439-95-4	Magnesium	9.8	U		P		9.8	100
7439-96-5	Manganese	2.79	J		P		0.35	10
7439-97-6	Mercury	~~0.0527~~ 0.2	U J		CV		0.037	0.2
7440-02-0	Nickel	0.93	U		P		0.93	5
7440-09-7	Potassium	71.7	U		P		71.7	500
7782-49-2	Selenium	4.1	U		P		4.1	20
7440-22-4	Silver	0.52	U		P		0.52	10
7440-23-5	Sodium	180	U		P		180	300
7440-28-0	Thallium	0.34	U		F		0.34	2

Color Before: _____ Clarity Before: _____ Texture : _____

Color After : _____ Clarity After: _____ Artifacts: _____

Comments:

160512 1642

5-31-12

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

EPAFMC-PB-01

Lab Name: Spectrum Analytical, Inc. Contract: OTIE-Five Mile Creek / Site 1392

Lab Code : PEL Case No.: SAS No: SDG No.: 3505892

Matrix: WATER Lab Sample ID: 350589205

Level:(low/med) LOW Date Received: 4/27/2012

PercentSolids: 0 Station ID: R4DART

CONCENTRATION UNITS: UG/L

CAS NO.	ANALYTE	Concentration	C	Q	M		MDL	RL
7440-62-2	Vanadium	0.44	U		P		0.44	10
7440-66-6	Zinc	4	U		P		4	20

Color Before: _____ Clarity Before: _____ Texture : _____

Color After : _____ Clarity After: _____ Artifacts: _____

Comments:

160512 1642

5-31-12

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA Sample No.: 128354MB

Lab Name: Spectrum Analytical, Inc. Contract: OTIE-Five Mile Creek / Site 1392

Lab Code : PEL Case No.: SAS No: SDG No.: 3505892

Matrix: WATER Lab Sample ID: 128354MB

Level:(low/med) LOW Date Received: 4/30/2012

PercentSolids: 0 Station ID:

CONCENTRATION UNITS: UG/L

CAS NO.	ANALYTE	Concentration	C	Q	M		MDL	RL
7440-28-0	Thallium	0.34	U		F		0.34	2

Color Before: _____ Clarity Before: _____ Texture : _____

Color After : _____ Clarity After: _____ Artifacts: _____

Comments:

160512 1642

5-31-12

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

128391MB

Lab Name: Spectrum Analytical, Inc. Contract: OTIE-Five Mile Creek / Site 1392

Lab Code : PEL Case No.: SAS No: SDG No.: 3505892

Matrix: SOIL Lab Sample ID: 128391MB

Level:(low/med) LOW Date Received: 5/1/2012

PercentSolids: 100 Station ID:

CONCENTRATION UNITS: MG/KG

CAS NO.	ANALYTE	Concentration	C	Q	M		MDL	RL
7439-97-6	Mercury	0.0036	U		CV		0.0036	0.0194

Color Before: _____ Clarity Before: _____ Texture : _____

Color After : _____ Clarity After: _____ Artifacts: _____

Comments:

160512 1642

5-31-12

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

128584MB

Lab Name: Spectrum Analytical, Inc. Contract: OTIE-Five Mile Creek / Site 1392

Lab Code : PEL Case No.: SAS No: SDG No.: 3505892

Matrix: WATER Lab Sample ID: 128584MB

Level:(low/med) LOW Date Received: 5/1/2012

PercentSolids: 0 Station ID:

CONCENTRATION UNITS: UG/L

CAS NO.	ANALYTE	Concentration	C	Q	M		MDL	RL
7439-97-6	Mercury	0.0464	J		CV		0.037	0.2

Color Before: _____ Clarity Before: _____ Texture : _____

Color After : _____ Clarity After: _____ Artifacts: _____

Comments:

160512 1642

5-31-12

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

128613MB

Lab Name: Spectrum Analytical, Inc. Contract: OTIE-Five Mile Creek / Site 1392

Lab Code : PEL Case No.: SAS No: SDG No.: 3505892

Matrix: SOIL Lab Sample ID: 128613MB

Level:(low/med) LOW Date Received: 5/1/2012

PercentSolids: 100 Station ID:

CONCENTRATION UNITS: MG/KG

CAS NO.	ANALYTE	Concentration	C	Q	M		MDL	RL
7429-90-5	Aluminum	1.89	U		P		1.89	9.96
7440-36-0	Antimony	0.239	U		P		0.239	0.996
7440-38-2	Arsenic	0.498	U		P		0.498	0.996
7440-39-3	Barium	0.159	U		P		0.159	0.498
7440-41-7	Beryllium	0.159	U		P		0.159	0.498
7440-43-9	Cadmium	0.0498	U		P		0.0498	0.498
7440-70-2	Calcium	6.44	J		P		3.29	9.96
7440-47-3	Chromium	0.159	U		P		0.159	0.498
7440-48-4	Cobalt	0.0498	U		P		0.0498	0.498
7440-50-8	Copper	0.159	U		P		0.159	0.498
7439-89-6	Iron	0.686	J		P		0.598	4.98
7439-92-1	Lead	0.339	U		P		0.339	0.797
7439-95-4	Magnesium	2.89	U		P		2.89	9.96
7439-96-5	Manganese	0.159	U		P		0.159	0.498
7440-02-0	Nickel	0.159	U		P		0.159	0.498
7440-09-7	Potassium	4.98	U		P		4.98	49.8
7782-49-2	Selenium	0.497	J		P		0.398	1.99
7440-22-4	Silver	0.159	U		P		0.159	0.498
7440-23-5	Sodium	9.96	U		P		9.96	29.9
7440-28-0	Thallium	0.354	J		P		0.339	0.996
7440-62-2	Vanadium	0.159	U		P		0.159	0.498

Color Before: _____ Clarity Before: _____ Texture : _____

Color After : _____ Clarity After: _____ Artifacts: _____

Comments:

160512 1642

5-31-12

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA Sample No.: 128613MB

Lab Name: Spectrum Analytical, Inc. Contract: OTIE-Five Mile Creek / Site 1392

Lab Code : PEL Case No.: SAS No: SDG No.: 3505892

Matrix: SOIL Lab Sample ID: 128613MB

Level:(low/med) LOW Date Received: 5/1/2012

PercentSolids: 100 Station ID:

CONCENTRATION UNITS: MG/KG

CAS NO.	ANALYTE	Concentration	C	Q	M		MDL	RL
7440-66-6	Zinc	0.329	U		P		0.329	0.996

Color Before: _____ Clarity Before: _____ Texture : _____

Color After : _____ Clarity After: _____ Artifacts: _____

Comments:

160512 1642

5-31-12

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

129086MB

Lab Name: Spectrum Analytical, Inc. Contract: OTIE-Five Mile Creek / Site 1392

Lab Code : PEL Case No.: SAS No: SDG No.: 3505892

Matrix: WATER Lab Sample ID: 129086MB

Level:(low/med) LOW Date Received: 5/3/2012

PercentSolids: 0 Station ID:

CONCENTRATION UNITS: UG/L

CAS NO.	ANALYTE	Concentration	C	Q	M		MDL	RL
7429-90-5	Aluminum	9.3	U		P		9.3	100
7440-36-0	Antimony	3.3	U		P		3.3	10
7440-38-2	Arsenic	3.31	U		P		3.31	10
7440-39-3	Barium	0.22	U		P		0.22	10
7440-41-7	Beryllium	0.12	U		P		0.12	5
7440-43-9	Cadmium	0.72	U		P		0.72	5
7440-70-2	Calcium	39	U		P		39	100
7440-47-3	Chromium	0.684	J		P		0.43	10
7440-48-4	Cobalt	0.37	U		P		0.37	10
7440-50-8	Copper	2.7	U		P		2.7	10
7439-89-6	Iron	27.6	J		P		5.5	50
7439-92-1	Lead	3.7	U		P		3.7	15
7439-95-4	Magnesium	9.8	U		P		9.8	100
7439-96-5	Manganese	3.65	J		P		0.35	10
7440-02-0	Nickel	0.93	U		P		0.93	5
7440-09-7	Potassium	71.7	U		P		71.7	500
7782-49-2	Selenium	4.1	U		P		4.1	20
7440-22-4	Silver	0.52	U		P		0.52	10
7440-23-5	Sodium	180	U		P		180	300
7440-62-2	Vanadium	0.44	U		P		0.44	10
7440-66-6	Zinc	4	U		P		4	20

Color Before: _____ Clarity Before: _____ Texture : _____

Color After : _____ Clarity After: _____ Artifacts: _____

Comments:

160512 1642

5-31-12

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

EPAFMC-SD-30

Lab Name: Spectrum Analytical, Inc. Contract: OTIE-Five Mile Creek / Site 1392

Lab Code : PEL Case No.: SAS No: SDG No.: 3505892

Matrix: SOIL Lab Sample ID: 350589201

Level:(low/med) LOW Date Received: 4/27/2012

PercentSolids: 84.4 Station ID: EPAFMC28

CONCENTRATION UNITS: MG/KG

CAS NO.	ANALYTE	Concentration	C	Q	M		MDL	RL
1012_5	TOC	1820			TC		46	396

Color Before: _____ Clarity Before: _____ Texture : _____

Color After : _____ Clarity After: _____ Artifacts: _____

Comments:

160512 1643

5-31-12

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA Sample No.: 129552MB

Lab Name: Spectrum Analytical, Inc. Contract: OTIE-Five Mile Creek / Site 1392

Lab Code : PEL Case No.: SAS No: SDG No.: 3505892

Matrix: SOIL Lab Sample ID: 129552MB

Level:(low/med) LOW Date Received: 5/3/2012

PercentSolids: 100 Station ID:

CONCENTRATION UNITS: MG/KG

CAS NO.	ANALYTE	Concentration	C	Q	M		MDL	RL
1012_5	TOC	54.6	U		TC		54.6	470

Color Before: _____ Clarity Before: _____ Texture : _____

Color After : _____ Clarity After: _____ Artifacts: _____

Comments:

160512 1643

5-31-12